Marion Karppi, Heidi Tuominen, Anne Eskelinen,
Regina Santamäki Fischer & Anneli Rasu (eds.)

ACTIVE AGEING ONLINE
Interactive Distance Services for the Elderly on Baltic Islands

VIRTU Project 2010–2013

TURUN AMMATTIKORKEAKOULU
TURKU UNIVERSITY OF APPLIED SCIENCES

Marion Karppi, Heidi Tuominen, Anne Eskelinen,
Regina Santamäki Fischer & Anneli Rasu (eds.)

ACTIVE AGEING ONLINE

Interactive Distance Services for the Elderly on Baltic Islands

VIRTU Project 2010–2013

TURUN AMMATTIKORKEAKOULU
TURKU UNIVERSITY OF APPLIED SCIENCES

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
INVESTING IN YOUR FUTURE

CENTRAL BALTIC
INTERREG IV A
PROGRAMME
2007–2013

virtu

NORDIC ECOLABEL

441 729
Print product

CONTENTS

PART IV
– STUDENTS LEARNING IN VIRTU PROJECT

FOREWORD FROM FINLAND

By 2030, the number of 75 year-olds will double in Finland. If we were to continue with the current service system, this would mean doubling the nursing staff from the current numbers. This is an impossible equation, because the age groups entering the job market will grow smaller at the same time as increasingly larger age groups will retire and leave the workforce. Even if workers are recruited from abroad, Finland's tax revenues will be insufficient due to the decreased number of working people. The only remaining options are longer careers (a practice that is being implemented poorly, even today) and investment in welfare technology.

It is naturally desirable that the government's health policy actions succeed in the sense of giving people timely treatment for their illnesses, effectively preventing national diseases and enhancing self-care. However, it is a known fact that, even in the future, the elderly who need treatment and care will have memory disorders and will also be lonely if their relatives live far away, as is often the case, or when their contemporaries have died.

The Act on Care Services for the Elderly will come into force on 1 July 2013. Its central message is that long-term care should not take place until the final stages of life, and even then for the shortest time needed. This means developing non-institutional care and home care and adopting new operating models.

The use of welfare technology in services for the elderly does not replace human care but supplements it, enabling the adoption of new kinds of operating models in municipalities and greater participation by the elderly in the surrounding society.

We all need other people and empathy. However, the physical presence of another person is not always possible. When implemented well, welfare technology enables both. Prejudices about the elderly as technology users and family members' concern about technology possibly replacing human carers play a part in hindering the wider use of technology. Nursing staff have also had reservations about technology as part of care work.

The VIRTU project has demonstrated that there is no limit to how technology can be utilised. Group sessions with a physiotherapist at customers' homes, nurse's appointments, pharmacy lectures about medication, not to mention the opportunities that the library, cultural services and universities of applied sciences have had as producers of the programme. In the future, it will be important for the elderly themselves to participate more in planning programme contents as experienced experts.

The VIRTU project has also provided family caregivers with much-needed variety and content for their days. In the future, welfare technology must be expanded to better cover lonely elderly people in the sense of preventive care. According to studies, loneliness is what brings people to the circle of health and emergency services. The goal must be to have welfare technology as part of the entire municipality's service selection for those elderly people who have difficulties participating in activities organised by the municipality due to a lack of transport connections or their physical condition. Every person, including the elderly, must have the opportunity to be part of the surrounding events and to have contact with other people. And not just as an observer.

Sipoo, February 2013
Helena Räsänen
Manager of Elderly Care Services
Member of the Steering Group of the VIRTU project

FOREWORD FROM ESTONIA

E-services have become an inseparable part of our daily lives. We are used to e-banking, filling electronic income declarations, signing documents digitally, shopping in e-stores, buying e-tickets, using the conveniences of e-parking, etc. The appearance of e-books next to traditional and cherished conventional books creates some agitation or even disputes, but the service has already been introduced and the new solution will surely expand.

There is nothing one can do about it – e-life develops with greater speed than in our wildest dreams. Today, we are still slightly doubtful of e-services in the social area, where a human touch, communication and sensitive help form important parts of the services. While the elderly people of today are not always ready for e-services, the later generation used to daily e-services will take their place very soon. They all have reasons to expect the increasing availability of e-solutions also in the areas of social services and health care. Regular medical surveillance, virtual rehabilitation service or social communication network with its extensive opportunities – all that supports the preservation of the quality of life, prevents illnesses and hospitalisation.

Today, the financial contribution of the state is mainly aimed at the compensation of costs due to health problems that have already occurred. It is very expensive and the price is increasing. Only 5% of the funds are allocated to prevention. Here, politicians need to contemplate on the best solution. The experience of European colleagues shows that the use of e-solutions in the area of medicine and social relations enables remarkable saving of funds. The present obstacles, including the fact that the financing of medicine and social area is organised through different systems, and that social services are an obligation of local governments, should be easily solved by good will and wise decisions.

The population is ageing – this is the demographic trend today, and we are obliged to offer everyone services characteristic of a prosperous society, and not treat those as a privilege of rich people, who can afford to buy expensive services from the private sector.

Saaremaa, February 2013
Piret Pihel
Director of the Saaremaa Development Centre
Member of the Steering Group of the VIRTU project

BALTIC SEA COOPERATION AND VIRTU PROJECT

Heidi Tuominen

ABSTRACT

In the Baltic region and elsewhere in Europe, demographic changes and the need to ensure the quality and availability of services pose challenges for the social and health care sector. Especially in the periphery such as the archipelago areas, long distances and limited availability of qualified personnel create pressures to reshape services. The increasing scarcity of resources makes it essential to develop new social and health care work methods. Supporting services that are delivered at home and the ability to live at home as long as possible are an essential part of both the national policy and the Europe 2020 strategy. VIRTU – Virtual Elderly Care Services on Baltic Islands is a project that was carried out in Finland, Åland and Estonia in 2010–2013. The aim of the project was to develop a service model to help elderly people living in the archipelago by utilising welfare technology to support their social interaction and ability to live at home, improve their quality of life and increase their feeling of security. The project gave elderly persons the opportunity to participate in the VIRTU channel's interactive activities that were mainly produced by municipalities or universities of applied sciences as group broadcasts or as a personal service. The user-friendly touch-screen computers enabled the elderly participants to stay in touch with other users of the service and the care staff, even outside the scheduled broadcasts.

Key words: ageing, Baltic Sea Region, co-operation

PROJECT BACKGROUND

Ageing is associated with weakening abilities to function, which results in the increase of the significance of one's surroundings. In managing daily life of the elderly living in remote regions, problems may be caused by both poor

transportation connections and long distances to services. Independent living of the elderly and support for the maintenance of their ability to function can be furthered by developing their environment so that it supports health and welfare and by increasing their opportunities for social participation. (Ikonen & Julkunen 2007.)

Finland has a population (5.3 million) that is considerably larger than that of Estonia (1.3 million). In spite of this, the share of population over the age of 65 is among the largest in Europe: in Finland 17.5% and in Estonia 17% (Eurostat 2011). Demographic changes and ensuring the availability and quality of services are great challenges in both countries' elderly care. Instead of increasing resources, developing new kinds of working methods and services is necessary. Active ageing, ensuring the participation of the elderly and supporting living at home for as long as possible are an essential part of the Europe 2020 strategy (KOM 2010). In Finland, also the national policies emphasise the importance of services brought to the home (STM 2008, 3).

OBJECTIVES

In the VIRTU – Virtual Elderly Care Services on Baltic Islands Project, municipalities, universities of applied sciences, developing centres and private and third sector actors together with the elderly people developed the interactive VIRTU channel. The project, funded by the Central Baltic Interreg IV A programme, was carried out in continental Finland, Åland Islands and Estonia in 2010–2013. The objective of the project was to support the elderly people's living at home and their social interaction, to improve their quality of life and to enhance their feeling of security. Loneliness and the feeling of insecurity can be seen as risk factors that can weaken elderly people's coping at home and their ability to function (Savikko et al. 2006). The aim was to maintain the elderly people's social, physical, cognitive and mental ability to function through the preventive and health-promoting programme contents produced during the project.

In their homes several times a week, the elderly involved in the VIRTU project had a chance to participate in interactive programmes that offered different services. The activities were divided into five themes: health, memory enhancement and quizzes, culture, current affairs and physical activity. Based on the experiences from the project, the VIRTU channel can be considered

to have increased the elderly person's possibilities for social interaction and the number of preventive services brought to the home. During the project, about 1790 interactive activity programmes were realised. In addition to senior citizens, the VIRTU channel also benefitted the social and healthcare professionals in municipalities. Some of the personnel meetings were handled through the channel, for example, which saved work time and cut travel costs.

Europe 2020 Strategy defines health and demographic change as one of the common European challenges. Meeting these challenges requires developing and utilising technology, for example, according to Europe 2020 Strategy, "technology that allows the elderly to live alone and be active". (KOM 2010.) The VIRTU project applied Videra Ltd's interactive CaringTV as its technical solution. Its software functions with the same principle as video conference software used in the business world, in which the user can simultaneously be in visual and audio connection with several users. At home, the elderly had an easy-to-use touch screen device. A VIRTU studio with a larger so-called broadcast centre was set up in each university of applied sciences and Kuressaari day centre in Estonia. The broadcast centre camera and display are larger than those in the homes and its recording scope is broader. Thus, in the broadcast centre there can be a group of e.g. students, all visible on the screen at home.

VIRTU PROJECT PARTNERS

One of the legislated duties of Finland's universities of applied sciences is to carry out applied research and development work in service of the development of polytechnic education, the labour market and regional development (Polytechnics Acts §4 / 2009). Turku University of Applied Sciences, Laurea University of Applied Sciences and Novia University of Applied Sciences had earlier experience in developing and testing interactive distance services in the projects Safe Home, SenioriTV and Må bra TV. Åland University of Applied Sciences had earlier explored elderly people' readiness to use internet-based applications, but interactive distance services had not been tested before.

FIGURE 1. *Map of VIRTU users.*

A total of 16 municipalities were involved in the project with populations varying from Eckerö's 926 to Naantali's 18,544. The municipalities involved in Åland Islands and Estonia had smaller populations than Pargas, Kimitoön, Naantali and Sipoo participating in continental Finland. In Åland Islands, apart from Eckerö, also Brändö was involved. Jomala and Hammarland joined in later.

In Estonia, the largest municipality involved was the city of Kuressaari in Saarenmaa, with a population of 14,000. There, the project was carried out by Kuressaari day centre, *Kuressaare Hoolekanne*. Other municipalities involved in the project were Kaarma, Karla, Leisi, Lymanda, Orissaare and Ruhnu – all of them in Saarenmaa and represented in the project by Saarenmaa Development Centre. In Hiidenmaa, the city of Kärdlä was involved and represented by Hiidenmaa Development Centre Tuuru. The task of Saarenmaa and Tuuru Development Centres is to support regional development and to improve the region's competitiveness.

PROJECT'S OPERATING ENVIRONMENT

In Finland, organising social and healthcare services is the duty of municipalities. Although legislation obligates municipalities to organise social and healthcare services for its inhabitants, it does not determine in detail the scope, content or way of organising them. At the moment, there are no separate regulations for care of the elderly, but senior citizens' services are organised as part of general social and healthcare services. The basis is that all people living in the country would receive equally the social and healthcare services they require. National quality recommendations for senior citizens' services have been written to assist the quality control of municipal services produced for the elderly. (STM 2001.)

Also in Estonia, it is the task of municipalities to organise social and healthcare services for their inhabitants. The municipalities themselves define the content of services based on local circumstances and the needs of inhabitants. However, in Estonia the *Perekonnaseadus*, so-called Family Law, provides that adult children take care of their parents and grandparents in need of assistance. Those senior citizens are primarily entitled to services offered by the municipality, whose adult children or grandchildren have been found not to be able to pay for or take care of the care of their parents of grandparents. (Saks et. al. 2003, 15.) In Estonia, the quality and availability of services vary considerably depending on municipality, and currently, there are no national quality recommendations for senior citizens' services.

The estimated number of home care employees in Finland is 20,000–25,000, whereas in Estonia the equivalent number is 700 (Salonen 2009, 17). Especially in Estonia, developing the alternative services is important because the human resources in home care are scarce. In most municipalities in Finland, home help service and in-home nursing care have been combined into home care, which mostly focuses on core services such as taking care of the clients' medication, health and nutrition. In Estonia, home care is carried out differently. Home service and home nursing are still strongly separated although the goal is to combine them (e.g. Habicht et al. 2008, 171–172). In Estonia, the tasks of social workers managing home help services are primarily linked with supporting living at home. Central tasks are assisting in every day tasks such as shopping, cleaning, washing, cleaning, loundry and heating oven, which in Finnish home care are defined as home care support services.

VIRTU CHANNEL USERS

Originally, the common criteria for VIRTU channel client selection were that the user is over 65 years old, living in a remote area, and either the family caregiver, living alone or an elderly couple. There was no desire to exclude senior citizens living in service homes. Ultimately, user selection was influenced by the municipalities' own bases, views, needs and conditions dictated by practice. In Pargas and Kimitoön, most of VIRTU channel users were home care clients. In Naantali, in addition to home care clients, a specific group was formed of family caregivers, whose mobility outside of home may be limited by the poor health of their spouses etc. The most important client selection criterion was that the person is willing to participate in testing the service. In Sipoo, the VIRTU channel testing began as a preventive service offered by letter to all citizens over the age of 65. In Åland Islands, in the small municipalities of Brändö and Eckerö, the care personnel knew in advance both the elderly using the services and those not using them. In this way it was possible to recruit those elderly, who were not yet clients of municipal services. Instead the users in Hammarland and Jomala, which joined in later, were solely home care clients.

Testing the interactive distance service was begun using 3G internet connections. Very soon it turned out, however, that wireless connections are not adequate to transmit simultaneously both sound and image. The wireless connections of most customers had to be replaced by cable connections, which took time off of testing the distance service and caused dissatisfaction and impatience both among end users and project employees. Some of the customers even gave up testing the distance service due to defunct connections, and in some municipalities recruiting new users was hard after the initial difficulties. When the connections began working, recruiting new users became easier. Regardless of this, finding suitable users could be challenging in some municipalities. (See Heikkinen in this publication.) In Estonia, it was particularly problematic. A special challenge in the installation process was the rigidity of contacts crossing telephone operators' borders, which resulted in users having to wait for functioning internet connections for several months. (See Rasu in this publication.) During the project, there were VIRTU devices in Finnish, Åland Islands' and Estonian coastal municipalities for a total of 90 private users. Also, municipal employees had available 36 pieces of equipment.

DESCRIPTION OF INTERACTIVE DISTANCE SERVICE MODEL

The objective of the project was to develop a social and healthcare service model that would particularly support the senior citizens living in archipelago. An interactive distance service model was developed and tested according to the common goals of the VIRTU project, although regionally slightly differently. Figure 2 describes an interactive distance service model in simplified modelling in which regional variations have not been taken into consideration. Regional applications of the distance service model are introduced later in this collection of articles (See Lind; Husell; Lunkova & Roosimaa; Julin & Sjöstrand).
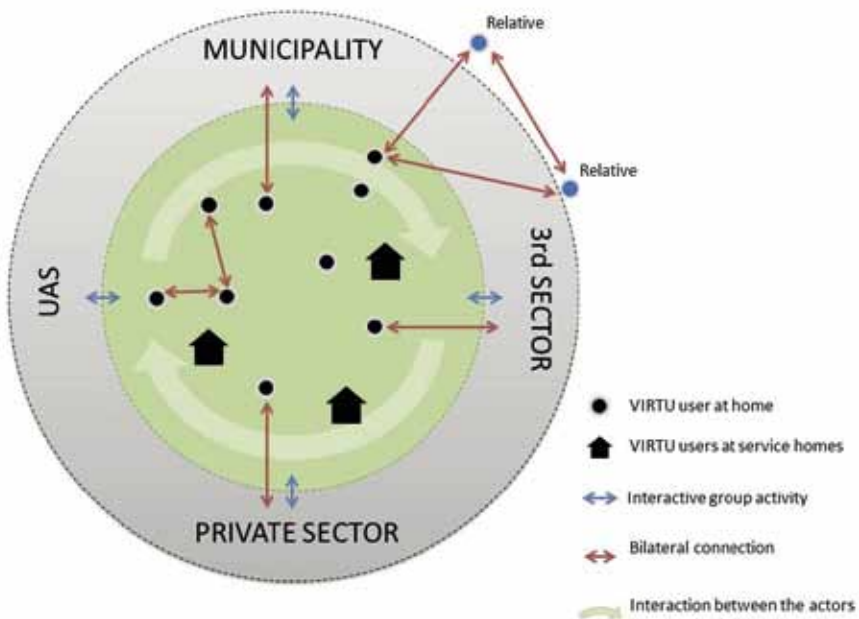
FIGURE 2. *Interactive Distance Service Model.*

The senior citizens involved in the project had an opportunity to participate at home in interactive programmes that were produced either as group activities by universities of applied sciences, third sector or private sector, as group activities run by municipal experts or as so-called bilateral personal services. Groups of about 10 senior citizens were formed and there were a total of eight of these groups in the Baltic Sea area during the project. Group activities were

so-called closed programmes i.e. only predetermined users could participate in them. Group sizes were kept small to maintain the interactivity within the group. The users could also be in contacts with each other outside of the actual programme through bilateral or multilateral videocalls. Some family members of the users began using a PC connection allowing the family member to be in contact with the VIRTU channel user's device using his or her own computer. Furthermore, on the so-called common VIRTU channel, each user could participate weekly in group activities across municipal borders, produced both in Finnish and in Swedish. Åland University of Applied Sciences and Novia University of Applied Sciences produced on the common VIRTU channel continued training for the personnel of Swedish-language municipalities.

In Finland and in Åland the content of interactive group activities produced by the universities of applied sciences varied from guidance to maintain physical ability to recreation and information as well as advice furthering health and welfare. Activities run by students were carefully planned in advance under the guidance of a teacher. In Estonia the production of the interactive group activities was different since the programmes were run by content coordinator. However, the content of the activities in Estonia was similar to Finnish activities. During the project, about 1790 interactive programme transmissions were produced. The students who produced the group activities in UAS' were mostly studying social services and health care, but among them there were also students of hospitality and business management. (See Eskelinen; Julin, Gruner & Johansson; Häggblom & Santamäki Fischer; Suvivuo, Kinos, Kuikkaniemi & Asteljoki in this collection of articles.)

The municipalities themselves defined the services produced on the VIRTU channel. For example chair gymnastics for elderly people living at home and in the service homes was offered weekly through the VIRTU channel in service centre Kummeli in Naantali. In Sipoo, clients of Vägskälet Activity Centre, which offers rehabilitative work or work life coaching, participated in the realisation of activities. On Iniö Island in Pargas, normally doctor's appointments were available only twice a month, but during the project, the public healthcare nurse on house call could consult a doctor using the VIRTU channel. Interactive distance home care services were tested in Pargas, Naantali and Estonia. In Estonia, the users also had the possibility to participate in interactive programmes offered by external experts, such as specialist doctors at Kuressaari hospital. Among others, Red Cross employees and parishes were third sector actors that offered activities on VIRTU channel. In Åland Islands,

one pharmacy had its own VIRTU device, through which the users and care personnel could have a bilateral connection to the pharmacy personnel at an appointed time once a week.

The implementation of a new work method demands the organisation's resources for learning the use and adaptation of the new working method. During the project, a coordinator was appointed in the municipalities, whose goal was to assist and get the social and healthcare personnel to commit to adopting the new work method. Appointing the coordinator was one of the good practices generated by the project; its significance was underlined in the practical work. Planning the operation, further brainstorming the use and openly discussing the good and bad sides together with employees advanced adopting the new technology as one of the daily tools. (See Jokela; Husell; Lind; Heikkinen; Jalonen; Pekkonen & Saarikivi in this publication.)

CONCLUSIONS

During the project, the VIRTU channel proved to be a potential channel to produce preventive services that promote health and welfare to support the elderly people living at home. It allows supporting the physical, mental, social and cognitive abilities of the elderly in cooperation with the interactive distance services of universities of applied sciences and municipalities. This publication examines from different perspectives the learning processes and practical experiences connected with the implementation of distance services. Furthermore, it discusses the change process and the impact of the services on senior citizens' quality of life. The collection of articles has been divided into four different parts in accordance with the project's objectives. The articles are written in English, but summaries of each article in Finnish, Swedish and Estonian are provided at the end of the publication. A collection of electronic articles in national languages is available on the project website www.virtuproject.fi.

REFERENCES

Eurooppa 2020. Älykkään, kestävän ja osallistavan kasvun strategia (2010). Komission tiedonanto. Euroopan komissio. KOM (2010) 2020 lopullinen. Bryssel 3.3.2010. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC2020:FI:NOT. Accessed on 10.10.2012.

Eurostat 2011. People by age group. http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database. Table by themes -> Population and social conditions -> Population -> Demography -> Demography – national data -> Population -> People by age group /2011. Accessed on 10.10.2012.

Habicht, J., Habicht, T., Kahur, K., Koppel, A., Saar, P., van Ginneken, E. 2008. Estonia: Health System Review. Health Systems on Transition. Vol. 10 No. 1, 2008.

Ikonen, E-R. & Julkunen, S. 2007. Kehittyvä kotihoito. Helsinki: Edita Publishing Oy.

Polytechnics Acts §4 / 2009. http://www.finlex.fi/fi/laki/ajantasa/2003/20030351. Accessed on 15.10.2012.

Reubsaet, H., Salonen, K., Wamsley, B., Cervera, B., Sirotkina, R., Moller Jensen, A., Aron, A. 2009. Explorations on good practices in home care in six European countries. In Salonen, K. (ed.) Home care for older people. Good practices and education in six European countries. Turku University of Applied Sciences, 7–26.

Saks, K., Oja K. & Soots S. 2003. CARMA – Services for the aged at risk of marginalization in Estonia. State of Art 2003. EGGA – Eesti Gerontoloogia ja Geriaatria Assotsiatsioon. www.egga.ee. Accessed on 17.9.2012.

Savikko, N., Routasalo, P., Tilvis, R. & Pitkälä, K. 2006. Ikääntyneiden turvattomuus ja sen yhteys yksinäisyyden kokemukseen. Sosiaalilääketieteellinen aikakauslehti. Vol. 43. 198–206.

STM 2008. Ikäihmisten palvelujen laatusuositus. Sosiaali- ja terveysministeriön julkaisuja 2008, 3.

STM 2001. Sosiaali- ja terveydenhuollon lakisääteiset palvelut. Sosiaali- ja terveysministeriön esitteitä 2001, 7. http://pre20031103.stm.fi/suomi/pao/julkaisut/lspesite.htm. Accessed on 17.10.2012.

PART I
VIRTU – A NEW SERVICE MODEL
IN ELDERLY CARE

DISTANCE SERVICES FOR THE ELDERLY IN THE CHANGING OPERATING ENVIRONMENT IN FINLAND

Ari Heikkinen

ABSTRACT

This article discusses the distance services for the elderly in a changing operating environment. The article is divided in four parts. First, it handles changes in society and their impact in the social and healthcare services. Secondly, it discusses the changes that have occurred in home care. Thirdly, it presents the key results of the interim assessments of the VIRTU project, carried out in the spring and early part of summer 2012. Fourthly, it discusses the future outlook of developing the VIRTU channel and virtual services more broadly.

In the article, the discussion of virtual services is primarily limited to the VIRTU channel of the VIRTU project. There may not be a clear unambiguous definition for virtual services. The VIRTU channel can be defined as an interactive broadcast and reception of programmes. It allows multilateral and bilateral communication between the users.

Significant developing work has been done in the VIRTU project since 2010. The article discusses the potential of the VIRTU channel as a part of preventive home care and the development of the work methods of home care. As a pilot project, the VIRTU channel offers the elderly opportunities to participate in versatile programme broadcasts and bilateral contacts. In addition to this, the VIRTU project aims to develop home care work methods together with home care personnel.

Chronologically, the article is placed in the time of the ongoing VIRTU project and the time after the project. The important prospects are the utilization of the experiences gained in the VIRTU project and continuing the activities in the future. When applied flexibly, it increases the client's participation in developing the

services that concern him or her. As the use of technology becomes more established, the VIRTU channel may ease the strain of the work and offer new instruments for the work with clients.

Key words: home care, co-operation, evaluation

CHANGE IN SOCIETY – CHANGE IN SOCIAL AND HEALTHCARE SERVICES

The operating environment of the VIRTU channel can be characterised with one word – change. The justification for the existence of the VIRTU project can be found in the change in society and the multifaceted phenomena that are related to it. Social and healthcare services, more broadly welfare services, are facing various challenges that influence organising and producing the services and ultimately the very position of the client. Many challenges have been met with projects. Ours is an era of development projects!

Finland, just like many other European countries, is facing the fact that the welfare state has stopped growing. The economic recession of the 1990s is a clear turning point. Economic growth slowed down considerably and the income base of public economy weakened. In addition to the recession, the impact of the European Union began to be seen in the national social policy. The member states committed to balancing the expenses of the public economy. There is discussion on whether the welfare state has come to the end of its development or whether the welfare state is merely adapting to the changed circumstances while maintaining its basic structure (Hyvinvointi 2015 programme, 15).

The society is becoming more pluralistic and complex. At the same time changes occur in the labour market. An essential question is how the public sector is able to create new community spirit in the ever more pluralistic society and to answer the growing and differentiating welfare needs. (Hyvinvointi 2015 programme, 17.)

From the perspective of societal change, a significant and growing factor is the ageing of the population (for example Kallio 2010, 19, 29; Toikko 2012, 63). In many contexts it has been noted that the ageing of the population presents challenges to securing adequately extensive and high-quality services for the elderly in the future. To achieve this, the effect, efficiency and productivity of

the services must be improved (Hyvinvointi 2015 programme, 17). Social and healthcare services, more broadly welfare services, are facing the same demands as any other service.

The Finnish social service system has developed in stages over decades. The entirety of the service system has been impacted by economic swings, political choices and naturally the public opinion climate in its part. To summarise, one could say that building the welfare state has been a project that has united the people. (Stenvall & Virtanen 2012, 12–13.) In spite of this, the current content of the social and healthcare service operations can be characterised as fragmented. One reason for the fragmentation of services may be that different organisations are responsible for different parts of the services. The division has occurred between the public sector, private sector and partly the third sector. (Eräsaari 2011, 185.)

The role of the state in social policy has narrowed and the role of municipalities has increased correspondingly. As the state-level steering has weakened, the municipalities have made their own decisions in organising and producing services. For this reason, the service systems of municipalities differ from each other. The have different service cultures, service forms and service practices. In a large municipality, there can also be internal service culture differences. (Stenvall & Virtanen 2012, 13.)

Tedre and Pulkkinen (2011, 300) note that when speaking of large and small municipalities it is not customary to refer to their area, but to their population. In municipalities with large surface area, there may be considerable differences in the availability of services for those living in country-side homes and those in homes in urban areas.

Municipalities also differ from each other based on their economic situation and political power relations in the local administration. Differences between municipalities also come from the extent to which they have outsourced services and buy services from private companies and the third sector organisations. Naturally, the different population structure of municipalities impacts the differences in social policy needs and the magnitude of social expenditure. (Kallio 2010, 16.)

In the services for the elderly, along with the responsibility transfer from the state to the municipalities services have also been centralised in the urban areas. In the outskirts of municipalities, service work vacuums have emerged, and

filling them is challenging for example due to the provisions of competition legislation, professional competence requirements and lack of employees. (Tedre et al. 2010, 33–34.) This concerns the operating environment of the VIRTU project, the coastal municipalities.

Social policy in a welfare state is subject to many development trends. The relationships between the state, markets and civil society are in transition and are being redefined. The changes have impacted the social services and the development of their content. Social policy has been decentralised, social services are targeting the market and the ever more active role of the client has become emphasised. (Toikko 2012, 57) The client is expected to be an active player, whose choices influence the services and the ways they are produced. (Toikko 2012, 58). As the welfare policy has become reformed, there has been discussion on how the public sector's responsibility of a person's welfare can be defined and limited. This has been linked with the debate on the responsibility of individuals, families and communities for welfare. It is impossible to define the responsibilities of the individual, families, communities, companies and the public sector in generating and securing welfare. (Hyvinvointi 2015 programme, 20, see also STM 2012, 72.)

Several times, the social and healthcare services have been subject to extensive reform and development projects. From the organisations' perspective, there have been plenty of consecutively implemented projects. This situation has come about partly because initiatives for change and renewal come from many directions. The shift in political focuses and the legislation development linked with them are also significant. (Stenvall & Virtanen 2012, 16.)

The municipalities involved in the VIRTU project differ from each other in area and population. Each of them has its unique characteristics influenced by history and the different stages in structural development. The municipalities also differ in the ways they envision their future and arranging their services in the future. Currently, the municipalities are variably aware of the municipal reform driven by the government and the future of the reform of social and healthcare service structures integrally linked to it.

The municipalities' unique characteristics impact the way they strive to develop the welfare services directed to the elderly. A key question for the VIRTU project is how to support those elderly people who live far from services in their living at home. Another key issue is how to get the home care professionals involved in utilising the VIRTU technology and in developing their work. The VIRTU

channel makes possible different kind of communication and networking. Development work is needed to examine the benefits that technology offers the users. Such proof of benefits must be produced that it convinces the local decision-makers that are central to the operation.

In spite of regional differences, the project has commonly formed and accepted goals. The cooperating municipalities are committed to testing and developing new kinds of operating models. During the project, the VIRTU channel has not been developed as one operating model full of content, but as various applications slightly differing from each other. A central foundation of the project has been broadcasting the programmes to several recipients simultaneously. The universities of applied sciences have produced student-generated group activity broadcasts. Furthermore, municipalities have been active in producing their own broadcasts. At least so far, bilateral activities or various expert consultations and experiments in home care have had a minor role. The municipalities are willing and active in developing distance services.

Using the equipment as part of the work of home care personnel is not very simple. One reason is the heterogeneous group of elderly users selected for the VIRTU channel. There may be differences in the criteria for selecting home care clients in different municipalities so presumably there are differences in the clients' capacity to function.

The characteristics of the training programmes of the universities of applied sciences involved, namely the social and health sector, may be seen to some extent in the content development of the VIRTU channel. Content development may also be influenced by the interest of the municipalities involved to keep the operation segmented into sectors or as operations that surpass sector borders. For example in Sipoo, the VIRTU channel has been seen to offer possibilities to serve also groups other than the elderly. Directing the programmes to various groups and the possible bilateral communication are still searching their forms.

CHALLENGING OPERATING FIELD OF HOME CARE

In her doctoral thesis, Raija Tenkanen (2003, 13) notes that home care is a fairly new concept. According to her, home help service and in-home nursing care have been examined separately in literature. Literature analysis by Tenkanen (2003, 38–39) indicates that home care personnel have areal responsibility and it answers for the home care of the elderly in its specific area. Areal working is the usual operating method of both home help service and in-home nursing care, but the combined home care is only being formed. Like the rest of social and healthcare services, also home care is about fitting together public and private services. Municipal home care has become fragmented when parts of it have been disconnected to be support services bought from the private sector – the elderly person may encounter numerous service providers in his or her home (Eräsaari 2011, 185). In addition, a strong growth in the number of clients and increase in the number of infirm people in home care has forced the in-home nursing care and home help service to design the service toward more comprehensive work with clients. For this reason, home help services and in-home nursing care have been combined. The home care thus formed is multi-professional and networking (Vähäkangas & Björkgren 2006, 47).

When home help service and in-home nursing care are combined into home care, the old and new practices can be seen side by side. Different professional views and ways to organise work as well as elderly clients in need of a lot of help form a challenging operating field. From the point of view of the elderly, home care seems task-centred work done by different professional groups – home help service performs its tasks and in-home nursing care performs its tasks. (Tenkanen 2003, 60, 182.)

As was noted already earlier, there are significant differences between municipalities in organising and providing social and healthcare services. Until now, the services for the elderly have been controlled through national senior citizens policy programmes (Hakonen 2008, 95). The ways of implementing and organising home care vary in different municipalities (Laine et al. 2006, 140–142).

Due to the increase in the number of infirm elderly clients, timely allocation of resources is a special challenge. Ensuring the competence and commitment of the personnel is also a great challenge. (Noro et al. 2006, 19–20.)

From the perspective of social policy, one could assert that the services supporting daily life management have become medicalised. For the elderly person this means that he or she must have a medical diagnosis in order to get service. For this reason, the possibilities of early intervention when problems occur have weakened. Home care has largely become in-home nursing care. It does not include cleaning the home or other help in daily life. Municipal services only meet the need of necessary medical treatment and management of personal hygiene. (Palola & Parpo 2011, 69–74.)

Home care has changed from universal service ever more into selective service. It does not meet all the service needs; it is directed only to some of those in need of service – those most in need of help. For this reason, the service has faced also a lot of criticism. (Palola & Parpo 2011, 72–73.)

Could the factors above explain the difficulty in defining the preventive work in home care? Prevention is often talked about in various contexts, but the meaning of its content is rarely discussed. For the elderly as well as for younger age groups, loneliness has become a veritable social problem. Could one start by simply defining that easing loneliness and increasing community spirit is preventive work? The significance of home care should be underlined in a sense other than that of providing limited care.

Home care is a very challenging work field to the personnel. We cannot close our eyes to the fact that ageing concerns also the personnel. An estimated one out of two employees will retire in the next fifteen years in care sector. Furthermore, studies show that in care sector, the number of those considering changing fields is increasing. The study on the job satisfaction of practical nurses (SuPer 2012, 46, 50) shows that half of the practical nurses experience the work to be heavy. An even greater number of them feel that working pace and hurry have increased. More than half of the respondents have considered changing fields and more than a third suspected that the person's ability to work may not last through the next two years!

INTERNAL INTERIM ASSESSMENT IN VIRTU PROJECT

Interim assessments make it possible to monitor, understand, guide and document the development process – the common learning. The assessment gives information about the stage of progress compared with the set goals and the concrete measures that are needed to reach them. Assessment also aims at clarifying the vision.

Assessments were made in the spring and summer of 2012 in all the municipalities and universities of applied sciences involved. For the assessment, the persons in the operating units involved in development work (max. 6 persons) were invited to a common recorded group discussion lasting 1.5 hours. The framework for the assessment discussions were formed by technology, user experiences, cooperation and mission and vision. Finally, in each discussion, a SWOT analysis was made of the situation at the time and the future outlook.

Below is a brief discussion of the viewpoints on technology, user experiences and cooperation presented in the internal assessment discussions of VIRTU project partners and a summary of the SWOT analyses.

Technology

The operability of technology has improved since the beginning of the project. However, the technology is still vulnerable; various outages and malfunctions as well as audibility and visibility problems occur.

During the project, it has also turned out that modern internet connections are not possible to achieve throughout the area of operation of the project. Also, the connection installation times have been long in some places. Technical problems have accumulated especially in certain areas. Creating and maintaining connections has proven to be a challenge especially in the coastal areas in which the spearhead of development of the VIRTU project was supposed to be directed. (See Arvola in this publication.)

Full utilisation of technology requires adequate familiarisation of the users and clear manuals (also in different languages) as well as promptly reacting help-desk services. The experiences at the time of the interim assessment are conflicting in this regard. Technical problems have resulted in long periods of waiting, frustration and possibly even fear and guilt in the elderly users.

From the point of view of efficient usability and making the functions more versatile, quick moveability of the equipment needs developing. Long installation periods of the equipment and uncertainties in its functionality slow down the full use of technology and the possibilities to test new services. Established programme broadcasts have begun working nearly faultlessly, but at times, it has required extra efforts and independent solutions by the makers of programmes.

User experiences

Aged users of technology are a very heterogeneous group as regards their preparedness and abilities. Another challenge to the project is the language question, i.e. how to be able to offer broadcasts in both Finnish and Swedish in the appropriate proportions. At this stage of the project one can generalise that the persons who best manage the "web environment" are persons who are bold, extrovert and capable. It seems that various levels of dementia and poor capabilities exclude users from the operation.

The choice and selection of users in the various areas of operation of the project has occurred on different bases. Some of the users are clients of home care or assisted living services or possibly elderly family caregivers. Central for a person to be involved is his or her desire to participate in VIRTU.

During the project, finding users has proven to be a challenge. The reason for this may be the research and development work which is part of the project and which may be a hindrance to some users and their families to participate. As for home care, the reason may also be the fast work pace of the personnel, ignorance of the project, poor condition of home care clients and changes in their health condition.

The users cannot be profiled unambiguously. One could say that established users form their own small group as opposed to other users. The users' own needs may vary from active participation in the programmes to persons, who are satisfied with only following the broadcasts. Men are a minority compared with women.

It seems that the content of the transmitted programmes is satisfying. The users find recreation in various programmes on nature, history and travel as well as various quizzes. Content concerning health counselling and the safety of living at home are considered useful. (See Lampo in this publication.)

Who ultimately benefit the most? This cannot be offered an unambiguous answer at least based on the collected assessment discussions. It seems that benefitting presupposes fairly good capabilities and social skills as well as long distances from services. Potential benefit can be found in the turning points and crises faced by the individuals and in capability rehabilitation. This may also be true for elderly family caregivers.

Cooperation

The internal cooperation of the actors themselves works fairly well. The cooperation of the personnel and students in the universities of applied sciences involved in the project has been successful. After the initial search for roles, operation has become established. The cooperation between the universities of applied sciences and municipalities has presented challenges. Cooperation between the municipalities has also been marginal. It seems to be difficult to find time for common encounters. In the project, acting with the third sector has been sporadic, although successful cooperation openings can be found for example with parishes.

Within home care, the VIRTU channel has been seen as a source of numerous meetings on one hand, and it has created feelings of alienation and frustration resulting from a lack of information on the other. Attitudes to it differ depending on the person's position in the work organisation. When generalising, it could be said that supervisors have a more positive attitude toward the project than do the "field workers".

The participation of employees is hindered by haste in work and partly by the fear that the VIRTU channel may increase competence requirements. It is likely that the personnel are concerned also about the impact of the new kind of operation on client work and clients' position. Assessment discussions also indicate that the responsibility for the operation has accumulated on certain individuals. (See Pekkonen & Saarikivi and Jokela in this publication.)

The turnover rate of key persons as well as communication have impacted the mutual cooperation of different parties. The role of project steering group has remained slightly unclear. Also, contacts across areal borders between partners have been marginal. Neither has information on "achievements" in different areas reached common awareness. The documentation furthering the project is considered insufficient. The actors do not know enough about each other. Assessment discussions indicate the need of appointed coordinators.

Within home care, workshops, training sessions and some of the meetings increasing information are considered useful. Guidance and training are needed. They have been seen to enhance motivation and enthusiasm at least momentarily toward the VIRTU channel. Another positive aspect is succeeding in crossing the borders between different administrative sectors of a municipality. In part, however, closer cooperation is desired. Trials of new operating models require advance arrangements and certain kind of spontaneity of the actors.

Support of the decision-makers is considered important for the project. Partly this is due to the awareness of limited economic resources. Continuing operation requires decisions on resources and the examination of possible external financing. It may be significant for getting continued resources that groups other than the elderly are among those using the VIRTU channel.

Summary of SWOT analyses

According to the project partners, clear strengths are the activities of the immediate team and unit, gathering expertise and experiences, and programme production that supports the social interaction of elderly users. Some assessment discussions mentioned the possibility of economic savings, for example the possibility of saving personnel's time by replacing house calls with virtual house calls.

Correspondingly, the weaknesses were the lack of information and problems in communication, spreading information about the functions, excessively large working groups and technology. Also, replacement of persons and turnover of users have been seen to deplete resources. Meagre experiences and evidence of new kinds of operating methods are seen as a great problem and challenge. The organisation of home care in municipalities is partly a challenge to virtual house calls and other experimenting.

Development possibilities are numerous in utilising the generated networks and the accumulated competence in VIRTU and in projects possibly following it. Development can also be done in contacts to the users (accessibility) and partly in increasing the level of use of the broadcasts. In the personnel, development can be furthered through training and workshop-type activities. In the future, games furthering rehabilitation and improving capabilities could be utilised.

The threats can be summarised in saving pressures in municipalities, uncertainty in getting further funding, commitment of the municipalities and the possibilities to be involved in the future and the fears of the personnel concerning reorganisation of work methods. Certain fear is also associated with constantly ageing technology and its high cost.

VIRTU CHANNEL'S FUTURE?

According to Stenvall and Virtanen (2012, 17), development operations are often excessively planning-centred. Practical implementation remains half done. When project funding ends, there is the risk that also the development work that had been funded ends. Furthermore, development work is hampered by the inability to choose investments so that the things aimed at could become established practices. In addition, a challenge is to complete the project so that the effect could be seen in practice. Too often there is the danger that the work is incomplete in implementing the ideas and innovations.

It is important to ensure the continuation of good practices and also to find the spearhead issues on which the continued development work can be based. Preventing loneliness and marginalisation, and supporting community spirit is preventive work. The versatile VIRTU broadcasts can be considered significant operation in this. The programme content for recreation and for supporting living at home has found a grateful group of participants.

A critical point in developing the VIRTU channel is recognising the different user profiles. The activity should take into consideration the users' individual needs and through this, succeed in creating meaningful VIRTU channel user groups that support community spirit.

The participation needs of users concerning the broadcasts differ, and so do the possibilities. Some want to be actively involved, others are satisfied with following the events. At least periodically, one person may be an adequate contact instead of a group. If the possibility to move the equipment gets considerably faster in the future, recovering patients in need of rehabilitation and persons facing a sudden life-changing event could be user groups.

Broadcasts could be made by very different actors. It may be necessary for the future that parties other than the universities of applied sciences are ever more responsible for transmitting the programmes. The role of municipalities is already now greater in this than in projects implemented earlier.

Broadcast activites of very different types and contents directed to groups prevent loneliness. There may be a need also for bilateral activities. For example activities containing therapy may need bilateral connections alongside carefully restricted group activites.

For developing home care working methods, implementing technology is significant. Still, there are also dangers and they should be noticed. For example adopting the use of technology in stages may mean overlapping operations in the transition period and therefore waste of resources (Raappana & Melkas 2009, 33). It is realistic, however, that it is the limited resources that result in examining the establishment of small pilot groups and appointing contact persons clear for the cooperation. Workshop-type group work will be needed also in the future to ensure the competence of work communities and the increase of information. (See Jokela and Pekkonen & Saarikivi in this collection of articles).

According to Toikko (2012, 83–84), technology can be used to enhance the feeling of safety. As long as the social core of the service does not disappear and the new kind of interaction does not replace the genuine social interaction relations considered irreplaceable. With technology, also protection of privacy issues come into play. All in all, technology can enhance welfare provided that there is awareness of the kind of desired effects its use has on people's daily life.

At best, technology makes it possible to maintain and increase the social interaction of its users and enhance ever improved accessibility of services. In such a case, the issue is improving the quality of life and facilitating daily life.

The life cycle of the VIRTU project is short and the development issues extensive. For the elderly users of VIRTU channel, continuing the VIRTU channel activities can be seen as an ethical issue. The users have contributed to the development work, which is why possible sudden discontinuing of the operation may be considered unreasonable for them. Efforts should be made to maintain and further develop operations that have been found to be good. To ensure continuation, various alternative possibilities taking into consideration the users must be examined.

One such possibility could be service design, which has become known only some years ago. Service design is said to introduce more predictability in the changing circumstances and it is considered to make possible the active participation of various actors in developing work and bring out the wishes of the users of services (See for example Miettinen 2011, 21–25; Toikko 2012, 160; Makkula 2012, 72–77).

Service design could be beneficial in that it would make it possible to detect the client needs in tailoring technology in a truly user-oriented manner – the device would for example contain flexibly only those characteristics and functions that an individual client knows how to use and considers necessary. Service design could bring its own positive contribution to the working method development of home care and other services, and to facilitating the implementation of necessary technology. It would mean ever more comprehensive joint design instead of for example a device supplier and/or operator nearly single-handedly determining the technical preconditions of a service concept.

Technology designed together with aged users must be reliable and easy to use. Implementation of and familiarisation with such technology is meaningful and motivating also to the home care employees as part of developing the work methods.

REFERENCES

Eräsaari, L. 2011. Sosiaalipalvelut käännöksen jälkeen. In Palola, E. & Karjalainen, V. (eds.) Sosiaalipolitiikka. Hukassa vai uuden jäljillä? Terveyden ja hyvinvoinnin laitos. Helsinki: Unigrafia Oy Yliopistopaino. 181–203.

Hakonen, S. 2008. Palvelurakenteet remontoitu. In Suomi, A. & Hakonen, S. (eds.) Kuluerästä voimavaraksi. Sosiokulttuurinen puheenvuoro ikääntymiskysymyksiin. Juva: PS-kustannus. 93–95.

Hyvinvointi 2015 programme. Sosiaalialan pitkän aikavälin tavoitteita. Sosiaali- ja terveysministeriö. Helsinki 2007.

Kallio, J. 2010. Hyvinvointipalvelujärjestelmän muutos ja suomalaisten mielipiteet 1996–2006. Sosiaali- ja terveysturvan tutkimuksia 108. Sastamala: Vammalan kirjapaino Oy. https://helda.helsinki.fi/bitstream/handle/10138/15810/Tutkimuksia108.pdf?sequence=1.

Laine, J.; Noro, A.; Finne-Soveri, H. & Björkgren, M. 2006. Kotihoidon organisointi, henkilöstö ja tuottavuus. In Finne-Soveri, H.; Björkgren, M.; Vähäkangas, P. & Noro A. (eds.) Kotihoidon asiakasrakenne ja hoidon laatu. RAI-järjestelmä vertailukehittämisessä. STAKES. Vaajakoski: Gummerus kirjapaino Oy. 139–150.

Makkula, S. 2010. Muotoiluosaaminen + hyvinvointipalvelut. In Makkula, S.; Mäkinen, S. & Huhta, E. (eds.) Hyvinvointipalvelut 2.0. Tulevaa ennakoiden, menneestä ammentaen. Lahden ammattikorkeakoulun julkaisu. Sarja C Artikkelikokoelmat, raportit ja muut ajankohtaiset julkaisut, osa 64. Tampere: Tampereen yliopistopaino Oy. 71–77.

Miettinen, S. 2011. Palvelumuotoilu – yhteissuunnittelua, empatiaa ja osallistumista. In Miettinen, S. (eds.) Palvelumuotoilu – uusia menetelmiä käyttäjätiedon hankintaan ja hyödyntämiseen. Teknologiateollisuus. Tampere: Tammerprint Oy. 21–41.

Noro, A. ; Finne-Soveri, H.; Björkgren, M.; Vähäkangas, P. & Itkonen, T. 2006. Johdanto. In Finne-Soveri, H.; Björkgren, M.; Vähäkangas, P. & Noro A. (eds.) Kotihoidon asiakasrakenne ja hoidon laatu. RAI-järjestelmä vertailukehittämisessä. STAKES.Vaajakoski: Gummerus kirjapaino Oy. 19–21.

Palola, E. & Parpo, A. 2011. Kunnallista sopeutumisen sosiaalipolitiikka. In Palola, E. & Karjalainen, V. (eds.) Sosiaalipolitiikka. Hukassa vai uuden jäljillä? Terveyden ja hyvinvoinnin laitos. Helsinki: Unigrafia Oy Yliopistopaino. 47–78.

Raappana, A. & Melkas, H. 2009. Teknologian hallittu käyttö vanhuspalveluissa. Opas teknologiapäätösten ja teknologian käytön tueksi. Svenska kultur fonden. Lappeenrannan teknillinen yliopisto. Lahti School of innovation. Tampere: Esa Print Oy. https://www.doria.fi/bitstream/handle/10024/59191/isbn%209789522148650.pdf?sequence=5

STM 2012. Sosiaalihuollon lainsäädännön uudistamistyöryhmän loppuraportti. Sosiaali- ja terveysministeriön raportteja ja muistioita 2012: 21. Sosiaali- ja terveysministeriö. Helsinki. http://www.stm.fi/c/document_library/get_file?folderId=5065240&name=DLFE-22206.pdf.

Stenvall, J. & Virtanen, P. 2012. Sosiaali- ja terveyspalvelujen uudistaminen. Kehittämisen mallit, toimintatavat ja periaatteet. Tietosanoma. Tallinna: AS Pakett.

SuPer. 2012. Lähi- ja perushoitajien työhyvinvointi 2012. "Jaksaminen rajat tulee työssä vastaan. Huoli hoidon laadusta painaa." SuPerin selvityksiä 2012. http://www.superliitto.fi/datafiles/userfiles/File/selvitykset/Superselvitys_sivuttain.pdf.

Tedre, S.; Ilmarinen, K. & Nuutinen, T. 2010. Ikänäköä maaseutupolitiikkaan, pinta-alalinssit ikäpolitiikkaan! Gerontologia 1/2010. Kasvun ja vanhenemisen tutkijat ry:n julkaisu. 33–39.

Tedre, S. & Pulkkinen, A. 2011. Kulkeminen avaimena ikääntyvien maalla asumisen mahdollisuuksiin. Yhteiskuntapolitiikka 76 (2011):3. 300–320.

Tenkanen, R. 2003 Kotihoidon yhteistyömuotojen kehittäminen ja sen merkitys vanhusten elämänlaadun näkökulmasta. Acta Universitatis Lapponiensis 62. Rovaniemi: Lapin yliopistopaino.

Toikko, T. 2012 Sosiaalipalveluiden kehityssuunnat. Tampere: Tampereen yliopistopaino Oy – Juvenes Print.

Vähäkangas, P. & Björkgren, M. 2006. RAI-tietojärjestelmän käyttöönottokoulutus. In Finne-Soveri, H.; Björkgren, M.; Vähäkangas, P. & Noro A. (eds.) Kotihoidon asiakasrakenne ja hoidon laatu. RAI-järjestelmä vertailukehittämisessä. STAKES. Vaajakoski: Gummerus kirjapaino Oy. 46–48.

THE COST-EFFECTIVENESS OF THE VIRTU SERVICE

Outi Koivumäki & Inger Nygård

ABSTRACT

Cost-effectiveness analysis is a complete economic evaluation, where both the costs and the consequences of a service are considered. The evaluation is carried out based on the objectives set for the activities, and the factors to be measured can be found in the entire process, from the value of inputs to the customer benefit experienced.

The VIRTU service's main activity is preventive elderly care. The objectives are to support the elderly to independent living in their own homes, to prevent social isolation and to increase the feeling of safety at home. Hence, the customer benefit can be best discerned as maintained or improved quality of life and as possibility to live at home for longer. The VIRTU service can be considered cost-effective if it increases the elderly person's perceived quality of life and reduces the need for care, all at a lower cost than alternative services.

Experience from the project indicates that the VIRTU service is an effective method for preventive work in elderly care. However, when the service is introduced in a municipality, it is important to identify the critical factors effecting the cost-effectiveness.

Key words: costs, effectiveness, health care processes

INTRODUCTION

Decision-makers in municipalities are demanding new, innovative and *cost-effective* working methods to meet the increase in costs that are foreseen within elderly care. A crucial factor for the implementation of interactive distance services in elderly care, similar to the VIRTU service, is, therefore, the cost in relation to outcome. However, service production in the public sector is a very

complex field, making it difficult to foresee and measure cost-effectiveness. In contrast to the corporate sector, the public sector has more comprehensive and intangible aims for its operations; financial profit is replaced by long-term intentions such as the population's well-being and health. At the same time, municipalities must take into consideration their limited resources. We want to emphasise various factors that should be taken into consideration when assessing the cost-effectiveness of an operation such as the VIRTU service. We also present some underlying concepts, as well as mention the complexities that are characteristic of measuring services in the public sector. Using a concrete example, we can show the short-term economic effects of the service while we can only discuss the long-term effects.

DIFFERENT CONCEPTS INVOLVED IN THE MEASUREMENT OF SERVICES

The meaning of different concepts varies, depending on the field. In a production process, *productivity* is generally measured by the number of products and their quality in relation to the quantity of input factors used. In contrast, within the social and health services, *performance* refers to the ability to attain the activity's more long-term objectives, such as maintaining or improving the clients' well-being and health. The end-result in this respect is intangible, which makes a measurement more complicated.

According to the majority view, the service process is a form of production process where the customer also participates with his/her own input. The complexity of service production constitutes a challenge; nevertheless, traditional measures can be partially adapted to measure services. However, before the adaptation is made, different concepts in the process, as well as their internal relationship (Figure 1), should be defined. (Lönnqvist et al 2010 62–69, 78–85)
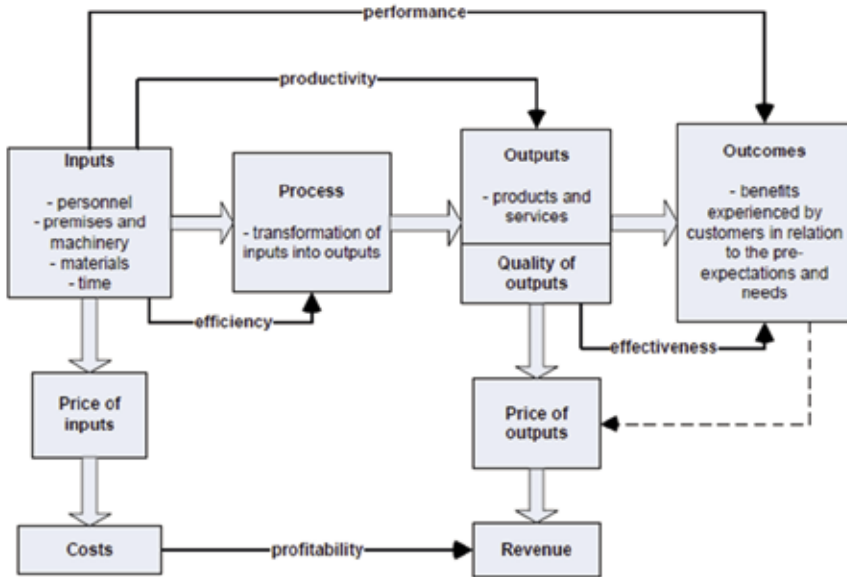
FIGURE 1. *Productivity and closely related concepts (Jääskeläinen 2010, 8).*

Inputs refer to, for example, the personnel required for the activity, fixed assets, material and time. Inputs can comprise both fixed and variable costs (Lillrank et al 2004, 237–240). *Outputs* refer to the products and services resulting from the activity and the output's quality is measured by how well one has succeeded in attaining set objectives or following current norms. Within social and health care the norms are, for example, general care recommendations or the way a specific intervention is to be implemented within its particular area. A more comprehensive view of quality, however, is how pleased the customer is with the delivered service. In other words, the *outcomes* of services within social and health care can also be read as a good or bad investment, as perceived customer satisfaction in relation to expectations and objectives set. (Lönnqvist et al 2010, 83. Lillrank et al 2004, 107–108.)

Productivity and *efficiency* are closely related concepts in terms of their meaning. Traditionally, efficiency is measured quantitatively, i.e. the outputs' size in relation to inputs. An organisation's *performance*, however, is a comprehensive concept concerning the organisation's ability to achieveits aims. *Effectiveness* refers to the activity's ability to produce benefit for the customer. (Lönnqvist et al 2010, 82–84)

MEASURING THE EFFECTIVENESS

When measuring effectiveness in the service sector, the focus is not only on the activity's internal processes, such as transforming a given input as efficiently as possible into a given outcome. The measurement should be on many different levels and take into consideration tangible and intangible factors. (Jääskeläinen 2011) During an analysis of effectiveness, information is also gathered on effects outside the organisation, such as client satisfaction and client benefit – that, in social and health care services, implies the client's health and perceived quality of life.

A major challenge when measuring services in the public sector is to define both what each service produces (output) and identify the relevant aspect to measure for each service. In addition, there is a lack of suitable measurement instruments, and research clearly shows the difficulty in finding solutions that are good enough. Traditionally, measurement has focused on outputs. Rarely has anyone looked more closely at more comprehensive and longer-term effects, i.e. the real outcomes. An improved state of health could be a much more relevant factor for measuring a service within the health care sector than the number of clients and the service's costs. (Jääskeläinen 2010, 54–64.)

By designing better tools for measuring effectiveness, it should be easier to compile information on the longer-term effects of a service. The information should be brief, easy to use, easily accessible, gathered systematically, numerical and available in electronic form (Simonen 2012 54–59). In the care chain, the client benefit is measured as the patient's state of health or maintained/improved quality of life. By measuring the client benefit, it is also possible to obtain information for evaluating the effects at the societal level, for example, the service's availability, its target group focus and the cost-effectiveness. (Silvennoinen-Nuora 2010, 308–311)

The effectiveness concerns the capacity to generate benefit for the client by means of a specific care or rehabilitation episode. Before measuring, it should be determined which episode or process is concerned and the objectives set for the particular activity. The VIRTU service's main activity is preventive elderly care. The objectives are to support the elderly to independent living in their own homes, to prevent social isolation and to increase the feeling of safety at home. Hence, the activity's client benefit can be best discerned as improved or maintained quality of life and social interaction as well as the possibility to live

at home for longer. It is possible to measure these factors, even with existing measures for social ability (Toimia 2012) as well as status indicators, in which it is determined how long a person has lived at home or has been a client of, for example, the home care service. With the help of these types of measurements, information can also be obtained about the cost-effectiveness, i.e. long-term benefit of invested money. If an activity results in an individual's postponed institutionalisation, the cost-effectiveness in the long-term will be significant.

An analysis of cost-effectiveness from Norway shows that by using technology in elderly care, a significant cost benefit can be achieved. In the study, the technology's effect on the use of time was examined from the perspective of the home care service, institutional care and the relatives. The study also mentions possible effects at societal level, such as a reduction in the number of call outs for the emergency services, but these were not analysed in more detail. Nor have intangible benefits such as an increased feeling of safety been studied. Based on this study, preventive home visits made via videoconference technology are cost-effective, assuming it is possible to reduce the use of the time resources. (Aanesen et al 2011. 161–170)

Cost-effectiveness analysis is a complete economic evaluation where both the costs and the consequences of a service are considered. (Drummond et al 2005, 133). In the VIRTU project, we have so far identified the following factors for evaluation.

Quantitative factors:

- the service's financial inputs in relation to outputs
- the amount of working time and travel costs saved
- the number of care days saved in elderly homes
- the quantity of other economic benefits arising from the technology.

Qualitative factors:

- the quality of internal process during implementation and production of the service
- the service's effect on the personnel's working conditions
- the service's effect on the clients' quality of life, social relations and perceived quality of life
- the service's effect on the client's relatives.

Due to the fact that the time for the VIRTU project has been short and the VIRTU users are so few, it is difficult to observe the activity's cost-effectiveness at this stage. However, it is possible to point out the activity's short-term economic benefit from case to case. The VIRTU technology has been used during the project time as a working tool in home care and rehabilitation. By replacing a traditional home visit with an interactive distance visit, costs and working time for travel can be saved. In an on-going case study, it is being investigated whether the home care services in Naantali can replace traditional home visits with distance services and whether these services achieve the desired care outcomes, as well as what the costs are for the different alternatives.

HARALD – AN EXAMPLE

The research in the VIRTU project includes qualitative and quantitative data on the elderly person's status, their perceived quality of life, how frequently they use the VIRTU service as well as the perceived client benefit. According to the data collected the most active users of the VIRTU service have an average age of 83, have a good level of functional independence (7 on the IADL scale) and scored on average 4.24 on the self-assessment scale, which can be considered high. Interviews with the elderly also indicate relatively high client satisfaction.

Based on this, we have drawn up the following fictional example of Harald. He is 83 years old, a widower and lives in his own home, 6 km from shops and other public services. No relatives live in the area. Harald has diabetes but is otherwise in good health. He manages his diabetes well, but it has resulted in impaired vision and, for this reason, Harald has had his driving license withdrawn. Harald has a high need for social contact, and the loss of his driving license and therefore restricted mobility has affected him negatively. Previously, he visited his friends frequently and took part in various activities, but now tickets for the transportation service given to him from the municipality do not cover this need. Harald has an occupational pension of 1400 € a month and, despite the fact that he is financially better off than many others with only the state pension, he has no means to pay for taxi travel himself. In other words, Harald manages relatively well at home, but his new life situation means that he feels very lonely and his feeling of

insecurity has also increased noticeably. Therefore, Harald now considers the options for moving into an elderly home, but he is also worried about leaving his home empty.

From the municipality's side, it is considered that Harald still has good opportunities to continue living at home, but there is an understanding for his need for increased support. Therefore, different arrangements Harald are taken into consideration. As a complement to the home care service, the municipality has introduced interactive distance services. The personnel do distance home visits and also offer distance day centre activities twice a week. An employee in the municipality is coordinating this new service with a 35% workload. The coordinator's working time also includes support for the clients, like occasional home visits when their device does not function. Currently, 20 elderly people in the municipality receive this service. Bearing in mind Harald's situation and need for social contact, it is thought that interactive distance services could be suitable for him. Currently, Harald receives transportation service tickets for eight single trips per month, cleaning services once a fortnight and meal service three days per week.

The municipality is discussing different alternatives for Harald and do also make cost estimates (Table 1). The municipality's total hourly cost for home care service personnel is 26 €/hour. Travel costs, estimated at the current norm, are 0.45 €/km. The average cost per transportation service ticket is 25 €. The cleaning service is estimated to require two man-hours per visit and travel costs on top. The average cost for the meal service is 14.50 €, home delivery included. A traditional home visit to Harald is estimated to take one hour 20 minutes including travel, and, with travel costs, this amounts to about 40 € per visit. In contrast, an interactive distance service is estimated to take 30 minutes, which gives a cost of only 13 € per visit. The cost for living in an elderly home is 138 €/day per client.

The costs for the interactive distance service vary depending on the number of clients receiving this form of service. The municipality makes the calculations using a gross cost of 75 € per month per client for the interactive day centre services, which includes personnel costs and technology costs for the municipality. However, this assumes that at least 20 clients are having this service. The leasing costs for the technology as well as the Internet connection for the elderly are 85 €/month per client.

The municipality also charges clients for different services according to a fixed tariff. The charges for home care visits as well as for those living in elderly homes are based on the client's income and the level of service needed. Living in an elderly home costs the client 200 € per month. An interactive distance service is charged according to the same principle as traditional home visits, however no more than 5 €/visit, and for the interactive day centre, the client pays 30€/month.

These estimates are made based on Eckerö Municipality's costs and incomes (annual accounts 2011) for elderly care as well as the municipality's fixed tariff for different services. The cost for the video conferencing technology is based on the tender from Videra Oy (Kuntahankinnat 2012) and for the internet according to the costs provided by the local supplier (Ålcom 2012). The hourly rate for home care personnel is estimated according to the municipality's total cost for the home care service in 2011 divided by the number of man-hours worked. The charges for interactive distance service are fictitious since there are no charges established.

TABLE 1. *Cost estimates for different service alternatives.*

	Number / month	Gross cost/ service in Euros	Harald's cost/ service in Euros	Net cost/ service in Euros	The munici- pality's total net cost/ month in Euros	Harald's total costs/ month in Euros
Current situation						
Trans- portation service tickets	8	25.00	0.00	25.00	200.00	0.00
Cleaning	2	57.40	12.00	45.40	90.80	24.00
Meal service	12	14.50	5.00	9.50	114.00	60.00
Total					**404.80€**	**84.00 €**

Alternative 1	Apart from the current service, Harald is offered 4 home care visits / week					
Transportation service tickets	8	25.00	0.00	25.00	200.00	0.00
Cleaning	2	57.40	12.00	45.40	90.80	24.00
Meal service	12	14.50	5.00	9.50	114.00	60.00
Home care visit	16	39.98	14.20	25.78	412.48	227.20
Total					**817.28€**	**311.20 €**

Alternative 2	Harald is offered the current service and both distance home care visits 3 times/week and distance interactive day care centre twice/ week					
Transportation service tickets	8	25.00	0.00	25.00	200.00	0.00
Cleaning	2	57.40	12.00	45.40	90.80	24.00
Meal service	12	14.50	5.00	9.50	114.00	60.00
Distance interactive day care centre	1	160.00	30.00	130.00	130.00	30.00
Distance home care visit	12	13.00	5.00	8.00	96.00	60.00
Total					**630.80 €**	**174.00 €**

Alternative 3	Harald moves into an elderly home					
Elderly home	30	138.00	26.74	111.26	3 337.80	802.20
Transportation service tickets	8	25.00	0.00	25.00	200.00	0.00
Total					**3 537.80 €**	**802.20 €**

Whichever alternative is chosen, the costs will increase for both the municipality and Harald. Alternative 2, with both distance home care visits and the distance interactive day centre, is the most advantageous for both parties. Since Harald feels lonely, and misses his previous social life, this alternative also opens up new opportunities for social contact, with both his relatives and with other users of the service.

There is a close link between a perceived good quality of life and a well-functioning social life. An interactive distance service can provide increased security as well as strengthen and increase social contacts, since it enables contacts independent of time and space. (Lönnqvist et al 2010, 41.) If the distance services offered makes Harald feel both more secure and less lonely, they could increase his quality of life. We can then assume that Harald can continue to live at home for as long as nothing else occurs. The municipality's cost saving, if alternative 2 is chosen in preference to alternative 1, amounts to 2 512 € on an annual basis. Alternative 2 instead of alternative 3, results in an annual saving of 35 159 €, this assumes there will still be full occupancy in the elderly home.

DISCUSSION

In our example, we haven't specifically taken into consideration the initial costs for introducing interactive distance services into elderly care in the municipality. Initial costs include, for example, training the personnel, installation costs for both broadband and technology as well as extra support for the clients when the technology is installed in their homes. When making a total assessment of the costs, these should also be taken into consideration. We would like to point out that, despite the technology being very easy to use, it is very important that the personnel concerned receive appropriate guidance and information. If the personnel are unfamiliar with the technology and unmotivated, the internal production process and thus the entire service could be of a lower quality, which negatively effects on the cost- effectiveness.

Introducing interactive distance services to elderly care gives the municipality the opportunity to rearrange the working hours, since a distance home visit takes less time than a traditional visit. If it is assumed that the time saved on home visits is reallocated to working time for the coordinator of day centre service, these working hours will not then be an additional cost arising from the

service. Another way to obtain both economic and intangible benefits from the technology is to organise interactive distance training to the personnel, which we also tested in the VIRTU project. For example, for the municipalities in the archipelago education days located in central locations involve high costs as travel consumes a lot of time. Participation at distance saves working time, daily allowances and other travel costs.

CONCLUSION

We can observe that correctly implemented and correctly used in the operations, interactive distance services in elderly care, similar to the VIRTU service, generates efficiency on several levels, both tangible and intangible. Accordingly, distance services in elderly care can be considered as a cost-effective activity. However, measuring cost-effectiveness is a challenge and no suitable measures have been found.

Data collected, together with our experiences, indicate that the VIRTU service is a good working method in preventive work within elderly care. However, when a municipality plans to implement the service, it is important to identify the critical factors effecting the cost- effectiveness.

REFERENCES

Aanesen, M., Lotherington, A-T., Olsen, F. 2011. Smarter elder care? A cost-effectiveness analysis of implementing technology in elder care. Health Informatics Journal 17: 161.

Drummond MF, Sculpher MJ, Torrance GW, O'Brien BJ 2005. Methods for the Economic Evaluation of Health Care Programmes. (3rd ed) Oxford Medical Publications (389 pages).

Eckerö kommun/äldreomsorg/hemtjänst http://www.eckero.ax/socoms/214?sublevel=229&thirdlevel=233 Accessed 02/10/2012.

Interview with Pauliina Körkkö, elderly care manager, Eckerö Municipality, 28/08/2012 and 02/10/2012.

Jääskeläinen, A. 2010. Productivity Measurement and Management in Large Public Service Organizations. Doctoral thesis. Tampere: Tampereen yliopisto.

Jääskeläinen, A., Lönnqvist, A. 2011. Public service productivity: how to capture outputs?, International Journal of Public Sector Management. 24(4) 289–302.

Kuntahankinnat Oy/sopimukset http://www.kuntahankinnat.fi/sopimukset Accessed 02/10/2012.

Lillrank, P., Kujala, J., Parvinen, P. 2004. Keskeneräinen potilas. Terveydenhuollon tuotannonohjaus. Helsinki: Talentum.

Lönnqvist, A., Jääskeläinen, A., Kujansuu, P., Käpylä, J., Laihonen, H., Sillanpää, V. & Vuolle, M. 2010. Palvelutuotannon mittaaminen johtamisen välineenä. Helsinki: Tietosanoma Oy.

Silvennoinen-Nuora, L. 2010. Vaikuttavuuden arviointi hoitoketjussa. Akateeminen väitöskirja. Tampereen yliopisto, Johtamistieteiden laitos. Tampere.

Simonen, O. 2012. Vaikuttavuustiedon hyödyntäminen erikoissairaanhoidon johtamisessa Akateeminen väitöskirja. Tampereen yliopisto, Terveystieteiden yksikkö. Tampere.

Toimia. 2012. Iäkkäiden henkilöiden toimintakyvyn mittaaminen palvelutarpeen arvioinnin yhteydessä. http://www.thl.fi/toimia/tietokanta/suositus/15/ Accessed 10/10/2012.

Ålcom, local Internet service provider on Åland http://www.alcom.ax/index.php?option=com_content&view=article&id=64&Itemid=78 Accessed 02/10/2012.

TELEREHABILITATION – A FUTURE OPPORTUNITY IN THE FIELD OF REHABILITATION

Marion Karppi

SUMMARY

Supporting the physical function of the elderly through an interactive distance service is quite a new way to rehabilitate an older person who lives at home. Telerehabilitation has been tested internationally with different patient groups and with different implementation methods. There is now already some experience in Finland, as well, about the effects on an individual level. In the VIRTU project telerehabilitation was tested from the viewpoint of preventive physiotherapy. The client was a woman who lived alone and received individual telerehabilitation supervised by a physiotherapist for the duration of two months. The client found telerehabilitation useful, because without instruction and motivation, taking care of one's own condition can be challenging. From a professional's viewpoint, distance guidance was a positive experience. Using this example case, we compared the costs of telerehabilitation to the costs of traditional rehabilitation, implemented as house calls. According to our calculation, already with a group of four clients, the production of telerehabilitation services is more feasible.

Keywords: telerehabilitation, elderly, costs

REHABILITATION SERVICES FOR THE ELDERLY

Social and healthcare services are subject to a radical structural and functional change as the welfare ratio is changing. These changes are an instrument in reducing the number of service facilities that are expensive for the society and considered passive from a client point of view. Instead, services that activate and involve the citizens are offered. They are based on the idea that people

take care of their health and well-being independently. When developing services for the elderly, lighter forms of service mean, in particular, supporting those who live at home, and development of services that take place at home. Increasing and diversifying the rehabilitation activities of the elderly is one of the development targets of the National Development Programme for Social Welfare and Health Care KASTE. (STM 2012.)

The change in health care services is also visible in rehabilitation. During the past decade we have moved ever more from passive treatments to activating the client and supporting self care. At the same time, we are only awakening to the contentual development and availability of rehabilitation activities for the elderly. Even though rehabilitation of war veterans has long traditions in Finland, some of the elderly currently lack activity that would promote and maintain their ability to function. In compliance with current strategies to develop the services of the elderly (STM 2012, STM 2008), services implemented at the elderly's homes must be developed, in particular, rehabilitation taking place at home should be expanded and its content must be developed. In recent years, rehabilitation personnel has indeed been resourced at municipal home care units, as well as so called home rehabilitation assistants, whose task is to take care of the promotion of the elderly people's ability to function and exercising the activities of daily living.

In recent years, rehabilitation has also been developed through various technical innovations. Examples include different technical devices, for example, used when exercising walking (Richards et al. 2004), different games to exercise the fine motor skills (Munford & Wilson 2009), as well as using video conference technology in supporting an elderly person living at home (Karppi & Nyfors 2012). Implementation of technology assisted rehabilitation at home will be one of the support forms of living at home in the future. This development work is still in a very early phase, and it has only been implemented in individual projects and rehabilitation establishments.

TELEREHABILITATION AT A CONCEPTUAL LEVEL

In social welfare and healthcare, wellbeing technology is defined as information engineering and technical solutions, which are used to maintain or improve the quality of life, wellbeing or health (Ahtiainen & Auranne 2007). At a conceptual level, telerehabilitation can be placed under wellbeing technology,

in case the concept is examined from the viewpoint of the long-term goals of telerehabilitation. On the other hand, telerehabilitation is closely connected to health technology, when it means technical equipment used in healthcare, and the purpose of the equipment is to maintain and recover people's health using new methods (Willner & Ahoniemi 2004, 13).

The invasion of different technical solutions in traditional healthcare services sets a challenge to define a new type of service. Telerehabilitation, where the therapist and the person under rehabilitation are situated at a physical distance from each other, is known to be practiced only in a few individual service centres in Finland, and there is still not any established concept for the activity. Likewise, the number of articles and published domestic research is currently low, and there is no established Finnish counterpart for the English term 'telerehabilitation' yet. On the other hand, the concept 'telerehabilitation' can be used to refer to different types of solutions, from computer games to electronic data transfer. The English concept is thus also quite broad. Currently at least two different terms are used in Finnish to describe rehabilitation activity implemented with video conference technology; 'virtuaalikuntoutus' (Vesterinen & Niemelä 2009) and 'interaktiivinen etäkuntoutus' (Karppi & Nyfors 2012). The VIRTU project ended up using the latter one, because it best describes the rehabilitation implemented with the help of the VIRTU device. Rehabilitation implemented using the channel is based on interactivity and guiding the client with voice and image, despite their physical whereabouts. Virtuality refers more to game-based programmes than to an interactive distance service.

REVIEW OF INTERNATIONAL TELEREHABILITATION STUDIES

A large part of international scientific publications concerning telerehabilitation is targeted at the rehabilitation of cerebro vascular accident (CVA) patients. Such research results are not directly comparable to the equipment technology used in the VIRTU project, because in these studies the technological tool used varies from virtual games to different computer assisted movement exercises.

Virtual realities were used to help rehabilitate CVA patients. The goal was to recover some function of a paralysed upper extremity. This virtual telerehabilitation implemented at home was found useful in a study by Johnsson & Wild (2011). In the therapy of a lower extremity of a CVA patient better test results were received in the active ankle movement with those

who received telerehabilitation than with patients who received traditional motion therapy (Deng et al. 2012). The telerehabilitation method used was a programme connected to a computer, with the help of which the quality and quantity of the movement could be monitored. A therapist monitored the exercise over image and sound, which makes the technology used in this study similar to the VIRTU device.

Telerehabilitation research has also been carried out to some extent in the rehabilitation of musculoskeletal disorders. In a study by Tousignant et al. (2011 a), the effectiveness of telerehabilitation and traditional physiotherapy were compared after total knee arthoplasty. The target group received individual rehabilitation over a video conference 16 times within two months. The control group received the same amount of traditional physiotherapy. The effectiveness of the therapy the groups received was measured three times during a clinic visit, before the intervention began, after the intervention ended, and four months after the end of intervention. The results of both groups improved, but the group which received traditional rehabilitation received somewhat better results.

In a study by Russell et al. (2011), the target group was also patients convalescing from total knee arthoplasty. The research team stated that the effectiveness of the rehabilitation of the group receiving telerehabilitation and the group receiving traditional rehabilitation was as good. In this study several different indicators of effectiveness were used. With some indicators, those who received telerehabilitation got even better results. Patient satisfaction was found to be good in both the above mentioned studies (Russell et al. 2011, Tousignant et al. 2001b).

Telerehabilitation has also been used in the assessment of a patient's functional capacity. Using the methods of telerehabilitation, the mobility of the ankle, the quality of the movement and provocation of pain were studied. It was interesting, and positive for the quality of the assessment, that the assessment of the walking and posture of the patients who received telerehabilitation could be checked later, because it was possible to record the assessment and use still frames in a later phase. According to the study, the results received in distance assessment were as reliable as the results in a traditional clinic visit. (Russell et al. 2010.)

In connection with the introduction of new forms of treatment, costs are a topic that is always discussed in addition to the effectiveness of the new form of treatment. Due to a relatively large initial investment, that is, the purchase cost

of the equipment, the costs of telerehabilitation are an important viewpoint in the development of this form of rehabilitation and, in particular, its adoption as an established form of treatment. Unfortunately, high quality research about the cost effectiveness is not available at this point, since there are still only few research results available even about the usability, impacts and patient criteria of telerehabilitation.

In the above mentioned telerehabilitation study of CVA patients (Johnsson & Wild 2011) it is stated that the study was not able to verify the benefits of the activity as regards to the use of resources or cost effectiveness. The cost effectiveness of telerehabilitation was also studied in a versatile rehabilitation intervention of war veterans (Bendixen et al. 2009), and the result for those who received telerehabilitation was increased clinic visits in the rehabilitation centre, but on the other hand, this group had fewer treatment days at hospitals and nursing homes. In the light of studies, telerehabilitation seems to be at least as effective as traditional rehabilitation, and as a rule, those who received telerehabilitation have been very satisfied with the treatment they received. The patients were well committed to telerehabilitation – even better than therapists. There is an increasing amount of research data about the effectiveness of telerehabilitation, but more research of good quality is needed, for example, about the use of resources. (Kairy et al. 2007) In the VIRTU project, the costs of telerehabilitation were compared to rehabilitation implemented as house calls; a case specific report is available at the end of the article.

The applicability of telerehabilitation to the rehabilitation of the elderly has not yet been determined in detail. Naturally, age is not a barrier to the implementation of telerehabilitation, but there are other characteristics of patients which determine if telerehabilitation can be implemented. Peel et al (2011) stated in their study that telerehabilitation was not suitable for as many as 77 % of the patients of one nursing home. Exclusion criteria included visual and auditory disability, anxiety, lack of space at home and cognitive issues. Furthermore, most of the patients had several problems, which meant the manual methods were needed in their rehabilitation. The above mentioned factors are clear exclusion criteria, but the applicability of telerehabilitation must be assessed individually. As a group, the elderly are quite heterogenic, so potential users can surely be found for rehabilitation, once there is more user experience and research data.

TELEREHABILITATION IN FINLAND

The applicability of telerehabilitation for further rehabilitation of elderly clients discharged from a rehabilitation unit was studied in the IITA sub-project of the Innokusti project. The elderly received telerehabilitation as group therapy for the duration of six months, five times a week, half an hour at a time. The study revealed that the ability of the clients to cope in everyday life improved through the exercises, and participating in the exercises set a new pace to the days. The majority of the participants were satisfied with telerehabilitation, and they found the exercising safe. (Vesterinen 2010.) IITA service is currently an established part of the normal activity of Kustaankartano Service Centre. The mission statement of the service is to support the rehabilitation of the elderly discharged from a hospital, under the guidance of a nurse and a physiotherapist for the duration of about half a year after the discharge.

Individual telerehabilitation was developed in the KASTE project, where four patients received telerehabilitation for the duration of about two months after having been discharged from a hospital ward. The participants were elderly hip fracture and arthoplasty patients, and one of them had Parkinson's disease. As a result of the intervention, subjectively assessed, all participants of the study coped better in everyday life. (Karppi & Nyfors 2012.) Furthermore, the balance of the patients was measured with Berg's balance test before starting rehabilitation and after it. The test results of all participants of the study improved. It was also detected in the study that for some of the patients, psycho-social support began to play an important role during the rehabilitation. (Karppi & Nyfors 2012.) There are also a couple of theses from universities of applied sciences about telerehabilitation, focusing, for example, on a patients' telerehabilitation exercise bank for workers of home care (Ramstedt & Väre 2012).

VIRTU CHANNEL AS A TOOL OF PREVENTIVE PHYSIOTHERAPY

Telerehabilitation was tested in Naantali home care from the viewpoint of preventive physiotherapy with a 79-year-old female patient. The woman lives alone in a detached house, and so far does not need elderly services to cope with daily activities. She can walk without aid, but has lately suffered frequent falls. The client finds that the muscle strength of her lower extremities is

fairly weak. Before starting the rehabilitation intervention, she took the Short Physical Performance Battery test (SPPB), the result of which was 8/12 points. In the interview she gave frequent falls as her biggest problem.

For the duration of two months, the client received physiotherapy two times a week, about 30 min at a time. The forms of therapeutic exercise were exercises strengthening lower extremities, balance exercises, and exercises improving posture. The exercises were carried out in different starting positions, standing, sitting and lying down. The exercises were started without any equipment, and the exertion level of the exercises was gradually increased with free weights and a rubber band. In the first sessions of lying down exercises, an assistant was used to ensure the safety of the client.

After the therapy period the client found that the strength of her lower extremities had increased. She said that telerehabilitation was an easy way to receive guidance and motivation to take care of one's own condition, even though this rehabilitation session did not make a difference in her coping with daily activities. There was no difference in the points of the function test the client took between the initial and final measurements, but the ability of the client's lower extremities to produce strength improved in the sit to stand section of the test battery. At first, standing up five times took 35 seconds, and in the final measurement the time was 17 seconds. On the other hand, the client already coped well at home at the beginning of the rehabilitation session, and the aim of the period was actually to introduce the new form of implementing rehabilitation to professionals. The implementation of the therapy period was impeded by occasional disturbances of the rehabilitation unit's equipment.

COSTS OF TELEREHABILITATION

Assessment of the activity's costs was part of the Naantali telerehabilitation experiment. We calculated the costs related to the implementation of telerehabilitation for one, three, six and eight clients, and compared the cost of the service to physiotherapy costs implemented traditionally as house calls. In the calculation the costs of the implementation of a total of 14 physiotherapy visits were used. Telerehabilitation of more than one client is carried out as small group rehabilitation.

In the calculation we used a physiotherapist's salary (General collective agreement for municipal personnel, KVTES, with 3% work experience allowance, non-wage labour costs and holiday bonus added) as basis for rehabilitation cost for the time that it takes to implement rehabilitation. Furthermore, there are travel costs, which arise when the examination of the functional capacity of each client and therapy planning is executed as traditional house calls. Naturally, rehabilitation implemented as traditional house calls contains travel costs for each therapy session. Device costs consisting of device rent, installation and data communication connections were included in the costs of telerehabilitation. The device costs are according to the fares the technology supplier has offered for the municipalities, which continue the distance services after the project. The implementation of a therapy period takes two months, which is taken into account in the device rental costs.
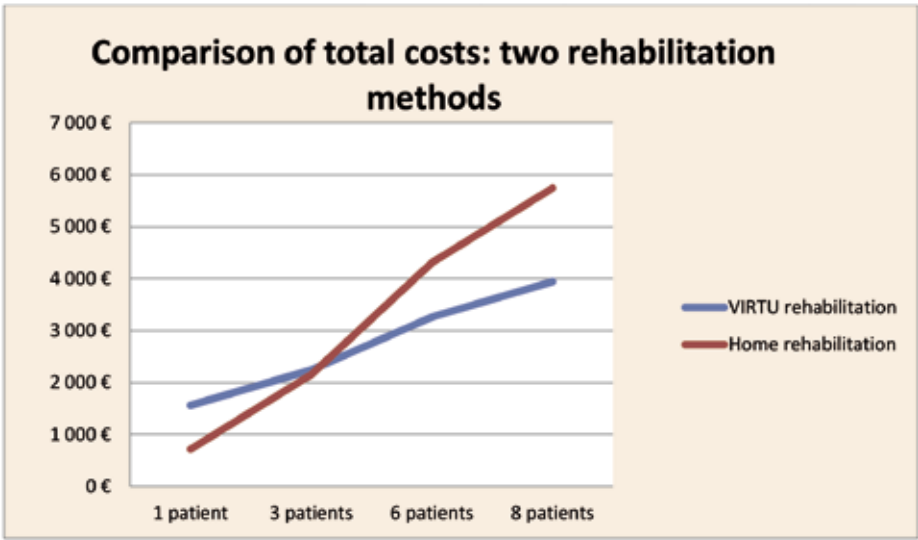
FIGURE 1. *Cost comparison of rehabilitation methods.*

The calculation shows that already with four clients, implementation of telerehabilitation brings cost savings to the organisation. The assumption in the calculation was that the client lives 8 km from the physiotherapy unit. In reality, the distance can be considerably longer, for example, if the client lives in the archipelago or in a sparsely populated area of the municipality,

which increases the costs of physiotherapy implemented as house calls. In this cost calculation the client only receives rehabilitation through the device, and no other possible services which could be provided through the device are considered. Common group rehabilitation which takes place in a physiotherapy unit is not included in the comparison, because the client groups of these two forms of rehabilitation are different. Traditional group activity is a good form of rehabilitation, where leaving home and social interaction in a group support overall functional capacity. In the ageing municipal population there is a growing number of people who due to their poor mobility and general condition cannot take part in traditional group activity. These elderly people still need support and guidance to support their remaining functional capacity. Telerehabilitation can be one way to support the functional capacity of this part of the population, especially when distance service can also help produce other preventive psycho-social services.

FUTURE

The experiences from the telerehabilitation experiments in VIRTU and other projects (KASTE, IITA) indicate that physiotherapy services can be produced in this way directly to the client's home. In individual telerehabilitation the client can be guided individually every time, which may increase the quality and success of the rehabilitation. On the other hand, group telerehabilitation may help obtain support and motivation from a peer group. In a small group of 3–4 people it is still possible to provide fairly individual guidance and at the same time receive social support from the group. A cost comparison shows that telerehabilitation is already more cost-efficient with a group of four clients; on the other hand, these clients must be selected carefully to ensure that rehabilitation is effective. Telerehabilitation will play its own important role in future senior citizen services, but there is still development and research work to be done in the fields of evaluating therapy methods, client selections, impacts and cost benefits.

REFERENCES

Ahtiainen, M. & Auranne, K. 2007. Hyvinvointiteknologian määrittely ja yleisesittely. Teoksessa: Suhonen, L. & Siikanen, T. (toim.). Hyvinvointiteknologia sosiaali- ja terveysalalla – hyöty vai haitta? Lahden ammattikorkeakoulun julkaisu. Sarja C Artikkelikokoelmat, raportit ja muut ajankohtaiset julkaisut, osa 26. Tampereen yliopistopaino: Tampere, 9–20.

Bendixen, R M., Levy, CE., Olive, ES., Kobb, RF & Mann, WC. 2009. Cost Effectiveness of a Telerehabilitation Program to Support Chronically Ill and Disabled Elders in Their Homes. Telemedicine And E-Health 15 (1): 31–38.

Deng H. Durfee WK. Nuckley DJ. Rheude BS. Severson AE. Skluzacek KM. Spindler KK. Davey CS. Carey JR. 2012. Complex versus simple ankle movement training in stroke using telerehabilitation: a randomized controlled trial. Physical Therapy. 92(2):197–209, 2012 Feb.

Johansson T, Wild C. 2011. Telerehabilitation in stroke care--a systematic review. Journal of Telemedicine and Telecare. 17(1):1–6.

Kairy, D., Lehoux, P., Vincent, C. & Visintin, M. 2009. A systematic review of clinical outcomes, clinical process, healthcare utilization and costs associated with telerehabilitation. Disability and Rehabilitation. 31(6): 427–447.

Karppi, M. & Nyfors, H. 2012. Interaktiivinen etäkuntoutus tukee iäkkään ihmisen kotona selviytymistä. Kuntoutus 35(2): 5–12.

Mumford N, Wilson PH. 2009. Virtual reality in acquired brain injury upper limb rehabilitation: evidence-based evaluation of clinical research. Brain Injury. 23(3):179–191.

Peel NM., Russell TG. & Gray LC. 2011. Feasibility of using an in-home video conferencing system in geriatric rehabilitation. Journal of Rehabilitation Medicine. 43(4):364–6.

Ramstedt, M. & Väre, A. 2012. Liiku ja voi hyvin erikseen ja yhdessä. Fysioterapeuttisen ohjelmapaketin suunnittelu ja toteutus VIRTU-kanavalle. AMK-opinnäytetyö. Fysioterapian koulutusohjelma. Turun ammattikorkeakoulu.

Richards CL, Malouin F, Bravo G, Dumas F, Wood-Dauphinee S. 2004. The role of technology in task-oriented training in persons with subacute stroke: a randomized controlled trial. Neurorehabil Neural Repair. 18(4):199–211.

Russell TG. Buttrum P. Wootton R. Jull GA. 2011. Internet-based outpatient telerehabilitation for patients following total knee arthroplasty: a randomized controlled trial. Journal of Bone & Joint Surgery – American Volume. 93(2):113–20, 2011 Jan 19.

Russell TG, Blumke, R, Richardson B & Truter, P. 2010. Telerehabilitation Mediated Physiotherapy Assessment of Ankle Disorders. Physiotherapy Research International, 2010 Sep; 15 (3).

Shaw, DK. 2009. Overview of Telehealth and Its Application to Cardiopulmonary Physical Therapy. Cardiopulm Phys Ther J. 2009 June; 20(2): 13–18.

Sosiaali- ja terveysministeriö. 2012. Sosiaali- ja terveydenhuollon kansallinen kehittämisohjelma KASTE 2012–2015. STM julkaisuja 2012:1. Helsinki.

Sosiaali- ja terveysministeriö. 2008. Ikäihmisten palvelujen laatusuositus. STM julkaisuja 2008:3. Helsinki.

Tousignant M. Boissy P. Moffet H. Corriveau H. Cabana F. Marquis F. Simard J. 2011b. Patients' satisfaction of healthcare services and perception with in-home telerehabilitation and physiotherapists' satisfaction toward technology for post-knee arthroplasty: an embedded study in a randomized trial. Telemedicine Journal & E-Health. 17(5):376–82, 2011 Jun.

Tousignant M. Moffet H. Boissy P. Corriveau H. Cabana F. Marquis F. 2011a. A randomized controlled trial of home telerehabilitation for post-knee arthroplasty. Journal of Telemedicine & Telecare. 17(4):195–8, 2011.

Vesterinen, R. 2010. Etäkuntoutus – mahdollisuus kuntoutua kotona kaksisuuntaisen videoyhteyden avulla. Käytettävyystutkimus Innokusti-hankkeesta. Pro gradu-tutkielma. Jyväskylän yliopisto. Terveystieteiden laitos.

Vesterinen, R. & Niemelä A-L. 2009. Interaktiivinen etäkuntoutus – kotikuntoutuksen uusi työväline? Teoksessa: Engeström, Y., Niemelä, A-L., Nummijoki, J & Nyman, J. (toim.) 2009. Lupaava kotihoito. Uusia toimintamalleja vanhustyöhön. PS-kustannus: Juva. 201–216.

Willner, H. & Ahoniemi, L. 2004. Terveysteknologiatoimialan ennakointi Pirkanmaalla. Pirkanmaan TE-keskuksen julkaisuja 9. Tampere.

FACING UNCERTAINTY WHILE DEVELOPING VIRTU PROJECT

Anneli Rasu

ABSTRACT

The development of distance services for social care (VIRTU) was a highly innovative idea when Estonian partners decided to join the project. Innovation is in its essence always connected with uncertainty – as an idea, a new service and the benefit to the society can usually be well visualised, but it is not possible to plan in detail the launching process, results and side effects of a new service. Current article is based on the classification of uncertainty in an innovation process described in articles addressing innovation and uncertainty by Harri Jalonen, a researcher of Turku University of Applied Sciences. The key factors of uncertainty are technology, market, law and regulations, social issues and politics, approval and legitimacy, management, timing and implications (Jalonen & Lehtonen 2011). Each of these factors may include a bottleneck that may become an obstruction to innovation.

The model of distance services in social care, being created in the course of the VIRTU project, is in a development stage, the innovation process is on-going. Acknowledging risks and implications commencing from uncertainty during an innovation process has an important role also in raising societal tolerance towards these processes. Current article describes the challenges to and lessons learned by the VIRTU project Estonian partners that we have faced during developing distance services for social care. The article addresses results and implications that have emerged and are emerging from uncertainty.

Key words: uncertainty, innovation, Estonian situation

INTRODUCTION

Estonia is known for widely utilising information technology solutions. It is common to use on daily bases internet banks, e-parking, e-mail for communicating with administrative agencies as documents can be signed digitally (Sertifitseerimiskeskus). For sending invoices ordinary postal services are no more used, a pdf-format document, sent by e-mail is sufficient for settling bills. In health care, digital prescriptions, entered into the respective system by doctors and available to chemist's shops, are widely used (Eesti Haigekassa). Also, the world-wide recognised Skype application that today has become owned by Microsoft has been developed in Estonia.

According to Eurostat, about 71% of the Estonian population used the internet in 2011 (Vadariigi Valitsus 2012). Back in 2009, that kind of background encouraged the Estonian partners of today to join the Central Baltic Interreg IV A Programme financed VIRTU project for developing distance services for social care. The partners could vividly see the future where a single elderly person, living in the countryside, can be supported by particular video conference services. In case of such a future becoming a reality and expanding at a wider scale, it could be stated that the quality of life of the elderly will increase considerably.

In the context of Estonia, the project was a major innovative action due to the lack of a prior experience in using information technology in customer service in social care. From the articles of the researcher Harri Jalonen, who has closely been connected to the project, it is known that any innovation process includes uncertainty and requires decision making in the environment of uncertainty. "Uncertainty" is not a synonym to "risk". Risks allow probability calculations on how different results are attained when acting this way or that way in one or another situation. Uncertainty, in contrary, is a situation that does not allow these calculations (Jalonen & Lehtonen 2011). Current article describes which uncertainties the Estonian partners faced in the course of the project.

UNCERTAINTY FROM TECHNOLOGY

The Estonian partners were encouraged to join the project by the Finnish Lead Partner's prior experience in a similar project which developed welfare technology in elderly care. However, compared to the telecommunication services provided in Estonia, the service prices looked very high. In the beginning of the project it was discussed that in Estonia, it might be possible to use quite different and much less costly technical devices. Thus, an uncertainty in the technological solution to be applied and its costs appeared at the beginning of the project. Still, it was clear from the very beginning that the sustainability or the feasibility of the distance service after the project lifetime depends on the costs of the applied technological solution.

During the following stage of the project, in the autumn of 2010, it became evident that proceeding with public procurements for purchasing the required equipment separately by different partners would have been a too risky process leading to unpredictable results. And so, all partners authorised the Lead Partner (Turku University of Applied Sciences) to take the responsibility for a joint public procurement. The Terms of Reference included a number of pages describing various quality requirements for a technological solution. In addition to providing appropriate software and hardware, the tenderer was also held responsible for securing the internet connection, customer training at the device installation, developing the user environment in Estonian and technological support in case of failures. Based on the previous experiences of project partners and the extensive Terms of Reference it seemed that the content of the tender was well considered.

In February 2011, technology installation contract was signed with Videra, the winning tenderer which had demonstrated a working system and the best price. But the best price in the sense of tendering does not mean the best price from the point of view of the project sustainability in Estonia. If the first technology related uncertainty usually appears in technical specifications and the production process (Jalonen & Lehtonen 2011), the initial risk had been eliminated in thoroughly planned tender criteria. The obstacles appeared in the existing (or missing) internet infrastructure and in the process delivering the equipment to the end user. The contract signed with the technology supplier was in correspondence with the tender criteria and with internationally

recognised service standards relating to providing technological support, but the capability of the company that had assumed the responsibilities to fulfil them appeared to be an unpredictable factor.

Time wise, the equipment installation fell behind schedule which caused complications to the project team, partners and customers. Technologically, the equipment requires a high quality internet connection, and using the technically easiest solution for mobile (3G) internet connection proved to be problematic in Finland due to a floating quality. Due to the overall installation work being delayed the whole project implementation was in danger. On the one hand the technology delivered was user-friendly, but on the other hand the time required for its installation and elimination of failures in Estonia proved difficult – that in turn damaged the credibility and quality of distance services.

UNCERTAINTY FROM MARKET SITUATION

The success of innovation is influenced by a market situation – needs of customers, activity of competitors, the existence of replacing goods (services) (Jalonen & Lehtonen 2011). The customers of the VIRTU project are the existing and potential social care customers who are, for whatever reason, in social isolation. An alternative service is family care, where the service provider / caregiver has, in addition to practical tasks, also time for talking with the customer. Due to low financing of the social care sector and the overloaded social workers, it can be claimed that the alternative service is not accessible to customers in practice, and therefore it is reasonable to meet the need for communication via interactive distance services, such as group activities or encouraging the customers to communicate with each other.

The only known competitor in Estonia is Meditech Estonia, which provides an emergency-button service for the security of an old age person. Although the target group is similar to the one of the VIRTU project, the service is very different. Emergency-button is aimed at providing security, but it is not of any assistance in providing actual communication possibilities. A video communication between two people is enabled by Skype, but it requires computer skills from users. A video-conference via Skype had, at the start of the VIRTU project, a capacity of only five persons that could be connected at the same time, and that did not meet the need identified in the project.

Still, the market situation became decisive at developing the installation process. A private company residing in Finland had to build the internet connections and install equipment at any address in the project area in Estonia. Thus, in case of each customer, Videra started with finding out the possibilities for the internet connection.

The internet backbone network is, in Estonia, managed by Elion AS belonging to TeliaSonera Group. Elion AS has built the majority of the internet infrastructure in Estonia, but the technology supplier in Finland selected Elisa Estonia AS as its partner, because it is a part of Elisa Corporation. An enquiry about the possible internet connection was made by both companies at the beginning. It turned out that the process where the Estonian project partners had gathered the addresses of potential customers and forwarded them to a company in Finland that, in turn, forwarded an enquiry to major telecommunication companies in Estonia for the internet connection at specific addresses, was unusual for Estonian companies. The information was not passed on or it was passed on in such a way that no one actually held responsibility for it. In addition to communication barriers inside companies, also relationships between competing companies could become a barrier, as they were in high competition in Estonian market for other services. From the point of view of the project team, Videra was the only provider of technological solutions. The contract signed with Videra gave an impression that Videra was responsible for finding the internet provider and arranging the service in Estonia. Still, the initial understanding that Videra would implement the equipment installation without the involvement of the project team turned to be incorrect.

UNCERTAINTY FROM THE LAW AND REGULATIONS

Regulations have either a limiting (e.g. impact on the environment or health) or facilitating (intellectual property protection) impact on innovation. In general, it seems that regulations have mainly a limiting impact on innovation, as regulations build extra barriers in the environment and thus increase the level of uncertainty. Lack of regulations allows an innovator to set their own rules (Jalonen & Lehtonen 2011).

The Estonian law lacks direct regulations on distance care and monitoring, but there is the Data Protection Act that applies to the personal data protection of distance-care customers (Riigi Teataja 2003). At the same time, due to the lack

of a general national policy in and strategy on distance care, also no generally recognised bases or practices in ethical usage and protection of personal data in this field have been developed. The customer data, collected in the course of the VIRTU project is confidential and in the filled-in survey questionnaires personal data is coded. Commencing from the law and practices of the home country of the project Lead Partner, a permit in writing in a specially developed form was asked from customers as well as the local government representatives involved in surveys via using the data in research work. (See Santamäki Fischer et al. in this publication.) Video recordings of interviews are theoretically acceptable, but the large amount of information and scarcity of resources for their processing make them unreasonable. A clear standpoint has developed in the course of the project that due to the interactive (allowing bilateral communication) character of the services, the video recordings are not suitable, because during the playback a viewer has no possibility for an active interference – and interactivity disappears.

In Estonia, there are no regulations facilitating distance services. Currently, distance services in health and social care can only be developed on project basis, with the support of the European Union funds. The barriers preventing the services being provided by a business sector or non-profit sector are evidently the high cost of the technological solution as well as the lack of support for (development) activity from the state. In Estonia, health care services are financed by the Sick Fund, and providing social care services is the responsibility of local governments, so the systems have different financing while being aimed at the same target group. It has been stated that a comprehensive patient oriented service is missing; it has not been defined who is responsible for a person under care, and a patient is chaotically directed between different services. The coverage of service with resources is uneven and a number of local governments lack sufficient selection of social care services (Sotsiaalministeerium & PriceWaterHouseCoopers 2009). From the point of view of health promotion, the impact of distance services is preventive and should, as a result, reduce expenditures on health care services.

UNCERTAINTY FROM SOCIAL ISSUES AND POLITICS

Innovation is never born in isolation, but in social interaction with different stakeholders. That kind of interaction is a process that reveals different interests of stakeholders and, as a result, uncertainty increases. Innovation may cause changes in the structures of power and the operation routines of organisations. Most decisions in innovation development are made in the environment of uncertainty. Although the quality of decisions can be improved on the basis of better information, they always stay influenced by political interests and different value judgements. In a way, uncertainty may cause excessive conservatism as there is a danger to get stuck in existing routines in the fear of wrong decisions (Jalonen & Lehtonen 2011).

One of the reasons of the 2012 strike of doctors and other medical workers was a years-long standstill in reforming the national health care system (Linkgreim 2012). The top priority of Estonian politicians has for a long time been national security – to be accepted into powerful international and military organisations. Less attention has been paid to domestic social issues. The corruption scandals of the past years indicate the stagnation of those in power. Just keeping power has become more important than a comprehensive development of the country. At the same time, civil society is still weak and underdeveloped in Estonia; it has no sufficient skills to act as a serious partner in building the country. The demographic trends point out the decrease of the rate of tax payers in the society, and therefore it is not possible to delay reforms for an unlimited time. The stability of taxes is in turn influenced by a globally uncertain economic situation.

On the one hand, in such a turbulent and split environment, it is difficult for those developing services to attract attention. On the other hand, correctly put arguments on the basis of affirmative research results facilitate attracting politicians and hitting the right moment may be of assistance in getting the state support in a society quite open to information technological innovation. The VIRTU project has been introduced at the highest political level in Estonia – to the Minister of Social Affairs, to the Ministry of Social Affairs, to the Parliament Committee on Social Affairs. On-going cooperation at political level as well as with different partners and the mobilisation of project teams to formulate clearly understandable strategies may give favourable conditions for further development and application of distance services.

APPROVAL AND ACCEPTANCE AS SOURCES OF UNCERTAINTY

As mentioned earlier, innovation may cause changes in the operation of organisations that are not necessarily acceptable in an organisation at individual level. In case innovation does not fit the patterns of a particular job, an individual may feel insecure. If an employee does not understand the idea of innovation or it even feels fearsome, the employee will not accept it and may act against it (Jalonen & Lehtonen 2011).

Different examples may be offered relating to accepting innovation when it comes to the local government employees involved in the VIRTU project. There are bright-mooded experimenters applying the technical solutions for distance services in the field of social care in a clever way; there are neutral bystanders who, because of time-shortage and overload, leave their customers alone with the technical devices and activities offered by the Kuressaare Day Centre; and then there are the pessimists who cannot forget/forgive the obstacles and setbacks that appeared at the project launching period. Acceptance is facilitated by support from the project team, the sufficiency of time for development activities next to daily duties as well as a wider awareness of distance services and their good image in the society.

MANAGEMENT

Routine duties are predictable, standardisable and stable, whereas innovation, in the contrary, requires autonomy, fulfilling unpredictable tasks and taking risks. While implementing innovation, management related uncertainty occurs in team formation, identifying the required competencies and resources, communication with the rest of the organisation and in cooperation with partners (Jalonen & Lehtonen 2011). An example in the VIRTU project about the last barrier was the arrangement of the installation of the end-users' devices. After the internet connectivity issue had finally been clarified, it turned out that the supply chain of the equipment was too long and the information on customers could not be understood clearly. The installation process could get stuck in any of the following stages, as a rule in several stages at the same time:

1. identifying end-users (responsibility: social worker in a municipality)
2. primary check on whether the internet connection is feasible for a particular customer (social worker, project coordinator)
3. filling in installation applications for end-users (social worker in a municipality)
4. gathering a sufficient number of applications and forwarding them to Videra (Estonian coordinator)
5. processing the information received in the applications (Videra)
6. adjusting computers, delivering and assembling the equipment required (Videra)
7. transporting the equipment to the technology partner in Estonia – Elisa Eesti (Videra)
8. stock taking on the equipment in store and where it should be installed (Elisa Eesti)
9. sub-contracting installation work (Elisa Eesti).

An installation process is also slowed down by an internal work arrangement in an organisation where the staff is at the same time occupied with other, more important tasks. In order to reduce the supply chain, it would be reasonable to have the partner offering equipment for distance services in the home country and having sufficient local human resources for rendering quick technical support services. The excessive focus of the project team on installation problems has in turn reduced resources for supporting the cooperation of local governments in developing the service and utilising the equipment in social work.

TIMING AND IMPLICATIONS

In case of business innovation, time is of utmost importance – the sooner an innovation is launched, the bigger are the uncertainty and risks, although in case of a success, significant competition advantages can be gained. In the early stage of innovation, decisions related to the innovation are mostly made in the environment of ignorance, and as more time goes by, the level of information increases and the level of risks reduces (Jalonen & Lehtonen 2011).

The VIRTU project is not a business project, although one of its objectives is to produce service models that are cost-effective and with high application value. Delaying innovation in a competitive environment is useful from the point of view of waiting for more information needed to launch the innovation. On the other hand, a pilot project, like VIRTU, provides a lot of practical experience that can be utilised by businesses, and it may be claimed that the costs can be indirectly covered by the project itself.

The implications of innovation are in general unpredictable, as it is not possible to identify in detail which inputs give which results. Results are divided into direct/indirect, requested/unrequested and expected/unexpected ones (Jalonen & Lehtonen 2011). As the number of test persons involved in the VIRTU project has been limited and the project has lasted for quite a short period in Estonia, it is hard to tell results at this point of time. One of the expectations has been the project to have an impact mitigating social isolation and prolonging the period of coping with living at home. In the course of the project it was demonstrated that a favourable impact of distance services also depends on the individuality and mood of customers. The facilitating individual characteristics include openness to communication and new possibilities as well as patience.
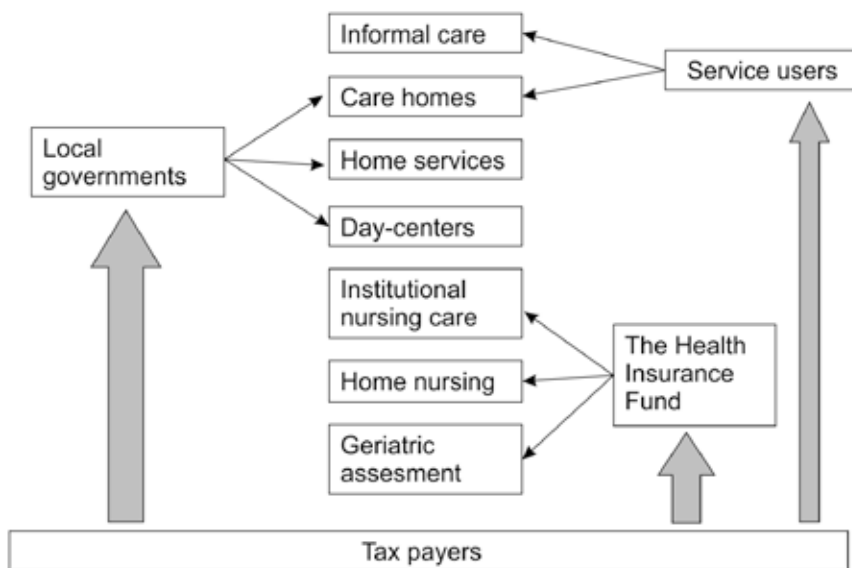
FIGURE 1. *The financing scheme of health care and social care services in Estonia.*

REFERENCES

Inga-Gretel Linkgreim. 2012. Intervjuu Marju Lauristiniga. Lauristin: streik lõppeb, kui jutt on tõsine ja mitte suitsukate http://uudised.err.ee/index.php?06262607 Accessed 02.10.2012.

Eesti Haigekassa. Digiretsept. http://www.haigekassa.ee/digiretsept Accessed 15.09.2012.

Eesti Haigekassa. Tervishoiuteenused http://www.haigekassa.ee/kindlustatule/tervishoid Accessed 15.09.2012.

Jalonen, A. & Lehtonen, A. 2011. Uncertainty in the innovation process. A paper to be presented at the European Conference on Innovation and Entrepreneurship, 15–16 September 2011, Aberdeen, Scotland, UK. http://www.virtuproject.fi/wp-content/uploads/2011/02/ECIE2011_Jalonen_Lehtonen_VIRTU_April_2011.pdf Accessed 15.09.2012.

Meditech Estonia. Häirenuputeenus. http://www.medi.ee/hairenuputeenus Accessed 15.09.2012.

Paat,G., Merilain, M, Praxis & Center For Policy Studies. 2010. Long-Term Care In Estonia. ENEPRI research report no. 75. Contribution to WP1 of the ANCIEN project. http://mercury. ethz.ch/serviceengine/Files/ISN/122398/ipublicationdocument_singledocument/4ca0c1f2-d728-4190-9b25-5ebad4e52208/en/Estonia.pdf Accessed 15.09.2012.

Riigi Teataja. 2003. Isikuandmete kaitse seadus. https://www.riigiteataja.ee/akt/748829 Accessed 15.09.2012.

Sertifitseerimiskeskus. Digiallkirjastamine. http://www.id.ee/index.php?id=30109 Accessed 15.09.2012.

Sotsiaalministeerium & PriceWaterHouseCoopers, 2009. Hoolduskoormuse vähendamiseks jätkusuutliku eakate hooldussüsteemi finantseerimissüsteemi väljatöötamine. Etapp III (finant-seerimissüsteemi kirjeldus) ja lõppraport. http://www.sm.ee/fileadmin/meedia/Dokumendid/ Sotsiaalvaldkond/kogumik/Etapp_III_Finantssusteem.pdf Accessed 15.09.2012.

Vabariigi Valitsus. 2012. http://valitsus.ee/et/valitsus/tegevusprogramm/e-riigist-i-riigiks/in-terneti-kasutajate-osakaal-16-74-aastaste-hulgas Accessed 15.09.2012.

COOPERATION ACROSS SECTOR BOUNDARIES – AN OPPORTUNITY FOR MUNICIPALITY RESIDENTS TO MEET EACH OTHER

Ida-Lotta Lind

ABSTRACT

Sipoo has made a different choice of users and target group in the VIRTU project than the other municipalities. Instead of the home care personnel developing virtual home care service, the project's focus has been on preventing loneliness and isolation. Certain challenges have also had a distinctive character in Sipoo's project. A part-time Program Coordinator was recruited, and the virtual welfare service developed in Sipoo involved several sectors from within the municipality. In the article, the concepts Sipoo tested together with the home care service, the library, Vägskälet Activity Centre, a group of preschool children and a senior level school class are discussed. Virtual elderly care not only promotes the elderly's health and prevents loneliness, but also turns the user into an active resident of the municipality. The form of social media offered by the VIRTU channel can even change attitudes to elderly people.

Key words: active residents of the municipality, meetings between residents of the municipality, cooperation across sector boundaries, development of scheduling

INTRODUCTION

The special thing about Sipoo compared to the other municipalities in the VIRTU project is Sipoo's choice of users and target group. Even though the home care service in Sipoo is the player with the main responsibility for the

project, the users are not home care's clients. The users are in good condition and do not need home care. For this reason, Sipoo recruited a part-time Program Coordinator and developed a model for virtual welfare service that involved several sectors from within the municipality.

Many people have participated in Sipoo's broadcasts since the start in September 2011. In this article, I will take a closer look at the concepts Sipoo tested together with the home care service, the library, Vägskälet Activity Centre (Verksamhetscentret Vägskälet), a group of preschool children and a senior level school class. In addition, I will also discuss two very successful broadcasts made by private individuals. Thanks to the users discussing various subjects and meeting many people at the VIRTU channel, I believe that distance services in elderly care not only promotes the elderly's health and prevents loneliness but it also turns the user into an active resident of the municipality. This form of social media can even change attitudes to elderly people. The article is mainly based on my personal experiences as Program Coordinator, as well as the responses I have received from users. In addition, interviews with nurse Johanna Hermanson-Sundberg, library official Annette Broman, Mika Noronen from Vägskälet Activity Centre and Swedish teacher Susanne Lindström. Comments on the users' participative activity are made from the documentation made of each VIRTU channel activities.

The number of users varied during the course of the project. Sipoo has had 15 devices intended for users and one broadcasting centre. Of these 16 devices, five have been at the disposal of the municipality; Sipoo station (broadcasting centre), the home care service, Vägskälet Activity Centre, the library and an old people's home. Ten devices have been placed in homes, either with people who lived alone or with their partner. Three people in Sipoo stopped using their device. The reasons for dropping out included impaired functional capacity and the fact that the project did not meet the user's expectations. The activity among users varied – some people took part in just about every programme activity while others took part sporadically or rarely. A bilingual user as a rule has had the possibility to take part in one or two interactive programmes a day, apart from public holidays and weekends. During the summer months, the choice of programmes was smaller.

SIPOO'S CHALLENGES

As in all other municipalities, Sipoo has also experienced setbacks, especially at the start of the project. Initially, technical problems and the recruiting of users caused a lot of trouble. Even a lack of time manifested itself many times. The challenges that could be considered to apply solely to Sipoo concern focus, purpose and language.

When Sipoo chose the target group for the VIRTU project, the condition of the home care service's clients was considered too poor for them to be able to join the project. Therefore, the decision was made to choose users from healthier elderly people who still lived at home without a need for home care. The purpose of the project became the focus on preventive care to counteract loneliness and isolation. Sipoo's decision turned out to be troublesome; how could the home care personnel prevent loneliness for these users? Even the idea of developing distance services in home care for people who do not need home care seemed far-fetched. The purpose of the project and the target group's needs seemed to pull in opposite directions. The home care personnel also considered that the service they could offer the users at a distance did not match the users' wishes. Moreover, the VIRTU project, and the service the project would offer, was felt to be very far from the personnel's daily work. Furthermore, the amount of work increased since the home care service's own clients needed just as much care and home visits as before. Today, it can be observed that the idea of distance services in elderly care has taken root among some of the home care personnel, while others still consider the concept as remote and unrealistic.

Another challenge for Sipoo has been the language divisions. Of the users with a device in their homes, ten individuals speak Swedish and three Finnish. Even though the majority of users are Swedish speakers, the scheduling has been dominated by Finnish, due to Sipoo's Finnish partner, the Laurea University of Applied Sciences. The language issue is relevant because the VIRTU project was directed originally to elderly municipal residents in the archipelago – the majority of Sipoo's elderly who still live on the islands of the archipelago or along the coast, only speak Swedish. Since September 2011, Sipoo's own scheduling has consisted of one Swedish and one Finnish programme activity. Since March 2012, the Swedish speaking users have also been able to take part in the Swedish programmes at the common yellow VIRTU channel, also called the Yellow button. In reality, a part of Sipoo's Finnish and Swedish programme

activity has been bilingual. For instance, when guests have visited the studio, the programme has been sent in both languages. Bilingual activity programmes work, but translating from one language to another takes time and can result in unnatural breaks in the discussion. The lopsided language division among the users has also influenced the user activity; the programmes that were solely in Swedish have had noticeably more users than the Finnish ones.

SCHEDULING ON THE USER'S CONDITIONS

What should the VIRTU channel in Sipoo offer? The majority of users were busy with clearing snow and gardening and needed neither guidance nor physical activity to preserve their physical functional capacity. This excluded the need for interactive distance gymnastics in the form of seated exercise, which was popular in other municipalities. What types of distance services could these healthy users, living in their own home along the coast, need? Moreover, how could the VIRTU channel encourage users to be active members in society even though they lived far from the centre? It turned out that wishes and expectations varied between the users: some wished to discuss topical events in Sipoo while others, for example, preferred quizzes. Some wanted to talk and get to know new people while others preferred to sit quietly and listen. However, the majority of users did have one thing in common: an interest in their home municipality. For this reason, as the Program Coordinator, I have tried bear in mind the local ties when I planned the VIRTU channel's programmes. With help from various players in the municipality, we have had the opportunity to offer a reasonably varied schedule at the VIRTU channel in Sipoo. The users have met many new people who have been guests in the studio and discussed different subjects with them.

The two programmes holding the user record in Sipoo both have ties to Sipoo's history. Local ties, expert knowledge and the opportunity for discussions are important ingredients for a successful programme activity. When the retired history teacher and author, Odin Sjöholm, from the Sipoo folklore society, guested the studio he had 17 listeners. Among the things shown by Sjöholm were old photographs of school buildings were the users had gone to school as children. The home district was also discussed from an historical perspective. Another programme activity that aroused great interest was the author, Eva Sundman, talking about her book *Simsalö*. Even though the book is about

the island of Simsalö, and some of the users did not have any direct ties to the island, the majority could relate to the subject. Island life now and in the past has shared features, regardless of the island on which one lives. 14 users took part in Sundman's programme; irritatingly enough, the contact was lost to some users during the programme.

PICTURE 1. *VIRTU channel has increased the possibilities for social interaction. (Photo: Mika Arvola)*

Visits from health experts

Since home care's personnel did not have the possibility to develop their own care work by means of the VIRTU project, another concept was developed: interactive lectures. Expert personnel from across the entire health care sector discussed different subjects with the users. For instance, the discharge team talked about their work; if a person has been admitted to hospital and is to be discharged, the discharge team assesses the person's home conditions through home visits and discussions. The diabetes nurse focused on managing diabetes for elderly people and one of the home care service's nurses gave advice on how

to take good care of one's skin. A physiotherapist talked about how to prevent accidents at home. In addition, she presented a number of aids that make life easier and the home safer. These interactive lectures were appreciated, even by the lecturers. Some of them felt nervous before the programme activity and wanted to examine the room and device in advance. Afterwards, they could note that the experience of distance lecturing did not differ noticeably from a normal lecture.

The nurse's appointment at distance

The nurse's appointment at distance was developed for preventive purposes. The idea behind the appointment at distance was to have recurrent opportunities for discussions on the users' health as well as to give advice and information, for example, on e-prescriptions and travel warrants. Everyone interested could have a private consultation with two nurses from the home care service. It was also pointed out that the information discussed would not go out to unauthorised people, such as the Program Coordinator and anyone else in the project. It turned out that all of the users wished to participate in the nurse's appointment at distance. The users' also gave their consent for the nurses to check their details in the patient information system, Mediatri, before the discussion. This meant the nurses could discuss relevant subjects with the user. The discussion conducted in the nurse's appointment at distance was also entered in the patient information system. This means doctors and other authorised medical personnel will benefit from the discussion when they consider the user's future need for care. If the user had refused access to the patient information system, the discussion would have been conducted on a more general level.

A private call time lasting 30 minutes was allocated to each user. The nurses called the users from the broadcasting centre. Users who were married were also given the chance to choose their own time, instead of a time shared with their partner. Even during the discussion, the nurses had access to the patient information system and could check facts during the course of the discussion. Even though the discussion time of 30 minutes was sufficient for the majority of users, nurse Johanna Hermanson-Sundberg thought it would have been good to dedicate one hour per user; 15 minutes before the conversation to read up on the user and 15 minutes afterwards to document the discussion.

According to Hermanson-Sundberg, the nurse's appointment at distance worked very well and she sees potential in this form of distance consultation. However, this will need the nurses developing new ways of working since the user and nurse are not physically in the same place. Hermanson-Sundberg says that in the nursing profession they not only listen to what someone says about how they feel, they also observe the person's body language to form their own opinion. The body language mirrors how they are really feeling and, for this reason, a video conversation is more fruitful than a normal telephone conversation. Presumably, the video contact also makes it easier for the user to discuss things with the nurse.

Even though there are many care issues that cannot be discussed at a distance, Hermanson-Sundberg sees many opportunities as long as one is innovative. For example, follow up and consultation on blood pressure and blood sugar can be done at a distance, if the user has a meter at home. She says that a digital measurement of blood pressure is not as reliable as a manual measurement, but it still provides guidance. If a user living on an isle can take his or her own blood pressure with a digital meter and then have a distance consultation about the result, both the user and care personnel save time. This is a good solution, even from an economic perspective.

Cooperation with the library

The most concrete and important cooperation between the VIRTU project and the library happened when the broadcasting centre was moved from the cramped and busy office for Southern Sipoo's home care to the main library's sound-insulated studio. This happened before the programme activities from Sipoo started. I had the opportunity, as Program Coordinator, to hold the programmes in undisturbed and calm surroundings. The surroundings are crucial for the quality and humour in the programmes; this is true for both the users and the person making the programme activity. Since the technology requires extra concentration, it is of the utmost importance that background figures do not move and there is no background noise. In other words, it would have been impossible to realise good scheduling in good surroundings for programmes in the home care offices. Moreover, the guests who were to make the programmes knew where to find the main library. In the summer of 2012, the library needed the studio for its own use and the broadcasting centre moved into its own room in connection with the Northern Sipoo home

care service renovating its premises. If no other solution had been found, the broadcasting centre could have remained in the library but then with different broadcasting times.

The idea was for the cooperation between the VIRTU project and the library to be more extensive and there were discussions about offering library services at distance in the form of book chats and a borrowing service. In addition, the library would offer book readings to the users. Unfortunately, I did not have enough time to develop a continuous collaboration with the library. Moreover, the library received unexpected work to do from the start of 2012, when Sipoo joined the Helsinki regional public transport system. As a result, several of the library's planned collaborations were put on ice.

Nevertheless, the VIRTU project did succeed to work together with the library when the library official Annette Broman guested the studio and discussed the library's activities. She also took an historical look back, including the history of the library buses. Further, Broman has read aloud for users in connection with the book readings she held at the sheltered housing. This was made possible when Broman took a laptop computer with her and used it to contact the users. In addition, she used a headphone set with a microphone, so the users could hear her better. This form of reading aloud works, but it is more vulnerable as the laptop's wireless connection is more easily broken than is the case with the landline network (see Arvola and Rasu in this publication).

Annette Broman thinks book reading at distance is an excellent concept that does not need more time or resources from the library's personnel. Reading aloud is part of the library's established activities. She also thinks other library service could be provided at distance in future, as long as resources are made available. One vision Broman has had for many years is for the library in Sipoo to start home deliveries of book packages to borrowers who have difficulties getting to the library. This is something where video conversation could also be useful. The library personnel could share their expertise and also show material available for borrowing to the users.

Vägskälet Activity Centre

Starting in the spring of 2012, the VIRTU project in Sipoo gained a new partner in the shape of Vägskälet Activity Centre. The Social and Health Care Department run the Activity Centre. Vägskälet is a new form of day activity

for the long-term unemployed of various ages. The Activity Centre offers work activities with the purpose of rehabilitation as well as providing guidance in ways of living, such as sleep, exercise, economy and future. One of the Activity Centre's mainstays is for the clients to be involved in the planning and development of the activities' content. Nor are the clients clients, rather they are team members, which indicates they are of equal worth and decide on their activity at the Activity Centre themselves. For the VIRTU project, this meant Mika Noronen, one of the Activity Centre's team members, started to make programmes once a week at Sipoo's VIRTU channel, from the autumn of 2012.

As Program Coordinator, I have worked closely with Mika Noronen and we have jointly developed the content of the programmes. The programmes usually have a tie to Sipoo. Noronen's programme activities have been bilingual, where I translated into Swedish when necessary. The programmes from the Activity Centre have had varying subjects. At times, Noronen has discussed topical subjects and interviewed guests. Other times, the programmes have been more factual or consisted only of free discussion.

The collaboration with the Vägskälet Activity Centre and Mika Noronen has worked impeccably. Noronen has been a breath of fresh air for the scheduling in Sipoo. His open and humorous nature is suitable for the sort of interaction demanded by the VIRTU programmes. There are often good discussions that run over time. As the Program Coordinator, I usually enjoy joining in the discussions instead of leading them. The users have also been pleased with Noronen's programme activities. Noronen's own experiences of having contact with elderly people through video conversations have only been positive. He says he feels that overall, the work he has done for the VIRTU channel and the Activity Centre is important and has even contributed much to his own life. The collaboration with the Vägskälet Activity Centre is a concrete demonstration that it is not just the users who benefit from the programmes. The contact is also useful for the person presenting the programme activity.

Preschool visit at the VIRTU channel

On Lucia 2011, the users were visited by a Lucia procession. During the actual programme activity, the children did not appear nervous about talking and performing in front of the users. Even though the children were in a bit of a hurry with their performance, the programme was a positive experience. Moreover, the children spontaneously joined in a song with one of the users.

Even the Finnish speaking users took part in the programme activity, despite the performance being in Swedish. The cooperation with day nurseries and preschools could be developed further. This form of technology provides an excellent opportunity for different generations to meet.

A senior level school class meets the users

In autumn 2011, the VIRTU project collaborated with a class from Kungsvägen's school. The collaboration involved children from class eight putting together and making a programme at the VIRTU channel during a Swedish class. Together with the Program Coordinator and the Swedish teacher, the pupils first discussed alternative subjects. The pupils chose to focus their programme on schooling and free time. For example, the pupils asked questions about the users' schooling, what was considered to be luxury at the time and what the users did in their free time when they were youngsters. Together with their teacher, the pupils did some group work and made preparations. Among other things, the whole class came on a visit to the library and had the chance to test the device by calling some of the users.

The programme activity started with an introduction on the piano as well as a poem written by one of the pupils. The pupils stepped in front of the web camera in groups, asked questions and had discussions with the users. The Swedish teacher, Susanne Lindström, thinks the collaboration was a success and held several elements that should be borne in mind more often when teaching Swedish. It is important for the pupils, for example, to come up with their own material and make it reality. In addition, the pupils have the opportunity to practise discussing and to pursue subjects that come up during the discussion. For example, it may not come out during normal lessons that an individual with reading and writing problems is an excellent discussion moderator.

The pupils thought it was rewarding to do something different and to meet people outside school. The pupils also thought it was fun and exciting to hear how things were for youngsters in Sipoo in the past. The school food, which during the users' schooling consisted of porridge, continued to appall the pupils for a long time after the programme. Even the pupils who did not actively take part in the discussion during the programme reflected afterwards on the meeting with the users. Susanne Lindström has had long discussions in the classroom with the pupils, during which it turned out that

the experience had given rise to many thoughts about the differences and similarities between the generations. Similar collaborations could also be done in the future.

DISTANCE WELFARE SERVICE – STILL IN ITS INFANCY

Sipoo has the goal of becoming Finland's most elderly-friendly municipality. Among other things, Sipoo is profiled as the first Proud Age municipality and it wants to invite elderly people to settle in Sipoo. Proud Age is a project that wants to change attitudes to the elderly as well as to solve the increasing needs for elderly care through new innovative ideas. (Riipinen 2011.) In addition, the following is stated in the *Sipoo municipality's policy on ageing and the aged from 2012*. "Mission: The task of elderly care is to guarantee Sipoo residents, with respect for the right to self-determination, a secure and independent old age by supporting their functional capacity and participation in society's activities." (Sipoo kommuns äldrepolitiska program fram till 2012, 2008, 12.)

In Sipoo, new old people's homes are being built, care principles opened up and services for the elderly residents of the municipality developed, both to benefit the elderly and to become a new market with buying power for the municipality. Sipoo wants to remain in future a well-working municipality for all municipal residents. For this to succeed, the attitude to the elderly population must change; the elderly must be part of the community and be considered when decisions are taken that affects their future. For the elderly to have their voice heard does not depend solely on the municipality's social and health care sector but rather on all sectors in the municipality. There should also be a change in attitudes among the municipality's residents. Social media similar to the VIRTU project offer many opportunities for different residents of the community to meet and develop together the municipality we all want to live in.

When the VIRTU project activities end in April 2013, Sipoo will have over a year and a half's experience of producing distance services. Many of the collaborations that have been initiated across sector boundaries could be developed further and instead of their sporadic character be given a more established form. The forms of collaboration that were initiated during the VIRTU project, however, have basically been successful for all parties. Despite the project at times feeling overwhelming, I can observe that we have also

managed to get a lot done. Together, we have prepared the way to make distance welfare service possible in the future to a greater extent than it is today. For Sipoo, this has involved many people of different ages, backgrounds, professional areas coming into contact with the VIRTU project and not least, having the chance to meet the users! Just think how many people have met each other through the project, people who otherwise would never have met one another. A small seed has been sown in each person who has come into contact with the project and from each seed new visions can grow. Visions are necessary if we are going to be able to develop ourselves and change our future. However, there is also a need for people who believe in these visions and who want to make them reality. The activity initiated by the VIRTU project in Sipoo is still in its infancy – but it is a good position from which to continue.

REFERENCES

Broman, A. 2012: verbal source. Telephone conversation 14/10/2012.

Lindström, S. 2012: verbal source. Interview 26/11/2011 and 15/10/2012.

Ledningsgruppen informerar 15.4.2011 Informations letter from Sipoo municipality's management group.

Noronen, M. 2012: verbal source. Interview 10/10/2012.

Riipinen, K. 2011: "Vanhustyöstä Suomi-brändi, Kirsi Riipinen" ProudAge vol 1 2011 p.33–39. The journal can also be read on http://www.proudage.fi/lehti.

Sipoo kommuns äldrepolitiska program fram till 2012, 2008.
http://www.sipoo.fi/easydata/customers/sipoo/files/2011_soster/ikaantyneet_(1)/Sipoo_kommuns_aldrepolitiska_program_2008.pdf. (Accessed 26.11.2012.)

Sundberg-Hermanson, J. 2012: verbal source. Interview 13/10/2012.

SOMETHING OLD, SOMETHING NEW, SOMETHING BORROWED, SOMETHING BLUE – VIDEO CONFERENCES AS DISTANT SERVICE

Mika Arvola

ABSTRACT

The use of video conferencing techniques has become mundane and usual in different contexts and new uses are looked for continuously. Traditional video conferencing techniques are utilised in the home and in corporate world. One of the latest applications is with senior citizens. The availability of communication technology connections, increasing connection speeds, reliability and also the development of video compression formats have contributed to its spreading into daily use.

This article describes the video conferencing techniques used in the VIRTU project and experiences accrued from a technical perspective. The text proceeds from video conferencing history to the current situation. The article discusses the current situation with its problems from a technical perspective, and describes a future image of this form of operation.

Key words; technology, video conferencing, development

WHAT IS VIDEO CONFERENCING?

Video conferencing can be thought of as a traditional meeting, which has two or more participants. In a traditional meeting, participants are in the same location, at the same table. In a video conference, participants can be

physically far from each other, but they are connected to the same meeting space using video conferencing techniques. In a video conference, participants see and hear each other on a screen in real time, so a video conference can be considered a kind of videocall.

Video conference has been used generally in business world and in distance learning for years. In distance learning, the use has been primarily of so-called streaming type (comparable with live TV transmissions) and on-demand type (recording, can be watched later), whereas in business world, video conference can be compared to a more traditional interactive meeting. Only in the past few years has the use of video conference begun in larger scale in other connections. Increased use may be due to the development of quality of technology and reliability on one hand and lower price level on the other. Certainly, the fact that communication technology connections have multiplied and become more common has also contributed to said developments.

Usually, technological innovations require years of piloting and developing to prove the usefulness, usability and cost-effectiveness of new technology. This is also true for video conference. Although the roots of video conference go back decades, video conference as it is currently known is somewhat more recent.

The first video conference was held already in early 1960s, simply by connecting two TV sets together in a closed environment. Fixed cabling and radio waves were the ways to connect. In 1982, IBM connected its offices in Japan to the United States to arrange weekly meetings. Some years earlier, in 1976, a Japanese company called Nippon Telegraph and Telephone had connected its offices in Osaka and Tokyo. The above examples can be considered models of a modern video conferencing system.

Video conference began its way to commercial use in the 1980s. Obstacles to its becoming more common were technological limitations at the time and in part also price. The equipment purchase price was 250,000 dollars (USD) and its use cost 1,000 dollars per hour (Nefsis. a Brother Company, 2010.)

In 1991, IBM presented the first software named PicTel (or PictureTel), intended for a personal computer (The New York Times, 1991.) Although the image was black and white and system accessories cost 20,000 dollars and up, it was a clear trend that a video conference application for personal use was

on its way. The benefits and possibilities of video conference including time saving and decreased travelling began to be proven and the framework of the actual use began to be defined.

Initially, services generated around video conference systems were for a long time primarily based on conference room solutions, i.e. special facilities made for video conferences. A commercial group operating in many locations and/or many countries used the equipment for its internal meetings. From the initially poor image quality we have come to modern transfer of sound and image of high-definition quality, and also solutions based on workstations (so-called Unified Communications).

The development curve of video conference technology can be compared to the daily television. The first equipment to be classified as televisions were from the years 1926 and 1927. It came to Finland in the 1950s, and ever since the 1970s it started becoming more common in Finnish households. (Wikipedia 2012.) Although television is daily life in nearly every home in the industrial countries, the device is still under tremendous pressure to change with high definition transmissions (HDTV), 3D features and on-demand services.

BENEFITS AND POSSIBILITIES OF VIDEO CONFERENCE

Traditionally, saving time and costs has been seen as the benefits of video conference. In the past few years, also the environmental benefits of video conference have been discussed. In the best case it decreases carbon footprints when for example air plane travel can be reduced. One advantage mentioned is improving the quality of life; time spent on travelling can be spent with the family, for example. How would you like for example a two-hour meeting in Tokyo but live in Helsinki? In a video conference, you need five minutes of preparation in your own meeting room and after two hours you push the power switch.

Also regional equality becomes true; all meetings need not be organised somewhere with good transportation connections. The advantages above also apply to telephone conferences. However, in telephone conferences, estimating new physical material, such as a brochure for example, is impossible for the counterpart.

Compared with telephone conference, video conference offers an enormous advantage: non-verbal communication such as nodding and eye contact. Controlling one's emotions and physique is very important, just like in any other interaction situation. Non-verbal communication is used to show interest in the person speaking and the message. Also the ability to show the other party materials and presentations can be considered a clear advantage.

Several different uses have been developed in recent years alongside traditional video conference and distance learning. Some uses have vanished due to impracticality and/or technical challenges and limitations whereas some uses have cut a higher profile. However, the term distance service is common to all of them. JHS Public Administration Recommendation 168 (JUHTA 2012, 3) defines distance service as follows:

> *Distance service can be realised with various technical devices such as video conferencing techniques, computers, various conference softwares and data communication connections. In addition to transferring speech and video image, the systems often include other features such as text-based talk (chat), document transfer and application sharing. Distance service refers to all service activity between at least two parties which utilises the above systems through data networks.*

Video conference platforms have been used in communication purposes for example in entertainment and recreation uses, but also in more official environments such as social services and healthcare. Tested uses are for example distance interpreting both verbally and using sign language, interactive consultations and distance services (for example medical services and other distance healthcare services), contacts between families and countless other uses. Some experiments have survived and others have faded away. In any case, getting new practices established is extremely challenging. If the practices have survived, primarily they have been found to offer benefits: solutions to various problems, expertise, time saving and flexibility in accessibility of services (Lamminen et. al. 1999).

In this article we discuss briefly how distance services can be offered to senior citizens utilising video conferencing services. In the locations, users can be in contact with each other with an "image phone", they can follow programmes organised interactively and participate in them. In addition to these, they can contact their family members audio-visually, if necessary.

HISTORY OF VIDERA CARINGTV®

Videra Virtual Care is a versatile senior citizens' home communication device active since 1996, the purpose of which is to enable independent and high-quality living at home, to enhance social contacts, to create service and security networks and to activate. Videra Virtual Care service concept can be equipped with distance medical instruments and other aids to enhance the versatility of services. The operation of Videra Virtual Care culminates around the CaringTV®. CaringTV is originally the result of joint R&D by Laurea University of Applied Sciences, TDC Song Oy and City of Espoo (Poikola et al. 2012.)

Through user testing and test runs, CaringTV has been developed to be as user-friendly and functional as possible. Through countless healthcare projects, Videra has reached the understanding and knowhow required in technology-based services offered to senior citizens. The user-friendliness of service is a good example if this. Customers do not need to use a keyboard or mouse, but all functions are managed with clear large buttons by touching the screen. More than 90% of service users considered the service very easy to use (Liesmäki 2011, 25–26).

UTILISING VIDEO CONFERENCING TECHNIQUES IN VIRTU PROJECT

In VIRTU project, the video conference platform used currently is CaringTV, functioning on software supplied by Vidyo Inc and branded as the VIRTU channel in VIRTU project.

End user devices are computers based on Microsoft Windows 7 operating system. The computers are so-called all-in-one devices, i.e. they do not have a separate central unit, but a single 23" monitor functions as the only piece of equipment. The computer has a fixed built-in webcam, microphone and loudspeakers. In equipment used in the VIRTU project, separate conference microphone combinations were ultimately used primarily because of better sound quality. A separate conference microphone combination also efficiently prevents for example disturbances resulting from circulating sound and echo cancellation.

The equipment is used by touch screen by simply touching the screen with a finger. Only the power switch is a mechanical switch in the lower corner of screen. The user interface is built on Mozilla Firefox browser used in full screen mode without browser menu bars. The equipment starts up automatically in user interface once the background software required is loaded. The end user of a touch screen device does not need to worry about passwords or login codes, the device is ready to use after a short startup period once the power has been switched on. However, power does not need to be switched off after use, the device goes into standby mode if it is not used for a while. Also, the device wakes up from standby mode by touching the screen so that the mechanical power switch mentioned in the beginning of the paragraph primarily is not needed in daily use.

Certain equipment settings can be remotely accessed by the equipment supplier to some extent regardless of the equipment's physical location. With remote access, the equipment can be used like when one is physically in location. Directory services (user names, groups etc.) are carried out centrally so that they do not require actual remote access connection with the device. This speeds up moving the device from one user to another or installing a new device, for example, because necessary configurations or configuration changes can be done already in advance.

In addition, the device requires an internet connection, either through a separate USB modem (so-called 3G connection) or for example through an ADSL modem. The device has an inbuilt WLAN adapter, but in the VIRTU project this feature has primarily not been used. A certain number of channels have been reserved for WLAN networks (13 in Europe), and networks connected to the same channel slow each other down. This is sometimes a problem in densely populated areas, for example in a city centre block of flats. In practice all devices using ADSL connections are connected directly with a network cable. In addition to aforementioned ADSL and 3G connections, VIRTU project used some Wimax connections in areas of Sipoo and Saarenmaa when Wimax was the only possible form of connection.

So, the equipment used by senior citizens is a traditional computer, but due to possible negative impressions (senior citizens easily see the computer as a device that they will never learn to use), the device is called the VIRTU channel or image phone. Due to its user-friendliness, the device can be compared with

TV. The device's operating system is an ordinary Microsoft Windows 7 and the video conference application is slightly modified Vidyo desktop software controlled with an appropriate website in the user's own language.

Furthermore, the VIRTU project uses broadcasting centres that are ordinary Vidyoroom HD-100 equipment with dome cameras (PTZ, point-tilt-zoom) and loudspeaker-microphone combinations. The loudspeaker-microphone combination is somewhat larger than in end user devices and therefore suitable for a larger number of people and for a larger space. Broadcast centre display device is a 40" TV set and the equipment is used by a remote control. The display device can be replaced by a video projector, for example, but this causes problems in lighting the space; the camera requires powerful lighting to produce adequately good image, but in a strongly lit space the projector's image is compromised.

In addition to the physical equipment mentioned above, the VIRTU project is using so-called client applications. Client application is an ordinary computer software that enables making a video conference connection with other VIRTU project users or devices. In practice, the software is the very same that functions under the user interface of end user's touch screen device and as broadcast centre equipment user interface. Client applications are used by project workers and end users' family members.

The system also enables the use of so-called visitor codes. Visitor codes are sent by email to the appropriate persons so no separate user codes or passwords are required. A visitor code can also be made for single use, if necessary. The visitor code is practically forced to be for one connection only so it cannot be used for contacting other persons involved. Therefore, the possibility of abuse is practically completely excluded.

EQUIPMENT LOCATIONS IN VIRTU PROJECT

In the VIRTU project, end users live in Finland, primarily in coastal municipalities, and in Estonia elsewhere than mainland Estonia. Among municipalities involved in Finland there are Kimitoön, Naantali and Pargas in Finland Proper, Sipoo in Uusimaa and Brändö, Eckerö, Hammarland and Jomala in Åland Islands. In Estonia, end users are in different parts of Saarenmaa and Hiidenmaa, for example in Kuressaari, Orissaari and Kärdla municipalities.

All end users have the vicinity of the Baltic Sea in common. For some users, the distances to services are really long. Unfortunately, the distances are also visible in the functionality of data communication connections as well as in possible maintenance response times when physical visits are required. The actual broadcast centres, i.e. VIRTU studios are located in Mariehamn, Naantali, Sipoo, Turku and Vantaa in Finland, and in Kuressaari and Saarenmaa in Estonia. Client software users are independent of location. Project actors and cooperating partners as well as family members using the software are situated all over Finland and Estonia.

PROBLEMS AND CHALLENGES OF TECHNOLOGY IN VIRTU PROJECT

Absolutely the greatest challenges and problems in the project have been data communication connections or matters indirectly related to them. In the initial stages of the project, we optimistically tried installations with USB modems (3G connections). The primary reason for using USB modems was the schedule. An separate order for a cable connection (for example ADSL) is placed with the operator up to a month before installation. Equipment installation could be arranged using a USB modem at a few days' notice.

Measuring connection reliability made the use of a USB modem problematic. When tested at installation, the connection may have been extremely good, but in practice, for example within two weeks of installation the customer may not have succeeded in getting more than perhaps one or two adequately high-quality connections. In a video conference, the connection may have worked for one or fifteen minutes before being lost. Another problem was that initially, after loss of connection the equipment did not know how to reconnect, and the whole equipment had to be restarted. At times, certain challenges resulted from the operating system or USB modem drivers. When a USB modem had lost the connection, the equipment did not know how to reconnect even after restarting, and the USB modem had to be physically removed and reconnected.

Most of the time, however, the connection had been formed using a USB modem, and the connection speed was adequate, but the connection was not as reliable as it should be with this kind of user group. With a different

user group, sporadic video conferences carried out with so-called mobile broadband i.e. USB modem are a really good supplement to distance work for example.

It is true that actual user locations also presented challenges (See map in Tuominen's article). The coverage maps published by operators cannot always be trusted completely. The coverage maps are based on coverage areas calculated by computer. In some places, a map showed a really good coverage area, but in practice, the customer's building or apartment was in a so-called dead zone. Attempts were made to improve signal strength by using for example external antennas, but even so, the connection level was not adequately reliable. In some places, there were also opposite findings, mostly in Estonia. The operator's coverage map showed no connection in an area, but in a round of physical testing the connection functioned at full capacity. With a joint decision with equipment supplier and project actors, we decided to abstain from using USB modems excluding those points where they had worked problem-free or with few problems for a long time. Even in some of these points a replacement with a cable connection was made as the project progressed; the connection could have worked for nearly a year without problems and then suddenly the connection was no longer reliable. Even points that worked problem-free did not necessarily have any common factor such a physical location.

PICTURE 1. *Some locations of the user devices created a challenge for the installation. (Photo: Mika Arvola)*

In the use of USB modems, interesting although quite normal matters were observed, which did not occur to us even when considering all angles. As an example, in Åland Islands, there was a customer, whose connection formed with a USB modem was nearly perfect at installation and during test calls. However, the customer could not participate in programme transmissions, because even when programme transmission was accessible, the image was badly scrambled. After some investigation it was discovered that at the time of day of the programme transmission, the connection was jammed and the reason for it was found. The passenger ships between Finland and Sweden are always passing by right when the programmes are transmitted. When four passenger ships with two thousand mobile phones enter the area, prioritising between phone and data traffic causes problems.

Mainly, problems have been solved using different data communications connections (ADSL, WiMAX), although for example in Estonia, problems between different operators introduced new challenges. With these, average installation schedules turned from days to weeks.

As to equipment in other ways, the problems have been fairly minor. There have been some physically broken devices and in some touch screens there has been sporadic loss of calibration. The problems mentioned above always require physical visit in location. In some devices there was a problem caused by operating system (or more correctly, the lack of a physical keyboard), which also required a physical visit in location. If the device has shut down incorrectly for some reason at a particular moment, startup presented a black screen expecting a choice to be made without a countdown. This problem was fixed and also prevented (or more correctly, the device was forced to make the correct choice).

Similar problems have been observed in other projects of equivalent type also with other equipment suppliers, so we are not alone in this. Observed on a higher level, the aforementioned problems are minor and are part of product and service development. In mobile broadband, it is interesting to see in which direction the development will go (mostly regarding reliability and accessibility/audibility) – will it remain an alternative only for densely populated areas or can sparsely populated area also be covered with the same service level.

FUTURE

The actual service concept as communication means is largely technically ready. As mentioned already earlier in this article, Videra Oy has been developing this concept since 1996. Only in recent years has equipment like that of the concept been produced also by competitors. Each device has advantages and shortcomings, but the basic idea is the same for all. In practice, the equipment still functions in closed environments, partly because of compatibility, but partly also to protect privacy.

In the future, equipment is hopefully mutually compatible. In practice, the equipment can be connected even currently using various bridging services without needing any measures by the different (competing) operators. It would be interesting to get the equipment of various operators or equipment suppliers to be even more seamlessly compatible, meaning that a family member could have for example a Skype-compatible TV set and the senior citizen the equipment used in the VIRTU project, for example.

In the future, the equipment hopefully has other uses as well, for example internet alone enables massive amount of other use, not to mention other applications. Currently, different measuring and safety devices have been experimented on in different equipment with varying results.

In the future, the equipment could be compared to purchasing a mobile phone and the required connection. The user pays a basic fee for the connection and can link to it the desired features. Some features are free of charge, other are sold for a fee. The user can also purchase a phone equipped with the desired features for his or her own use. The cheapest basic models enable merely using the phone feature, whereas more expensive and better equipped models have considerably more uses. On the other hand, the better equipped models can be used for making phone calls only, which means that in a way you are paying for useless features.

The future "image phones" have equipment with different standards and possibilities for extension and the desired features are bought when purchasing the equipment. Features can also be added after the fact within certain variables. But at this moment, when a mobile phone is purchased, it can be used to call the owner of another mobile phone. The caller and receiver of the call do not need to worry about which operator each is using or what make the mobile phone is. Phone calls and for example SMS messaging work between different combinations.

In the same way in the future, different closed service environments could be available for the use of this type of distance service concepts. Each network for official use is currently its own closed environment. On the other hand, a good question is, whose duties include the connection and adaptation tasks like the ones mentioned above?

DEVELOPMENT IDEAS FOR INTERACTIVE DISTANCE SERVICE

Development ideas can be divided into two groups: developing the technology/ equipment and developing the actual distance service concept. As has been noted earlier in this article, even television is constantly evolving, so ideas and points to develop can surely be sought for the equipment of this concept.

Technically, for example controlling the sound devices could be a primary point to develop. The software in question in its current touch screen version does not yet allow the complete use of a headphone microphone. If the equipment is used with a headphone microphone, also the incoming call ringtone is heard in the headphones. The headphone volume level is naturally so low that unless the user is wearing the headphone (very unlikely unless the user is expecting a call at an agreed time, for example), the ringtone is likely not to be heard. An incoming call also lights up the display so the user may notice this if he or she is in the same room. The actual Vidyo Desktop software allows directing the ringtone to another sound device already at the time of writing this article, so obtaining this feature is likely to be only a matter of time.

Productisation is also a step that could be a focus. A clear computer-like character can be detected in the current equipment versions. Equipment starts up cheerfully with a black-and-white BIOS screen (low level startup screen) (in English), after which set screens of Windows operating system flash on the screen (in Finnish). After this, yet another screen is shown indicating things that are completely irrelevant to the end user. These announcements are also given in Finnish. When the equipment is shutting down, it greets the user in Finnish. All the aforementioned things occur in the aforementioned languages even though the main menu of customer device is in Estonian, for example. Although Finnish was the operating system language, all the traditional operating system loading screens could be replaced by a more universal image with a moving loading bar and no text, for example. In many devices, also BIOS screen is very easy to replace. Replacing the operating system with a so-called Embedded version could be considered if there is no desire to replace a Windows-based operating system. These are small things, but would immediately modify the equipment to be more ready and commercially credible.

The wired loudspeaker-microphone used in the current version could also be replaced by a wireless one (bluetooth). Although a wireless device is slightly more expensive than the current model, it would not increase much the monthly fee considering the equipment's expected service life. A wireless loudspeaker-microphone would offer slightly better positioning so that people with a hearing impediment could position the device more optimally.

Also, although a great leap forward has been made from earlier CaringTV versions, a small step back has been taken in one issue. Current equipment has an inbuilt camera when earlier it was separate and could therefore be moved and turned. On the other hand, the current camera does not fall to the floor, for example, so there are many sides to this.

User interface could use more colour codes, and the telephone book could also include headshots. Equipment could also have guidance, for example "Start here", if necessary. Although the equipment as such is simple and clear to use, it has occurred even in the VIRTU project that a user has forgotten the equipment's purpose after staying in the hospital for a week. After refreshing the memory with home care personnel, the use of equipment has begun again, but when memory is weak this can be a challenge when there is no long-term familiarity with it in the same way as with a traditional telephone, for example.

On the other hand, and as already mentioned earlier, product development is continuing. Competing suppliers' entering the market is on the whole certainly very welcome. Hopefully, common rules and regulations are found for different equipment manufacturers and suppliers. Equipment suppliers should look into a common future in which all will find their place within the concept.

In light of the common future within the concept mentioned above, there is still much development potential. Different streaming services offer interesting angles, for example, and among them interesting and innovative solutions will surely be seen. Also, connecting services and aids is surely coming in the near future. We are unavoidably on our way toward electronic services and distance measuring.

The most important thing is to keep in mind one central point. Machinery and equipment are not intended for replacing physical interaction. The basis of all design should be the idea of replacing certain routine tasks with distance solutions and even more importantly, offering services and sense of community equally regardless of age, health or location. Even one more day spent in the home for example with equipment used in the VIRTU project or equivalent is certainly in everyone's interest.

REFERENCES

JUHTA 2012. JHS 168 Videoneuvottelun käyttö julkisessa hallinnossa. http://docs.jhs-suositukset.fi/jhs-suositukset/JHS168/JHS168.pdf Accessed 15.10.2012.

Lamminen, H., Aarnio, P., Alho, A., Jokela, R., Lummevaara, T. & Lepistö, J. 1999. Videoneuvottelun ja kuvansiirron hyväksikäyttö ortopedisissa konsultaatioissa. Lääketieteellinen Aikakauskirja Duodecim 115(24):2753–2758.

Leismäki, A. 2011. Hyvinvointi TV osana kotihoitoa. AMK-opinnäytetyö. Sosiaalialan koulutusohjelma. Satakunnan ammattikorkeakoulu.

Nefsis. a Brother Company. 2010. Video Conferencing History. http://www.nefsis.com/best-video-conferencing-software/video-conferencing-history.html Accessed 1.12.2012.

Poikola, A., Leskelä, J. & Vuorio, E. 2010. Turvallinen koti. HyvinvointiTV® – virtuaalinen hyvinvointipalvelu. http://www.turvallinenkotihanke.fi/?page_id=172 Accessed 13.10.2012.

Wikipedia 2012. Televisio. http://fi.wikipedia.org/wiki/Televisio#Historia Accessed 17.10.2012.

The New York Times. 1991. COMPANY NEWS; Picturetel In Project With I.B.M. http://www.nytimes.com/1991/10/22/business/company-news-picturetel-in-project-with-ibm.html Accessed 10.10.2012.

PART II
– SUPPORTING ELDERLY COPING
AT HOME

A HUMAN RIGHTS APPROACH TO DISTANCE SERVICES IN ELDERLY CARE IN ÅBOLAND, FINLAND

Bodil Julin & Janina Sjöstrand

ABSTRACT

The Right to Health is one of the fundamental human rights. This article discusses the importance of the VIRTU channel for the elderly living at home in Åboland's archipelago from the perspective of availability, accessibility, acceptability and quality. The availability and accessibility of social and health care services increases when Virtual Elderly Care is introduced. Social and health care services become more accessible via the VIRTU channel for the elderly population living at the periphery, which reduces discrimination. The acceptability is studied from a gerontechnological perspective, traditionally closeness and a warm hand are considered to be the best; nevertheless, when the elderly wish to live at home and no traditional services are available, the elderly users describe the VIRTU channel as an important companion and a channel for information. The quality of the service is guaranteed by students planning the activities in supervised workshops, based on evidence-based literature and the home visits made by the municipality's personnel.

Key words: Human Rights, the elderly, social and health care, telecare

INTRODUCTION

In Åboland's archipelago, as is the case in the rest of the Western World, the population is ageing. The occurrence of ailments and illness increases with age and this affects the elderly's state of health and health behaviour. After the age of 80, the ability to manage the challenges of life is increasingly affected and this also increases the experience of stress among the very oldest. One elderly

person in three feels insecure when facing the risk of becoming dependent on the help of others, memory disorders, the risk of being admitted to an institution and poor pensions (Laitalainen et. al. 2008). The elderly are a heterogeneous group, which also makes the right to the highest attainable standard of health for the elderly a challenge. It is necessary to take into consideration the changes resulting from normal ageing at the same time as considering the elderly's individual differences, needs and their human rights. The Right to Health is one of the Fundamental Human Rights and it is defined in article 12 of the International Covenant on Economic, Cultural and Social Rights (UNCESCR 2000). Health implies the right to health and medical care, the right to socioeconomic factors, such as food and housing, the right to non-discriminatory and equal treatment (Backman 2012).

In Åboland's archipelago, it is a challenge to offer the elderly residents of the archipelago an equal range of health and medical services as are offered to the elderly in urban areas. The ageing population, the long distances and the lack of a qualified labour force demands originality and an innovative approach to elderly care. In the VIRTU project, we have created a new service, the Virtual Elderly Care Service, which is available to the elderly, their relatives, the municipalities and professionals working in social and health care in the archipelago. The Virtual Elderly Care Service is integrated into the municipal elderly care services and is accessible to elder residents in the archipelago at the VIRTU channel.
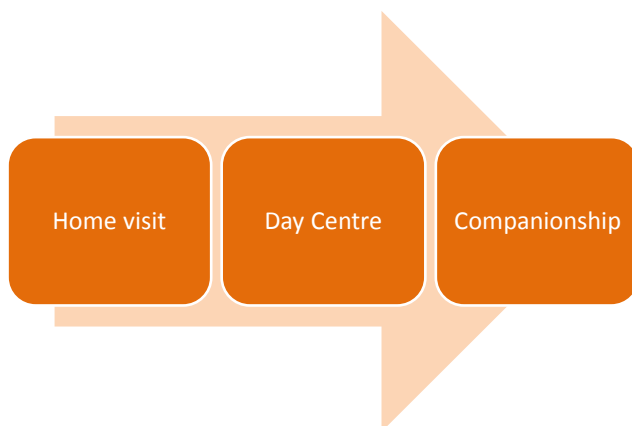
The VIRTU channel

FIGURE 1. *Illustration of the services available at the VIRTU channel.*

This article discusses how Human Rights are considered in the legislation and the national recommendations in Finland, the strategies of the Åboland municipalities, regarding the right to health of elderly people living at home, and in the VIRTU project. The right to health is discussed from the perspective of availability, accessibility, acceptability and quality (Backman 2012).

HUMAN RIGHTS

In 1948, the United Nations adopted the Universal Declaration of Human Rights (UN 1948). Member States, including Finland, have undertaken to respect, protect and implement them at the individual, group, national and international level regardless of the country's economic, political or cultural system. Human Rights are universal and concern all age groups. It states in the article "All human beings are born free and equal in dignity and rights" regardless of where we live, our sex, nationality, language, religion or ethnic origin (Backman 2012). *Everybody also has an ethical responsibility to observe human rights; this applies to all individuals, families, professionals in social and health care, municipalities as well as players in the third and private sector (Hunt et al 2007).*

The right to health is a human right

The best attainable health is a fundamental right for every individual (UNCESCR 2000). The right to health does not mean the automatic right to good health (Backman 2012) but nor is it solely related to medical care. Instead, it is a much broader term that also includes a public health perspective; i.e. the right to health also includes, apart from medical care, social, cultural, economical, political and other circumstances that affect health, as well as health determinants such as access to clean water and housing. The right to the best attainable health for all without discrimination is thus not a matter solely for the health authorities but rather requires cooperation between many sectors in society. (Hunt et al 2007.)

The elderly's right to health

The right to health is defined specifically as a right for susceptible and vulnerable groups, such as the elderly. The elderly's right to health is realised within elderly care through integrated collaboration within preventative, curative and rehabilitative health care. Regular follow-up of the elderly's needs, both the needs of women and men, taking into consideration their physical and psychological functional capacity, helps the elderly to maintain their autonomy. The care of the chronically ill and dying requires special attention, as regards alleviation of pain and enabling a dignified death. (UNCESCR 2000).

The elderly's right to health from an availability perspective

Availability implies that there are sufficient health and medical services available and they are accessible for the elderly. The services have to satisfy fundamental health determinants such as access to potable water and adequate sanitary conditions, hospitals, health centres, qualified health and medical personnel and basic medicines. (UNCESCR 2000, Hunt et al 2007 Backman 2012.) From the municipality's strategy and policy on ageing and the aged, which follows the national recommendations, it is evident that the aim is to offer services to enable the elderly (90–92 % over 75 years old) to live at home for as long as possible. The strategy describes the importance of cooperation between many sectors, such as transport and communication, education and culture, parishes, associations and other volunteers, in order to be able to offer services that are available to the elderly (Pargas 2011). In Åboland, the municipalities are trying to provide services on the main islands to guarantee that there are sufficient health and medical services available; however problems arise when the services are not physically reachable for all elderly people. Through access to the VIRTU channel, elderly people living far from the centre, or on smaller islands, obtain access to home services, including visits from doctors and health carers. The elderly get access to the day care centre and they can keep in contact with their relatives and friends at the VIRTU channel.

The elderly's right to health from an accessibility perspective

The health and medical services must be accessible for everybody and this has four overlapping dimensions. Firstly, the services must be accessible for everybody without discrimination (UNCESCR 2000, Hunt et al 2007

Backman 2012). Special importance is given to marginalised and vulnerable groups, such as the elderly. It is assumed that the base service in Finland is at an acceptably good level; however, there are large differences regarding the availability and quality of the services in the different municipalities, which gives rise to discrimination among the population and the elderly (UM 2009). A reform package is currently being implemented in Finland (KSSR 2007), which aims to remedy the inequalities while, at the same time, the legislation is under review. For Åboland, the reform process means eight municipalities have merged into two municipalities. The two municipalities in Åboland's archipelago are both participating in the VIRTU project. Introducing the use of virtual services in elderly care is one way for the municipalities to prevent discrimination. Elderly people in the archipelago are "immigrants in the virtual world" and, by receiving guidance and access to the VIRTU channel, the discrimination, which the elderly would otherwise experience because they lack the possibilities offered by social media, is reduced.

Secondly, the services must be physically reachable for everybody (UNCESCR 2000, Hunt et al 2007 Backman 2012), even for the handicapped and elderly in rural areas. In rural areas, the accessibility of social and health care services can be reduced. This is in fact the situation in Åboland, where there are more than 200 inhabited islands without permanent road connections. The elderly living on the smaller islands are geographically isolated and do not have access to health and social care to the same extent, as elderly people residing on the main islands, unless they have access to the VIRTU channel.

One of the users, a 92-year-old woman, lives alone in her own home far from the centre, she has no municipal home care, only transportation service. She has participated in VIRTU activities (previously MBT) since 2007. "I am at the VIRTU channel several times a week, as long as I remember to be on time," she says, and points out that taking part in the activities provides her with companionship and new social contacts.

Thirdly, the services must be economically accessible for everybody (UNCESCR 2000, Hunt et al 2007 Backman 2012). This means that charges for health and social services must be based on the principle of equality. It should be possible to guarantee that everybody can afford to employ the services, both private and public, even socially weak groups. During the project period, the

services at the VIRTU channel are free of charge for the users. When the project period is over, the municipalities should discuss the price for day care centres and home visits. Cost calculations are included in the project activities (VIRTU 2012).

Fourthly, information on health related issues must be accessible for everybody (UNCESCR 2000, Hunt et al 2007 Backman 2012). Advice to promote healthy habits and to prevent illness is expected to result in a reduced difference in the elderly's state of health (SHM 2008). Advice for the elderly is being expanded in the region, with health clinics for old people on the main islands (Pargas 2011) and an interactive distance health clinic is under test in the VIRTU project. The day centre activities at the VIRTU channel acts as information channels for the elderly and thanks to the home visits, they can discuss health related issues with social and health care professionals in their own municipality.

The right to health from an acceptability perspective

The distance elderly care services, the VIRTU channel, is a complement to the traditional social and health care services in the municipality and, in particular, it increases the range of services for the elderly living at the periphery. The Quality Recommendation (2008), initiated the idea that gerontechnology can support the elderly living at home. The public questions distance services, particularly for the elderly, but the users at the VIRTU channel are unanimously of the opinion that the VIRTU channel offers a service to which they would otherwise not have access. Technical problems have been encountered in the project and this has had a negative impact on the elderly's sense of security. The technical device worked well, but the connection has been a major challenge at times. Audibility is variable and weak further out in the archipelago, which means the elderly users do not always have access to the network and cannot connect to the Internet. In an earlier, similar project, MåBra TV, the users were interviewed and they expressed the opinion that, if the connection could be made to work, it could increase their sense of security. (Julin 2012.)

The right to health from a quality perspective

The right to health implies the right to qualitative good care. Care must be based on evidence, grounded in science and be of good quality (UNCESCR 2000, Hunt et al 2007 Backman 2012). In the Quality Recommendations (2008), the ethical principles were defined as the right to acceptable care and good treatment. The right of self-determination, justice, participation, individuality and security are fundamental values that, when they are respected within the social and health care services, provide care that is of good quality as well as culturally suitable for the elderly. (SHM 2008.) This implies respect for medical ethics and that services for the elderly be culturally suitable so they take into consideration the culture of individuals, societies and minorities. The services must include a genus perspective and take a lifelong approach. (UNCESCR 2000, Hunt et al 2007 Backman 2012.)

It is essential to emphasise how important it is for gerontology and geriatric services be included in the local services for the elderly, i.e. the elderly receive access to good service from specialists in geriatrics and gerontology. For the elderly living at home, the accessibility of these services is essential and when they are included in the basic services, the elderly have access to medically and ethically acceptable geriatric care that strengthens their state of health. At the VIRTU channel, the home visits made by the municipality's personnel and students planning their activities in supervised workshops based on evidence-based literature guarantee the quality of the services.

"AMANDA", AN ELDERLY RESIDENT OF THE ARCHIPELAGO AND USER OF THE VIRTU CHANNEL

One of the users is a woman over 80-years-old, she lives alone in her own home on an isle without permanent road connection. Previously, the home nursing services visited her once a month and she had daily telephone contact with the home care service. She previously spent the winters at an old people's home on one of the main islands. Now, when this user has received access to the VIRTU channel, she could stay at home last winter, and she is happiest at home, which is where she wants to be. She now has daily contact with the municipal home care service at the VIRTU channel, "compared with the telephone, it's much better when you can both see and hear" she says. She also has contact with

health carers and doctors at her own health centre via the VIRTU channel. Moreover, she is in daily contact with another user at the VIRTU channel and has family contact with her grandchild. She takes part in the VIRTU activities, the day care centre activities that are held regularly by YH Novia's students, two times a week. The personnel in the municipality's home care service are responsible for the recruiting and selection of users in the project.

CONCLUSION

Distance service in elderly care increases the availability and accessibility of social and health care services for the elderly population living on the periphery. Elderly users can keep in contact with the world about them from their homes. Via distance home visits, they meet the same personnel who are responsible for home visits in the municipality. Via the day care centre activities, they meet students from the University and, separately, they can keep in contact with other users and relatives. Traditionally, closeness and a warm hand are considered to be best; nevertheless, when the elderly wish to live at home, and there are no traditional services available, the elderly describe the VIRTU channel as an important companion and a channel for information. Students planning the activities in supervised workshops based on evidence-based literature guarantee the quality of the service. The municipality's personnel make the home visits.

REFERENCES

Backman G. 2012. The Right to Health. Theory and Practice. Studentlitteratur. Lund.

Hunt P, Backman G, Bueno de Mesquita J, Finer L, Kholsa R, Korljan D, Oldring L. 2007. The right to highest attainable standard of health. Copy distributed at NHV 06/03/2012.

Julin B. 2012. Äldre deltagares upplevelser av Må Bra TV. Ett hälsofrämjande projekt i Åbolands skärgård. NHV.

KSSR. 2007. Kommun och servicestrukturreformen. Accessed 2.4.2012. http://www.stm.fi/sv/under_arbete/utvecklingsprojekt/paras.

Laitalainen E, Helakorpi, & Uutela, A. 2008. Eläkeikäisen väestön terveyskäyttäytyminen ja terveys keväällä 2007 ja niiden muutokset 1993–2007. Kansanterveyslaitoksen julkaisuja B 14/2008. Helsinki University Press.

SHM 2008. Social- och hälsoministeriet. Kvalitetsrekommendation om TJÄNSTER FÖR ÄLDRE. Helsinki University Press.

UN 1948. Universal Declaration of Human Right. GA Resolution 217A (III) UN GOAR, Resolution 71, UN Document A/810. UN. New York.

UNCESCR 2000. (United Nations Committee on Economic, Social and Cultural rights). General Comment No. 14. The right to highest attainable standard of health. UN Document E/C.12/2000/4. UN. Geneva.

UM 2009. Statsrådets redogörelse om Finlands politik för de mänskliga rättigheterna. Accessed 16.4.2012. http://formin.finland.fi/public/default.aspx?contentid=108246.

VIRTU 2012. Virtual Elderly Care Services on the Baltic Islands project 2010–2013. Accessed 8.4.2012. www.virtuproject.fi.

Pargas. 2011. Äldrepolitisk strategi. Väståbolands Strategi 2011–2015. Accessed 2.4.2012. www.pargas.fi.

THE VIRTU CHANNEL –
THE ELDERLY USERS,
THEIR QUALITY OF LIFE AND
EXPERIENCES OF PARTICIPATING

Regina Santamäki Fischer, Anette Häggblom,
Bodil Julin & Inger Nygård

ABSTRACT

Social relations are important for the perceived quality of life, this is also the case for elderly people. Interactive programs via VIRTU channel can be an opportunity for social contact. The inclusion criteria for the VIRTU project were homebound elderly, elderly people who may need 24-hr support, frail elderly people who need preventive care and family caregivers and the people for whom they care. In total, 98 elderly people were included from the start, while only 48 took part in all of the project, which makes a comparison over time uncertain. The users' average age was 79 and the majority were women. Functional capacity (IADL) and the quality of life (WHOQoL-Bref) were estimated at the start of the project and after about one year. On the last occasion, the elderly also answered a short questionnaire concerning their experience of participating in the project. The countries differed in that the youngest were in Sipoo and Estonia. IADL was good and better in the younger. The quality of life in the physical domain was lowest in the Estonian users, while the environment domain was highest with the Ålanders. The preliminary results showed that the quality of life in total sank during the course of the project, which is explained by the general ageing process. The elderly's experiences however, were predominantly positive, and the social interaction was especially appreciated.

Key words: quality of life, WHOQoLBref, elderly, e-health

BACKGROUND

In step with the ageing population, the quality of life has been described as the factor that is considered as increasingly important for a good old age. The quality of life for the elderly is described using four dimensions; the psychological, meaning the elderly person feels well as he or she does not suffer from depression or anxiety and feels happy and satisfied. The physical dimension of the quality of life means that the person's health and mobility are preserved and he or she has the knowledge and skills to be independent. Central to the social dimension are social contacts and the ability to interact with others. The physical conditions and living conditions as well as the balance between the elderly person's choice and the opportunities there are in the environment constitute the quality of life's environmental dimension. The perceived quality of life is also counted in the quality of life for the elderly (Lawton et al 1999, WHOQOL-group 1996, Luoma 2010). It is also believed that concepts and problems related to the quality of life with elderly individuals are different than for the population in general.

For elderly people, the quality of life is affected by social contacts, becoming dependent, health and material circumstances (Netuveli & Blane 2008). Being able to adapt to changes that come with ageing as well as the capacity to recover are assumed to have importance for a good quality of life (Netuveli & Blane 2008). The elderly's own idea of a good quality of life is to have family, activities and social contacts (Farquhar 1995). Gabriel and Bowling (2004) also showed that factors that improve the quality of life were good relationships with children, family, friends and neighbours. In a study from Sweden, by Wilhelmson and colleagues (2005), social relations were important for the quality of life, especially among those who lived in their own home or had a serious illness. In other words, participation and connection are seen as being of great importance. Apart from dementia and depression (Netuveli & Blane 2008), which are the most important factors that negatively influence the perception of the quality of life, a limited ability to live alone and living alone are linked to a deterioration in the quality of life (Hellström & Hallberg 2001). Furthermore, King et al (2012) showed that dignity and a sense of control are closely tied to the quality of life for elderly disabled people.

Studies have even showed a connection between increased levels of social support and a reduced risk for physical illness, mental illness and death (Seeman 2000; Stroebe 2000). Social support includes real or others' perceived

resources that make it possible for a person to feel cared for, valued and part of a context (Stroebe 2000). Social support can be crucial for the elderly who are dependent on family, friends or organisations for help in their daily activities, for company and to take care of their well-being.

From a societal perspective, the ageing population is seen as challenging the economic resources that are available for taking care of elderly people with functional impairments. Finland's has a goal for 90% of all people over 75 to be able to live in their own home (SHM, 2008). Many of the elderly also want to remain at home until late old age. The elderly who wish to live in an institution are those who have the most impaired function and are most in need of health care and social services (Böckerman et al 2011). In order to be able to live at home, help is needed in the home, from relatives or the municipal home help and home nursing. Especially for elderly people who from some reason are homebound.

Social support can promote health by giving individuals positive experiences, socially rewarding roles or better ability to manage stressful events (Seeman 2000; Stroebe 2000). Social support is important for elderly people who run an increased risk for disability in connection with chronic illness or social isolation or loss of a partner. Some care programs can be expected to help elderly adults who have little social support and poor, health-related, quality of life.

The VIRTU channel is one of the application areas in the VIRTU project consisting of interactive activities and programs planned and implemented by students studying nursing, social work and other courses as part of their education. In addition, further activities have been provided by the Project Assistants who coordinated the programme at each university of applied sciences or location (see Jenny Husell and Ida-Lotta Lind in this publication) as well as the municipality's own personnel and voluntary organisations. Elderly living at home in 16 municipalities in Sipoo, Pargas, Kimitoön, Naantali, Åland and on the Estonian islands have a computer monitor in their home, which is connected to an appropriate university of applied sciences. (Laurea, TUAS, Novia and ÅUAS) and elderly care organisations in Estonia.

DISTANCE SERVICES IN ELDERLY CARE

A phenomenon in modern health and medical care and social services is distance care and service. The service has been developed further to serve individuals in need of help and to give them the possibility of advanced expertise regardless of distance. Examples are various systems for control and documentation, monitoring of vital functions etc. Even social media and video conference technology are used to shorten the distance between patients and care providers in order to provide expert help. To some degree, a number of solutions already exist. For example, OLDES (EU project in Italy and the Czech Republic) offers a cheap and easy-to-use platform for entertainment and health and medical care to make life easier for the elderly in their homes. Studies have shown good effects for those who have used distance services of various types.

In an American study into Internet based contact with elderly people suffering from heart disease, 42% had fewer days in care under intervention compared with the previous year (Wade et al 2011). Telecontact between the hospital's electronic database and the home significantly reduced the use of resources and improved cognitive status, better compliance with care and treatment as well as stabilised the condition for chronically ill homebound elderly (Noel et al 2004). In a case study, Slater, Neander, and Carey (2006) demonstrate how monitoring via an interactive video contact had a very positive effect on the quality of life for an elderly 93 year old man who could live out his last days in his own home. The study showed moreover that elderly patients who have support with interactive video visits for a longer time become very attached to their video units and do not want to lose the service. In a large EU project in Sweden – Assisting family Carers through the use of Telematics Interventions to meet Older persons' Needs (ACTION 1997–2000) – the purpose was to give elderly people and their family carers information, training and support through the use of information and communications technology (ICT); the goal was to improve their independence, autonomy and quality of life (Magnusson, 2002). In a study in Finland, the ability of four elderly people to keep their balance could be significantly improved using distance physiotherapy (Karppi 2011).

THE DESIGN OF THE STUDY

One of the goals of the VIRTU project was to study the effects of distance services in elderly people's daily life. One of these effects was expected to be an improved quality of life. There are few studies into how the quality of life is affected by distance care for the elderly living at home. The study is designed as a population study with two measurements of the quality of life. Entry to the study was dictated by the rate users received access to the VIRTU devices out on the islands and when they could start to use them. This article is based on the questionnaires answered by all users on entry to the project, mainly during the summer and autumn of 2010 and autumn 2012. The results are preliminary and consist of background factors and measures of functional level as well as quality of life on entry to and on conclusion of the study.

Selection and collection of data that describes the users

The selection of users is the same as saying those who chose to take part in the project. In the respective municipalities, the municipality's social workers were responsible for choosing and contacting suitable users. The criteria were: Homebound elderly, Elderly people who may need 24 hr support, Elderly frail people who need preventive care and Family caregivers and the people they care for. To describe the users in the study, data was collected on sex, age, marital status, education and knowledge of languages. In addition, they were asked with how many people and who they shared the person shared his/her home, who helped most in the daily activities as well as the distance to the nearest shop, post office or health centre. In order to obtain information about the social contact network, they were asked if the person was close to anyone, if so did they visit or if they had been in contact in another way with anyone during the last two weeks. Furthermore, they were asked if the person used a mobile phone, computer or the Internet. A further question was whether they were interested in learning new things. Finally, whether they were afraid to start using the VIRTU channel.

To describe the functional level of the users, the Instrumental Activities of Daily Living Scale (IADL) (Lawton & Brody 1969) was used. The scale is well used and validated in several languages. Max points 8 indicates good functional level.

To measure the quality of life, the WHOQOL-BREF scale was used, which is based on WHOQOL-100 as adjusted to measure the quality of life crossculturally, and measures physical, psychological, social relations and environment. The scale has been used and is used in several counties in studies into the elderly's quality of life. Min-Huey Chung et al (2007) studied Variance in Self-Reported Health-Related Quality of Life Between the Chronically-Ill Elderly and Their Family Caregivers in the Home. Engedal, Selbæk and Helvik (2010) studied the quality of life and factors related to it in elderly patients. Lasisi and Gureje (2011) studied how Insomnia and Impact on Quality of Life Among Community Elderly Subjects With Tinnitus. While Lucas-Carrasco, Laidlaw, and Power (2011) studied the WHOQOL-BREF scale's usability for Spanish elderly people. To name a few. The scale comprises 26 statements that measure four domains; physical health, psychological health, relationships and environment. The statements are answered on a scale from 1 to 5. After summation, the result is obtained, which presents a value for each domain. The higher the value the higher the quality of life.

Because the project included three languages and three somewhat different cultures, the WHOQOL-BREF scale was best suited for the purpose of measuring changes in the quality of life. The WHOQOL-BREF scale has been used previously for Swedish (Svensk et al. 2009), Finnish (Vaarama, 2009) and Estonian conditions (Teichmann, Murdvee, & Saks 2006). At the end of the project, the users were asked to answer a questionnaire with 8 statements that dealt with the way distance services (the VIRTU channel) affected their life, how the device functioned and how the interaction with others had been. The statements were laid out as a Likert scale and were answered by taking a position from "totally disagree" to "totally agree". In addition, there was the opportunity to write comments on each statement and there were further questions concerning the interactive programs, contact with relatives and contact with home services.

Data collection

Information and directives on how the data was to be gathered were sent by mail to all contact persons at the various universities of applied sciences and the municipalities. The data collection could be carried out as follows: where users were deemed to be capable of filling in the form, they did so themselves, though often with the help of personnel from home care or other help.

Afterwards, the contact persons gathered the questionnaires and sent them to the Åland University of Applied Sciences as compiled material. In total 98 people filled in the questionnaire during the whole project, spread across the various partner countries; i.e. Sipoo had 10, Pargas and Kimitoön 11, Naantali 19, Åland 20 and 38 from Estonia. Just over a year after the start of the VIRTU channel, the second survey was done. Many fewer users answered the questionnaire on this occasion. Sipoo 8, Pargas 6, Naantali 10, Åland 12 and Estonia 12. In total, there were 48 users at the time of the second survey.

DESCRIPTION OF THE ELDERLY USERS AS A GROUP

As is the case in all studies concerning elderly people, women dominate. The average age was 79. The youngest user was 45 and the oldest 95 years old. The educational background varied. They all had schooling equivalent to compulsory comprehensive school. In addition, there were people with a university education on Åland, and with both middle school and university education in Estonia. Language was a significant factor. Finland is bilingual with an archipelago, which in some places is totally Finnish speaking (Naantali) and totally Swedish speaking (Pargas and Åland). On the Estonian islands, apart from Estonian, Russian is also spoken. Moreover, people with the second language also live in the monolingual areas. There are individual Finnish speakers in the Swedish areas and vice versa (see Table 1). In Estonia, everybody gave Estonian as his or her first language.

Functional level

An elderly person's dependence on help in their daily life is defined by their functional impairment. Most of them had a reasonably high IADL capacity. It was lowest among users in Naantali (6.1) while it was highest among users on Åland (7.0). The possibility to get to the shops and other services is important for being able to continue living in one's home. Just over half had less than 5 km to services while just under a quarter had more than 10 km. In addition, travel in the archipelago is affected by the changing seasons, and some people moved to the mainland during the winter. For these reasons, the results do not fully describe the reality.

People living alone and contact with relatives

An elderly person's dependence on support is also affected by whether they live alone or with someone. Just over half of the users live alone. Having someone close by to share concerns with is also important. Nearly all of our users had someone who was close to them. Likewise, nearly all of them had received a visit from someone close to them in the last two weeks. At the same time, contact from the elderly to relatives is just as frequent, only a few say they have not had any contact recently.

The user's familiarity with technology

For the project, it was interesting to survey how common the new technologies were among the elderly. Many of them have a mobile phone today. Among the users, it was on Åland (8/20) and in the Estonian municipalities (8/38) that a larger proportion of the users *did not* have a mobile phone. Those who had a mobile phone used it as well, but not all. The largest number of users (5 in each area) who said they did not use the telephone were to be found among the users on Åland and in Estonia. Was it there to be used when help was really needed, or did their relatives call and keep in contact with them via the telephone? The telephone was the main way to keep in contact.

The users were also asked whether they owned and used a computer and surfed the Internet. Few had a computer. In total, 9 people in Finland and on Åland, 16 on the Estonian islands, and then it was the youngest users in their 70s, who said they had computers. Few use the computer every day and somewhat fewer surf the Internet.

At the prospect of the new

Nevertheless, participating in the project implies a new way of keeping in contact. It is not unusual to be interested in learning some new late in life, but nor is it self-evident. Those who stated the least interest in learning something new live in Pargas, and they are also the oldest. Most of the users who said they were interested in learning something new are to be found among the elderly who are somewhat younger. In contrast, there are users in all areas who say they have recently learnt something new.

TABLE 1. *Report on the background factors for the users in the VIRTU project.*

	Sipoo	Pargas, Kimitoön	Naantali	Åland	Estonia
Number of users	10	11	19	20	38
Age (Av. age 79) youngest/oldest	67/87	77/92	59/92	66/95	45/87
Sex	4 men 6 women	1 man 10 women	3 men 16 women	7 men 13 women	10 men 28 women
Education	10 Equiv. compulsory schooling	9 Equiv. compulsory schooling	15 Equiv. compulsory schooling	14 Equiv. Compulsory schooling 3 pers university level	11 Equiv. Compulsory schooling 15 equival. middle school 6 pers university level
Languages	3 Finnish 7 Swedish	Swedish	Finnish	19 Swedish 1 Finnish	38 Estonian
Live alone	2	9	13	10	25
IADL Max 8 pt	6.7	6.5	6.1	7.0	6.3
Distance to services	1<5km 3 5–10km 6>10km	4 <5km 5 5–10km 2>10km	15 <5km 2 5–10km 2>10km	13 <5km 5 5–10km 2>10km	19 <5km 9 5–10km 7>10km
Visited by someone close during the last two weeks	7/10	9/11	17/19	17/20	25/ 38
Contacted someone close in the last two weeks?	9 /10	9 /11	17/19	18/20	34/38
Someone who is close to you	8 /10	11/11	19 /19	20/20	35/38
Have mobile phone	7/10	6/11	16/19	12/20	30/38

Use the mobile phone	6/7	5/6	14/16	7/12	25/30
Have computer	2/10	0/11	4/19	3/20	16/38
Use computer	0/ day 1/week 1/month	0/ day 0/week 0/month	2/ day / week / month	3/ day 0/week 0/month	6/ day 2/week 3/month
Internet	1/2	0	2/2	3/3	9/16
Interested in learning something new	7 yes/10	3 yes/11	13 yes/19	12yes /20	25yes/38
Recently learned something new	2 yes/10	3yes /11	11yes/19	11yes/20	15yes/38
Afraid of the VIRTU channel	1 Yes	2 Yes	4 Yes	5 Yes	6 Yes

The quality of life before and after using the VIRTU channel

The WHO QoL-bref scale measures the quality of life in the areas physical, psychological, social relations and environment. In the scale, they are called domains. Taken all together, the results show that all of the domains are reasonably equal in the first survey. At the lowest, 3.0 for the whole population in the domain Physical Health. Highest (3.7), in the domain Environment. The difference between the participating municipalities are; lowest (2.9) in the domain Physical Health for all the Estonian municipalities and highest (4.3) in the domain Environment for Åland (Table 2). The values demonstrate a reasonably good quality of life in all domains. Why it is lower for the users in Sipoo and Estonia is difficult to explain. The information about their physical health is a self-assessment, it is also possible that their functional capacity is impaired for other reasons than age. Åland's users assess their quality of life in the domain environment as high. This can perhaps be understood as showing they feel secure and satisfied in their environment.

TABLE 2. *The quality of life before (1) and after (2) participation in the VIRTU project. Distributed across the participating municipalities in Finland and for Estonia's municipalities in total. The comparison is made only between those who participated in both surveys.*

	Domain 1 Physical Health	Domain 2 Psychological health	Domain 3 Social relations	Domain 4 Environment	Domain 1–4
Sipoo1	3.0	3.6	3.6	3.4	3.37
Sipoo 2	3.7	4.1	4	3.7	3.84
Pargas and Kimitoön 1	3.5	3.7	3.6	3. 6	3.59
Pargas and Kimitoön 2	3.4	3.4	3.6	3.3	3.43
Naantali 1	3.5	3.6	3.5	3.8	3.59
Naantali 2	3.1	3.3	3.2	3.5	3.26
Åland 1	3.5	4	3.8	4.3	3.89
Åland 2	3.3	3.3	3.5	3.6	3.55
Estonia 1	2.9	3.3	3.3	3.5	3.25
Estonia 2	2.9	3.4	3.4	3.5	3.31
Total 1	**3.3**	**3.6**	**3.6**	**3.7**	**3.54**
Total 2	**3.3**	**3.5**	**3.5**	**3.5**	**3.48**

In a simple comparison between the first and second survey, these preliminary results show that the self-assessed quality of life increased for all domains among the users in Sipoo. How this can be explained is unclear. There were few users in Sipoo, they were somewhat younger and their IADL values were somewhat higher from the start. Could it be that they were best able to benefit from the stimulation provided by using the VIRTU channel? Were their interaction and contacts different from the others? Or was there a difference in the choice of activities and programs?

However, in general these results show the self-assessed quality of life is in total somewhat poorer, down from 3.54 to 3.48, after participation in the project (Table 2). This can be explained by the self-assessed quality of life deteriorating with increasing age. The users are all very old and their quality of life would have dropped regardless of participation in the project. The users, even though

they present good IADL values, are still at a frail age (Pel-Little et al. 2009). Would the deterioration in their health perhaps have worsened their quality of life more without participation in the project?

When it concerns differences in the self-assessed quality of life in the different domains, physical health is still assessed as lowest in Estonia. This is tricky to explain, but Estonia's recent history differs from the other countries, which can also be understood by taking into account the fact that the general health could be lower in Estonia (Jagger et al. 2008). The life expectancy is also lower in Estonia, 70 for men/80 for women, compared with Finland 77/83 (WHO Statistics 2012) and Åland 80/84 (ÅSUB 2012). It is therefore reasonable to assume that they may be estimating their health related quality of life as lower.

If the self-assessed quality of life does not show measurably large changes, the elderly's experiences can even so provide descriptions about how their life is influenced by participation in the project.

The elderly's experiences

The first three statements in the questionnaire (Table 3) on the elderly's experiences deal with how the new services affected the elderly's life. Consistently, they have a *positive effect* and also, for many users, contributed to a *sense of increased security* at home. In the comments, the opportunities for social contact were clearly highlighted. Many users felt *less lonely* and appreciated making new friends. Other aspects include the meaningful content in their daily life provided by the services. The opportunity to be in daily contact with the home care or other care personnel is a contributory reason for the increased sense of security. However, it is also important that the elderly can rely on the contact functioning. Someone also stated that just talking with others increased the sense of security. Among those who replied by saying that they did not feel an increased sense of security, there are reasons such as they already had a great sense security in their close surroundings, e.g. from family and friends.

Three statements were about how the devices functioned. The comments show that the devices have not functioned fully. Many users described the way both the picture and sound breaks up and said there are difficulties when connecting to the video conference system. However, the problems were greater at the start. One question was about how the help with the devices functioned. Relatively

many users say they did not receive any help at all with technical problems, while others comment that they received very good help or they learned to remedy problems themselves. Even in the contacts between the actual users, the devices have sometimes caused problems. From the comments, we can also see that technical problems influence the sense of security.

When it comes to the statements on the contact and interaction with others, the majority feel it is easy to keep in contact with the other users and they appreciate this possibility. There were also a few users who commented that they did not feel a need for contact outside the VIRTU channel and they only wanted to take part in the activities. The new technology could be thought to have an inhibitory effect on speaking in front of others. In contrast, several users commented that the *contact feels natural* and it *is almost like sitting in the same room*, but it is a bit more difficult to speak in the group contacts than it is in private conversations.

TABLE 3. *The elderly's position to the statements on how the distance services affected their life, their experiences of the technology and the interaction with others.*

	Totally disagree	Partly agree	Agree	Totally agree	Cannot say or unanswered
1. Have the distance service (the VIRTU channel) influenced your life in a positive way	2	17	16	8	5
2. Have the distance service influenced your life in a negative way	41	4	0	0	3
3. Have the distance service influenced your sense of security at home	14	16	7	3	8
4. Has the device caused problems	8	29	6	4	1
5. Has the available help and support in using the device functioned for you	10	8	12	7	11

6. Has the connection functioned between you and the other users (e.g. disappear from the picture during the activities)	4	14	13	8	9
7. Has it been difficult to keep in contact with the other users at the VIRTU channel	29	7	1	0	11
8. Have the distance services at the VIRTU channel influenced you ability (limited) to speak in front of the other users	23	2	8	0	14

Experience of the interactive programs as well as contact with relatives and the home care service

Many users said that the programs produced by the students at the VIRTU channel were good/very good. On the other hand, the type of program they appreciated varied from individual to individual. Some liked gymnastics best, others competitions and memory training, while others wanted to have more factual programs. Only a few users had contact with relatives via the device, but all those who did appreciated the possibility. There are also very few users who have regular contact with the personnel in home care, but even here, those who used the service felt it functioned and was good. A few also had sporadic contact with the elderly care services and someone was positively surprised when the home care made contact. In contrast, there was at times uncertainty among the users on whether there would be any answer from the personnel in elderly if they called them.

The elderly appreciate the services and the social interaction it makes possible is of great importance and has a positive influence on their perceived quality of life. Technological and connection problems create some irritation but can be remedied in most cases.

CONCLUSION

Elderly people, who need help to stay in contact with others, greatly appreciate the opportunity to remain in their own home in the archipelago. One year after participation in the VIRTU channel, the study's quantitative data shows a slight deterioration in the total self-assessed quality of life. In contrast, qualitative data demonstrated that the VIRTU channel was a clearly positive experience, an experience of security and a social contact in their lives, which probably positively influences their perceived quality of life.

Methodological considerations

from the perspective of research methodology, the VIRTU project's size, spread across three countries, three languages and three cultures, has been difficult to administer. At the start of the project, however, a possibility was seen to measure the self-assessed quality of life and perhaps how it could be influenced by distance services in elderly care. In addition, the results have been affected by the fact that the elderly users were a very heterogeneous group. There are differences among the elderly users and in the elderly care situation at the local level. In some municipalities, the users have been recruited from the elderly who already had ties to the municipal home care service. In others, the elderly have been recruited through other contacts with the municipality and individual needs. For example, this meant one user was considerably younger than the others. The definition of the inclusion criteria in the various municipalities has been interpreted, therefore, on the basis of the situation in the municipality in question.

The large dropout rate can be explained by the fact that at the start of the project, and more or less during the whole course of the project, there have been problems with the delivery of the technical devices, connection to broadband as well as interruptions in interactive programmes, which have resulted in some users, voluntarily or involuntarily, withdrawing from participation in the project. The conditions have also varied in the three different regions. Access to the 3G network has been difficult in some cases, and it has hindered the project. None of the elderly have withdrawn because they found the technical device troublesome. The dropout rate also affected the chance to fulfil the intention of the study.

There are even differences in the data collection. Some of the users replied to the questionnaires themselves and others received help from personnel or relatives, moreover the personnel were different on different occasions.

Future studies

to obtain reliable results on whether the quality of life has changed requires a study designed with the possibility to compare people who use distance services with people who do not. The resources did not exist in this study.

A comparison between the users' perceived quality of life before and after using the VIRTU channel, their functional capacity (IADL) as well as the frequency of their participation in the different interactive programmes available in the VIRTU project could show in more detail, whether, and if so, which elderly people had the most benefit of the VIRTU channel. And, whether their quality of life can be changed for the better.

REFERENCES

Böckerman, P., Johansson, E. & Saarni, S. 2011, Institutionalization and subjective well-being for old age individuals: Is life really miserable in care homes? Ageing and Society, published online October 14, 2011.doi:10.1017/S0144686X1100081X.

Engedal, K. & Selbæk, G. 2010. The quality of life and factors associated with it in the medically hospitalised elderly. *Aging & Mental Health*, 14 (7): 861–9.

Estonian ministry of foreign affairs. 2009. Average Life Expectancy in Estonia Grew Significantly From 1993–2009 http://www.vm.ee/?q=en/node/11301 Accessed 13.12.2012.

Farquhar, M. 1995. Elderly people's definitions of quality of life. *Soc Sci Med*, 41, 1439–1446.

Gabriel, Z. & Bowling, A. 2004. Quality of life from the perspectives of older people. *Ageing Soc*, 24, 675–691.

Hellström, Y. & Hallberg, I.R. 2001. Perspectives of elderly people receiving home help on health, care and quality of life. *Health & Social Care in the Community*, 9(2), 61–71.

Jagger, C ., Gillies,C., Moscone F., Cambois., E., Van Oyen, H., Nusselder. W., Robine, J_M. &, the EHLEIS team 2008. Inequalities in healthy life years in the 25 countries of the European Union in 2005: a cross-national meta-regression analysis *The Lancet*, 372, I9656, 2124–2131.

Karppi, M. 2011. Interaktiivinen etäkuntoutus ikääntyneen toipilasajan tukena. Pro-gradu uppsats. Tampereen yliopisto. Terveystieteiden yksikkö.

King, J., Yourman, L., Ahalt, C., Eng, C., Knight S.J., Pérez-Stable, E.J. & Smith, A.K. 2012. Quality of Life in Late-Life Disability: 'I Don't Feel Bitter Because I Am in a Wheelchair'. *Journal of the American Geriatrics Society*, 60(3), 569–76.

Lawton, M.P., Winter, L. Kleban, M.H. & Ruckdeschel, K. 1999. Affect and Quality of Life: Objective and Subjective Journal of Aging and Health,11; 169–198. DOI: 10.1177/089826439901100203.

Lawton, M.P., & Brody, E.M. 1969. Assessment of older people: Self-maintaining and instrumental activities of daily living." *Gerontologist* 9:179–186.

Lucas-Carrasco, R., Laidlaw, K. & Power, M.J. 2011. Suitability of the WHOQOL-BREF and WHOQOL-OLD for Spanish older adults. *Aging & Mental Health*, 15, 5, 595–604.

Lasisi, Akeem O., Gureje, Oye. 2011. Prevalence of Insomnia and Impact on Quality of Life Among Community Elderly Subjects With Tinnitus. Annals of Otology, *Rhinology & Laryngology*, 120,4, 226–30.

Luoma, M-L. 2010. Elämänlaatu. I *Gerontologinen hoitotyö*. Voutilainen, P. & Tiikkanen, P. (eds.) WSOY Oppimateriaalit.

Magnusson L., Hanson E., Brito L., Berthold H., Chambers M. & Daly T. 2002. Supporting family caregivers through the use of information technology – the EU project ACTION. International *Journal of Nursing Science* 39(4), 369–381.

Wade, M. J., Desai, A.S., Spettell, C. M., Snyder, A. D., McGowan-Stackewicz, V., Kummer, P. J., Maccoy, M. C. & Krakauer, R. S. 2011. Telemonitoring With Case Management for Seniors With Heart Failure. *American Journal of Managing Care*.17 (3), 71–79.

Chung, M-H., Hsu, N., Wang, Y-C., Lai, K-L. & Kao, S. 2007. Exploration Into the Variance in Self-Reported Health-Related Quality of Life Between the Chronically-Ill Elderly and Their Family Caregivers. Journal of Nursing Research (Taiwan Nurses Association), 15(3) 175–182.

Netuveli, G. & D. Blane ,B. 2008. Quality of life in older ages. *British Medical Bulletin* 2008; 85: 113–126.

Noel, H. C.,Vogel, D.C.,Erdos, J. J.,Cornwall, D. & Levin, F. 2004. Home Telehealth Reduces Healthcare Costs. Telemedicine and e-Health,10(2). 170–18.

Pel-Littel, R.E., Schuumans, M.J., Emmelot-Vonk, M.H. & Verhaar H.J.J. 2009. Frailty: Defining and measuring of a concept, *The Journal of Nutrition, Health and Aging* , 13, 390–394.

Seeman, T.E. 2000. Health promoting effects of friends and family on health outcomes in older adults. *American Journal of Health Promotion*,14, 362–370.

Sirgy MJ, Rahtz D, Coskun & SA (eds.) 2003. *Advances in Quality-of-Life Theory and Research*. New York, NY: Springer.

Slater, S. G., Neander, L., & Carey, G. 2006. Measuring Quality of Life Outcomes Through the Use of Home Telehealth: Using a Case Study Model in a Terminal Heart Failure Patient. Home *Health Care Management & Practice*, 18(4), 333–335.

SHM 2008. Social- och hälsoministeriet. Kvalitetsrekommendation om TJÄNSTER FÖR ÄLDRE. Universitetstryckeriet. Helsinki.

Stroebe, W. 2000. *Moderators of the stress-health relationship*. In: Stroebe W. Social psychology and health. Philadelphia, PA: Open University Press.

Svensk, A-C., Öster, I., Thyme , K.E., Magnusson, E., Sjödin, M., Eisemann, M., Åström, S.,& Lindh, J. 2009. Art therapy improves experienced quality of life among women undergoing treatment for breast cancer: a randomized controlled study. *European Journal of Cancer Care*, 18(1), 69–77.

Teichmann, M., Murdvee, M.,& Saks, K. 2006. Spiritual Needs and Quality of Life in Estonia. *Social Indicators Research*, 76(1), 147–163.

Vaarama. M . 2009. Care-related quality of life in old age. European Journal of Ageing 6 (2), 113–125. DOI: 10.1007/s10433-009-0115-y.

WHO Statistics. 2012. http://www.who.int/countries/fin/en/ Accessed 13.12.2012.

WHOQOL-group. 1996. WHOQOL-BREF – *Introduction, administration, scoring and generic version of assessments*. WHO The World health Organisation, Geneva.

Wilhemson K, Andersson C, Waern M, Allebeck P. 2005. Elderly people's perspectives on quality of life. *Ageing Soc,* 25, 585–600.

ÅCUB. 2012. Åland i siffror. Åland staistik och undersöknings byrå. Mariehamn, Åland.

USER EXPERIENCES OF INTERACTIVE TECHNOLOGY ON VIRTU CHANNEL

Hannele Lampo

ABSTRACT

Two surveys were carried out amongst the VIRTU channel users in Naantali over January-July 2012. The article presents the observations of user satisfaction in relation to the VIRTU channel program production and with the use of interactive communication technology.

The users were satisfied with the equipment's user-friendliness, but the initial technical problems increased dissatisfaction. Technical problems were often associated with inadequate guidance and availability of information. The image quality was good, but connection outages impacted the qualities of sound. Programmes were found to be interesting and useful. Users experienced that participating in VIRTU channel activities and contacts outside of programmes increased sociability. The users were relatively satisfied with the use of interactive technology and willing to continue using the equipment.

The users were classified as basic users and active users of the service. Basic users were involved in VIRTU channel activities, but did not use the channel's other service selection. In addition to actively following the programmes, active users had used also the videocall connection outside of the activity broadcasts. They reported to have made new friends through the VIRTU channel. Also the feeling of security at home had increased and the sense of loneliness decreased.

In the future, when the elderly are familiar with using technology and the technology functions well, it will be possible to concentrate also on developing services that meet the users' needs. In addition to standard services, it is good to customise services to users and user groups according to their needs, expectations, wishes and requirements.

Key words: VIRTU users, user satisfaction, interactive programmes

INTRODUCTION

Securing the welfare and quality of life of senior citizens living in geographically remote regions may be challenging to municipalities and family members. In senior citizens' policy strategies and programmes, senior citizens' living at home has been set as a central goal. It combines the social and service system objectives and the wishes of the elderly, because most of them want to live in their own homes even when old. On the level of society and service system, senior citizens' living at home is also emphasised for economic reasons.

The rapid increase in the number of senior citizens challenges for example the producers of social and healthcare sector services that support the population's performance at home longer than before and improve the safety of living. The senior citizens' ability to perform is known to deteriorate first in demanding daily functions such as participating in social activities and hobbies. Senior citizens must be guided and encouraged to various hobbies, study circles and small group activities and to pursue a hobby at home. Activating and supporting the person's own resources is crucial for example with cultural work and interactive image connection and the use of other technologies. (Tepponen 2009, 170–171.)

Living at home is furthered by the use of technology and utilisation of new technical equipment. Senior citizens manage their surroundings easier with technology. Communication with relatives and friends through videocalls increases opportunities for social interaction. The use of technology can overcome the limitations set by time and place and thus create new opportunities for example for people with impaired mobility. The use of technology also saves costs in the social and healthcare sector when home care visits can be replaced with a videocall. Technical services must be easy to use. The equipment's user-friendliness and availability of adequate guidance enhance its use. (Savola & Riekki 2003, STM 2008.)

USER FEEDBACK RESULTS

The user experiences of interactive technology have been collected through two surveys at Turku University of Applied Sciences in 2012. One of them is a thesis associated with nurse training and the other one is the collection of research material related to the quality of life research of the VIRTU project. (See Santamäki-Fischer, Häggblom, Julin and Nygård in this publication.)

User satisfaction in interactive technology and activity broadcast in the early stages of VIRTU channel service

In their thesis ""Asiakastyytyväisyys VIRTU – kanavan ohjelmatuotannosta ja käytöstä", Turku University of Applied Sciences' nurse students Elisa Länsitalo, Tanja Rautanen and Linda Tuokko gathered customer feedback of six VIRTU channel users in Naantali. Client experiences were asked concerning programme content and the function of technical equipment. The material was collected in focused semi-structured interviews at the end of February 2012. At the time, the users had used the equipment for about six months and participated for two months in activity broadcast produced by nurse students. The hour-long programmes were presented four times a week at noon. For the VIRTU channel, nurse students produced programme content on various illnesses.

The thesis research results show that the clients had watched actively the broadcasts. They were satisfied with the quantity and schedule of VIRTU channel activities. Programme content was considered interesting and the amount of information to be adequate. Information was presented in an understandable form and issues that were experienced to be difficult were clarified in discussions. Programmes contained images and contests. Participants felt that they were a good way to clarify issues. Contests refreshed mind and memory, and were pleasant pastime. Viewers had no expectations concerning the programme content. When asked about the most interesting topic, all programmes on illnesses were mentioned at least once. Most of the clients were not able to itemise the programme content of the most interesting programme. The clients' prior knowledge about the topic of the programme lessened their interest in it. (Länsitalo et al. 2012.)

All programmes were also felt to be useful. One participant felt that the programme on cancer was unpleasant and noted that it could have been skipped. Fast and unclear speech and use of standard language and professional jargon by the programme producers sometimes hindered understanding the subject matter. Practical and useful programme content was desired of future broadcasts. (Länsitalo et al. 2012.)

Clients reported having made new acquaintances by participating in interactive broadcasts and by using the videocall outside of broadcasts. Senior citizens were satisfied with the opportunity offered by the equipment to maintain existing social contacts with friends and acquaintances and to make new

ones. Especially bilateral videocalls enhanced their sociability and improved their mood. The clients' feeling of security did not improve with interactive broadcasts. (Länsitalo et al. 2012.)

In May 2011, when the VIRTU channel began operating, the equipment was unknown to customers and only one user had expectations concerning its technical characteristics or usability. This person did not want to have the equipment in the home but after receiving additional information began using the equipment. In the initial stage of implementation of the equipment, clients were concerned about the possible costs resulting from its use. They were satisfied with the equipment installation. Most clients were also satisfied with the guidance given during installation. Some users were of the opinion that not enough time was spent on guidance. Initially, everyone had technical problems in using the equipment. Problems were felt to be in the equipment (power switch), network connection and audio quality. One client was dissatisfied with the repair assistance received in an equipment malfunction situation. Clients felt that technical problems and poor internet connections hindered the use of the equipment. When the internet connections worked, customers were satisfied with image quality and audio reception. The basic functions of the equipment were learnt quickly. All users expressed their willingness to continue using the equipment. For half of them, the conditions for continued use were that their own health does not deteriorate and the equipment remains intact. (Länsitalo et al. 2012.)

User satisfaction in VIRTU channel service after one year of use

In June-July 2012, the second stage survey of the quality of life research was carried out with VIRTU channel users (6 persons), examining for example the users' experiences of the impact of the use of virtual services on life, the feeling of security at home, functionality of technology, functionality of help desk and connections and character of virtual contacts and interaction. The interviewer had access to a structured questionnaire that also included open questions. Eight structured questions were answered using a five-step scale and after each question an opportunity was offered to answer one optional complementary question.

The respondent VIRTU channel users in Southwest Finland were between ages 60 and 92. They had used the equipment for about a year. During that time, the clients followed VIRTU channel activities of varying content and they could contact home care and their family members as well as discuss with other users outside of the activity broadcasts.

Five of the respondents were of the opinion that interactive distance service has had a positive impact on their lives, for one, somewhat and for four, quite a bit. Programmes, new friends and decreased loneliness were mentioned as examples. For one respondent, the equipment had had a negative impact because the equipment did not work.

There was dispersion in the answers to the question: "Has the social virtual service made you feel safer at home?" Three respondents felt that the feeling of security had increased somewhat or quite a bit. The connection to home care and the possibility to discuss with others were mentioned as examples of increased feeling of security. One respondent could not say if the feeling of security had increased and two persons felt the service did not make them feel safer at home.

All respondent had had some technical problems with the equipment during the programmes. Equipment malfunction, connection outages and audio problems were mentioned as problems. Half of the people felt the technical assistance and help desk were functional, the other half could not say whether the technical assistance and help desk were functional. For three respondents, the connections had worked relatively well during the use outside of activity broadcasts, and three could not say whether the equipment worked outside of broadcasts.

Three users felt that contacts with other users have not been difficult. Some users had difficulties with contacts due to impaired hearing for example. Also, a face-to-face contact was considered to be easier. The rest did not take a stance in this issue.

Based on the answers to open questions, the users could be classified as basic users (3 users) and active users (two users) of services. One person did not use the equipment at all. The reason for not using did not become evident in the survey.

Basic users were involved in programme activites, but did not use the channel's other services available. They were targets of activity broadcasts. All basic users felt that the interactive distance service had had a positive impact on their lives.

In addition to actively following programmes, active users, two out of six, had used also the videophone connection outside of programme activities for example for regular contacts with home care service. Users reported to have made new friends through the VIRTU channel. Also, the feeling of security at

home had increased with the possibility of talking to another person. Contact with home care has also increased security. Also, contacting has removed some of the feeling of loneliness.

PICTURE 1. *Helping a user with a VIRTU call. (Photo: Jussi Vierimaa)*

CONCLUSIONS

The nurse students, who made the survey, note in their thesis that user guidance and advice on interactive communication technology equipment could be increased and developed, and malfunction situations should be handled faster than currently is the case. Delayed repair assistance had a clear negative impact on user activity and willingness to continue using the equipment. Students note that equipment use and programme production had offered the clients many positive experiences so that dissatisfaction with the equipment's technical problems was understated. From the users, students were hoping for more development proposals concerning programme production and equipment use. (Länsitalo, etc. 2012.)

In the future, when the elderly are familiar with using technology and the technology functions well, it will be possible to concentrate also on developing services that meet the users' needs. In addition to standard services, it is good to customise services to users and user groups according to their needs, expectations, wishes and requirements. Senior citizens' participation and engagement in society and possibilities to influence service design also further their being an active actor. They should hope that all VIRTU channel users belonged to the active users.

REFERENCES

Länsitalo, E., Rautanen, T. & Tuokko, L. 2012. Asiakastyytyväisyys VIRTU-kanavan ohjelmatuotannosta ja käytöstä. Opinnäytetyö, hoitotyön koulutusohjelma. Turun ammattikorkeakoulu.

Savola, O. & Riekki, J. 2003. Tekniikka vanhusten itsenäisen suoriutumisen tukena. Lääketieteellinen Aikakauskirja Duodecim Vol. 119, No. 10, 1001–1006.

STM 2008. Ikäihmisten palvelujen laatusuositus. Sosiaali- ja terveysministeriön julkaisuja 2008:3.

Tepponen, M. 2009. Kotihoidon integrointi ja laatu. Väitöskirja. Terveyshallinnon ja -talouden laitos. Kuopion yliopisto.

PART III
– DEVELOPMENT OF NEW WORKING METHODS FOR HOME CARE

THE ADOPTION OF SYSTEMIC INNOVATION AS AN EPISTEMIC CHALLENGE

Harri Jalonen

SUMMARY

The article addresses the information management challenges of adopting systemic innovation. Systemic innovation means renewal, where a socio-technical system consisting of several actors finds a new way to function. A concrete representation of systemic innovation in the article is the VIRTU channel, introduced in home care in the city of Naantali during 2010–2012. In the article, adopting innovation indicates the information intensive process, where the alleged users of innovation weigh the pros and cons related to innovation and make their decisions based on the information they have gathered. The consistent assumption in the article is the thought that adopting systemic innovation is greatly dependent on the identification and solving of the related epistemic challenges.

Based on literature and interviews, the paper suggests that the epistemic challenges of adopting systemic innovation originate from uncertainty, complexity, ambiguity and equivocality. Uncertainty manifests itself in the lack of information concerning facts, whereas complexity means a situation where the interdependencies of different actors cause proliferation of information. Respectively, ambiguity refers to interpretation difficulties related to the situation or phenomena, whereas equivocality means numerous different and often contradictory interpretations of the pros and cons introduced by innovation. The paper also proposes actions to encounter the identified epistemic challenges.

INTRODUCTION

In Finland, there are numerous development projects under way within the social and healthcare services, in which the common denominator is improvement of the productivity of service provision. Many projects aim to increase the productivity of services by employing the opportunities offered by information and communication technology. In the case of the elderly, great expectations are specifically directed at such technical solutions which make it possible for the elderly to live at home. In addition to economical arguments, the feasibility of the technical solutions are justified by human factors. The results of the development projects are indeed mostly encouraging, yet at the same time they raise new questions. For example, the foreword of the final report of the KOTIIN project (Lehto, 2008) raises an apt question whether modern technology and new operating models can be used to create virtual communities in which senior citizens could feel like an active part of the outside world, regardless of any incapacities caused by ageing or illness.

The paper at hand aims to increase the understanding of the challenges connected to the integration of technology based solutions as part of social and healthcare services directed at the elderly. The premise of the paper is the idea that responding to the productivity challenge of social and healthcare services requires not only technology based solutions but also renewal of structures and modes of operation. This paper examines renewal needs within the framework of *systemic innovation*. Systemic innovation refers to comprehensive renewal, where a socio-technical system consisting of several actors finds a new way to function. In particular, the article focuses on *information management challenges related to adopting* systemic innovation. The article addresses an important and current theme, because earlier studies show that the adoption and permeating of innovations in social welfare and healthcare in particular is slow due to their complexity. This is because the adoption of systemic innovation is a challenging project from an information management point of view, because it is about consolidating different interests and cooperation across professional and administrative boundaries. An empiric case example of systemic innovation in the article is the VIRTU channel, introduced in home care in the city of Naantali during 2010–2012.

OBJECTIVE OF THE ARTICLE

Adopting innovation indicates the information intensive process, where the alleged users of innovation weigh the pros and cons related to innovation and make their decisions based on the information they have gathered. Due to its comprehensiveness, adoption of systemic innovation can be estimated to always be a particularly significant epistemic – knowledge related challenge to the organisation and people in it, because it means changes in the service process, structures, ways of organisation and technology supporting them (Kokkinen et al., 2011). The interrelationship of knowledge and innovation has been present in some form in many studies concerning the emergence and adoption of innovation (e.g. Rogers, 2003). However, the writer is not aware of any studies which would have explicitly aimed at opening up and understanding the epistemic challenges related to the adoption of systemic innovation in particular. According to the writer's assessment, the scarcity of research has an impact on the practical actors lacking both theoretical readiness and practical tools to encounter the epistemic challenges of systemic innovation. To enhance theoretical understanding of the phenomenon and reduce the lack of information about its practical consequences, the article at hand aims at i) structuring the epistemic challenges related to adopting systemic innovation and ii) creating theoretically justified proposals for actions to better encounter epistemic challenges.

The conceptualisation of the VIRTU channel into a systemic innovation can be examined from the viewpoint of Geels' (2004) definition of systemic innovation, according to which systemic innovation a) builds on the changes of both supply and demand, b) requires organisational changes, c) its production requires several actors from different subsystems of the society and d) its development takes time. The VIRTU channel can be characterised as an effort to implement systemic innovation, because it serves as a channel to answer the changes of supply and demand, ongoing in welfare services, which for the elderly, in particular, are closely connected: it should be possible to produce more (and better) services with fewer resources. The objective of the VIRTU channel is to replace part of traditional house calls with more cost-efficient virtual services. Achieving the objective, on the other hand, requires organisational renewal of social and healthcare services. As regards the VIRTU channel, the need for organisational renewal is visible, for example as requirements for new types of job descriptions for employees, where some of the traditional professional boundaries are crossed. Furthermore, many services implemented through the

VIRTU channel also require co-operation across organisational boundaries. In addition to social services and healthcare professionals employed by the municipality, a group of universities of applied sciences, companies and third sector actors participate in the implementation of the VIRTU channel. And even there is, in princial, a common understanding of the direction of the needed changes, implementing the changes will take time.

Municipal officials and elected officials of Naantali were interviewed for the article. Interview requests were sent to altogether 12 people, who had been involved with the VIRTU channel. Out of the requested 12, eight agreed to be interviewed. The interviews took place in March-April 2012. Even though the absolute number of interviewees is rather small, the number of interviewees can still be considered sufficient for two reasons. First, during the interviews, the use of the VIRTU channel in Naantali was the responsibility of a quite narrow crowd. It was meaningful to analyse the epistemic challenges related to adopting the VIRTU channel by concentrating only on those informants who had first-hand views of the target phenomenon of the study. Second, clear saturation can already be seen in the interview responses of eight people – in other words, the matters brought up began to be repeated. Although the saturation of the material cannot be considered as an objective criterion, saturation based practice has proved to be a tried way to increase the validity of the material and determine the amount of qualitative material (e.g. Eskola & Suoranta 1998).

Information management challenges related to the adoption of systemic innovation based on earlier conceptual-analytical studies (Jalonen, 2012 and 2013) and other literature were operationalised as resulting from *uncertainty, complexity, ambiguity* and *equivocality*. In the analysis of the interview material, the method of Yin's (2003) model and pattern matching of empirical perceptions were applied. In practice, this meant that expressions the interviewees used to either explicitly or implicitly refer to epistemic challenges related to the VIRTU channel were searched for in the transcribed interview responses. Uncertainty, complexity, ambiguity and equivocality form the conceptual apparatus of the article, which is used to help understand the information management challenges of the target phenomenon – adoption of systemic innovation.

UNCERTAINTY, COMPLEXITY, AMBIGUITY AND EQUIVOCALITY AS EPISTEMIC PROBLEMS

Uncertainty, complexity, ambiguity and equivocality are all simultaneously both abstract concepts and popular expressions used frequently in spoken language. Adapting Lämsä & Takala (2004), they are "ambiguous, changing and socially and culturally constructing". Next we shortly examine the manifestation of uncertainty, complexity, equivocality and ambiguity in the light of literature.

Uncertainty manifests itself in the lack of information and knowledge about facts (Daft & Langel, 1986). Information may mean a situation or a phenomenon, which exists irrespective of people involved with it. The interpretation is supported by Galbraith (1977), among others. According to him, uncertainty is a gap, which opens between information requried in a certain task and information possessed by an individual or organisation. Adapting Ellsberg (1961), we can also talk about some kind of known uncertainty, when people are aware of their own lack of information concerning a certain situation or phenomenon, but for one reason or another are not able to remove the lack of information, either.

Complexity, on the other hand, arises from the connections between situations or phenomena. According to Simon's (1962) classical definition, complexity arises from situations and phenomena interacting in a nonsimple way. At the same time, complexity means that the direction and strength of the development of situations and phomea is difficult, but not necessarily impossible, to predict (e.g. Zack 2001). Adapting Gershenson (2011), the amount of information that is needed to describe a phenomenon on a certain scale can be used as a measure of complexity.

Ambiguity means difficulty in interpreting a situation or phenomenon. Zack (2001) has separated two levels of ambiguity, which are surface and deep ambiguity. In surface ambiguity, the interpreter has got relevant interpretative knowledge, which is difficult to use, because available information does not trigger the process of construction of meaning, where individual information hints are arranged as part of a larger framework of interpretative knowledge (Weick, 1995). In deep ambiguity the interpretation difficulties arise from the lack of relevant interpretative knowledge. Although surface ambiguity resembles a lot Ellsberg's (1961) known uncertainty, there is also a clear difference in the

concepts. When the problem in surface ambiguity is that information does not activate interpretative knowledge, in uncertainty the problem is lacking information. In deep ambiguity the situations and phenomena that are objects of interpretation are so unfamiliar to the interpreters that they cannot even assess the different options.

Equivocality manifests itself as different interpretations of a situation or phenomenon. It means as situation where the actors look at the phenomenon at hand through different 'lenses' (Daft & Langel, 1986). Even if each interpretation was unequivocal and logical as such, when combined with the interpretations of others, the end result is typically a contradictory explanation of things and phenomena, and it contains mutually exclusive views (Weick, 1995).

MANIFESTATION OF UNCERTAINTY, COMPLEXITY, AMBIGUITY AND EQUIVOCALITY IN THE SURVEY RESPONSES OF VIRTU CHANNEL USERS

Based on the interviews, it can be said that the *uncertainty* related to the VIRTU channel focused on three themes: customer needs, technology and project implementation. Even though the definition of innovation contains the thought that innovation meets the real needs of customers, regarding the VIRTU channel, the case seems to be that providers of wellbeing services have somewhat lacking information concerning the requests that the elderly have set for VIRTU. Despite the fact that part of the interviewees were of the opinion that in a relatively small municipality the social and healthcare professionals know their customers' needs, most interviewees were worried that the service provider has no clear understanding of how the elderly really use VIRTU, or if they use it at all. According to a couple of the interviewees, uncertainty of the customers' needs has led to difficulties in proving the added value produced by the VIRTU channel. This on the other hand has deteriorated the legitimacy of the VIRTU channel.

The uncertainty related to technology showed in the interview responses as uncertainty of the functionalities of the VIRTU channel. According to the assessment of several interviewees, the personnel has inadequate knowledge to use the VIRTU channel fully. The situation is not improved by the fact

that many of the interviewees found the induction into the VIRTU channel lacking. A couple of the interviewees regarded that uncertainty about the technology has also impacted the fact that healthcare professionals cannot assess which customers could fully benefit from the VIRTU channel.

The uncertainty related to the VIRTU channel project implementation was seen as a lack of information about the progress of the project. Based on the interview material, it seams that the initial enthusiasm of the project has somewhat faded, and so the monitoring of project progress and implemention of decisions made has had too little attention. A few interviewees found it particularly unfortunate that during the project, not enough comparison data was produced of how the use of the VIRTU channel has affected the ways of operation and use of time of the personnel.

On one hand, *complexity* was seen as difficulty to assess the benefits of the VIRTU channel, and on other hand, as challenges related to the fluency of the teamwork of the different stakeholders of the VIRTU channel. What made the assessment of the VIRTU channel benefits difficult was, above all, the fact that it was not only about the VIRTU channel, but the interrelationship of the VIRTU channel and more traditional modes of operation. According to many of the interviewees, the key question is how the use of the VIRTU channel affects, for example, the house calls made by home care. Several of the interviewees assumed that the VIRTU channel will impact the existing modes of operation, but the magnitude of the impact and partly the direction are still unclear. They wanted information about the effectiveness of the VIRTU channel, although most people also identified problems related to this, like that the assessment of benefits requires development of new kinds of meters, most often such that exceed the boundaries of administrative sectors. What makes the assessment of benefits even more difficult is that the results obtained from the services also depend on the behaviour of the elderly.

The requirements that the different interest groups set for teamwork further complicate the assessment of the benefits provided by the VIRTU channel. Most interviewees suspected that the potential related to the VIRTU channel will largely be unrealised, if the teamwork between different interest groups is lacking. Most interviewees indeed had personal or second-hand information of how the failing of one part of the 'system' defeated even the good attempts of others. In this part, problems in data communication connections were most often referred to in the interviews.

The main sources of *ambiguity* were the attitudes of the personnel, and the integration of the VIRTU channel as part of the services for the elderly. Many interviewees believed that part of the personnel had strong preconceptions about the VIRTU channel, which affect their readiness to try new things. According to one interviewee, the employees may shun the used of the VIRTU channel, because it provides the elderly with new contact methods in a way that is considered to take time away from basic care. A couple of the interviewees stated that the personnel may be inclined to think that physical house calls provide higher quality than technology assisted care.

Based on the interviews it also looks like the integration of the VIRTU channel as part of existing services causes ambiguity. Some of the interviewees emphasised the "entertainment use" of the VIRTU channel, whereas others felt that part of traditional house calls should be replaced with the help of the VIRTU channel.

Equivocality indicates a situation where one and the same thing is interpreted in different ways. There is also equivocality in connection with the VIRTU channel. The VIRTU channel means different things to different people. For part of the interviewees, the VIRTU channel appears as a service that supplements traditional services, and the VIRTU channel is thus seen as a nice-to-have extra service that is offered if there is time left from other work.

Another part of the interviewees see the VIRTU channel as an example of the emergence of wellbeing services that heavily use technology. Those who represent this viewpoint believe that technology-assisted services play an important role in beating the double challenge arising from the ageing of the population (increase of demand & labour shortage). A few of the interviewees also associated the VIRTU channel with the qualitative change in customer needs.

DEVELOPMENT RECOMMENDATIONS TO 'SOLVE' THE EPISTEMIC CHALLENGES RELATED TO ADOPTING SYSTEMIC INNOVATION

Based on the interviews carried out, it can be said that there are counterparts in empiricism for epistemic problems identified in the literature (Zack, 2001; Brun et al., 2009; Brun, 2011; Jalonen 2012 and 2013) when the target is the adoption of systemic innovation. The structuring of the adoption of the

VIRTU channel into a knowledge intensive process and limiting the attention to examining the epistemic challenges related to the adoption process at the same time implicitly means an assumption according to which the adoption process can be influenced, as long as the correct "solutions" are found. The following presents some development recommendations to "solve" the epistemic challenges related to adopting systemic innovation which came up in the interviews.

Reduction of uncertainty

According to the definition, uncertainty results from lack of information. Since systemic innovation means renewals in structures, modes of operation, service processes and supporting technologies, it is presumable that the lack of information can also result from numerous things. The lack of information may as well be directed at and organisation's internal or external operational environment.

Even though the lack of information is an organisational challenge and likely to also slow down the adoption of innovations, it is noteworthy that this is a situation where the actors have a somewhat common understanding of the existence of lacking information and also a common understanding in principle of the reasons behind this. For example, the interviewed Naantali people had a fairly common understanding that they lacked information about the needs and wishes of the the elderly regarding the VIRTU channel. The background assumption of uncertainty is that factors affecting matters can be identified, and then the task remaining for those involved is to explicitly formulate the problem and locate the information needed to solve it. An epistemic problem manifesting itself as uncertainty can be perceived, adopting Mason & Mitroff (1981), as a fairly tame problem, because the lack of information can be removed, or at least the trouble it causes can be reduced by investing in the information management practices of an organisation. The management of uncertainty manifesting itself as lack of information requires efficient information acquisition, organisation and transfer practices (Alave & Leidner, 2001). An organisation can boost its information acquisition practices by ensuring functioning (communication) connections both inside the organisation and between the organisation and the operating environment (e.g. Zack, 2001). It is particularly important to take care of the weak links between units and groups operating in different social environments, because

they function as connecting channels of distributed information and enable a versatile information basis (Hansen, 1999, originally Granovetter, 1973). In addition to information acquisition, it is important to take care of information organisation and transfer. Regarding information organisation, a central challenge is how the organisation can store the information accumulated from its earlier experiences so that it can be applied in new situations. Uncertainty does not always literally mean lack of information, but the problem may also be that it is difficult to find information, which again may lead to 'reinventing the wheel'. To avoid this, information organisation should be seen as building and organisational memory (Walsh & Ungdson, 1991). This would prevent waisting the information acquisition capacity of the organisation to search for already found information. Transferring information means disseminating information from one individual or group to another (Albino et al., 1999). From the viewpoint of information transfer, uncertainty manifesting itself as a lack of information is all about disseminating explicit information. Explicit information means information that can be transferred from one actor to another using some formal method of presentation. Reduction of uncertainty by focusing on the practices of disseminating explicit information means in practice investing in information and knowledge systems. This may mean using different social technologist in addition to email, intranet and traditional teamwork software.

Whether the uncertainty related to adopting systemic innovation is due to lack of information or difficulty to locate it, this article suggests that the solution should be sought from comprehensive development of the organisation's information management. One potential aspect considered is systematic analysis of the organisation's internal and external knowledge flows. Knowledge flow is a generic name for a process, were information arising from different events is conveyed from a sender to a recipient (Laihonen, 2009). Analysis of knowledge flows can help identify bottlenecks of information flow in the interaction inside an organisation and between an organisation and its environment. Since knowledge flows are an enabling factor for both organisation of information and applying it (Laihonen, 2009), this article considers that promoting knowledge flow is the best way to also reduce uncertainty experienced in connection with adopting systemic innovation.

Simplification of complexity

Uncertainty manifesting itself as lack of information can be reduced by building connections that promote knowledge transfer between the actors. Paradoxically, building such connections increases the probability of another problem emerging, however, because the connections between the actors are likely to increase complexity. Complexity arises from a lack of information due to more frequent operational connections. The relationships between actors involved with systemic innovation form upper level behaviour, which cannot be returned without residue to the actions of individual actors. This is also seen in the interview responses of the Naantali people, where they complained about the functioning of teamwork. Unlike uncertainty, complexity cannot be reduced by increasing information, because complexity is a result of the difficulty of predicting events and phenomena. Complexity can be considered an information problem typical for systemic innovation, in particular. Metaphorically expressed, it is about separating the forest (entity) from the trees, and also understanding the significance of the trees (parts) (cf. Sotarauta, 1996).

In literature, numerous restrictions have been identified in the knowledge behaviour of individuals and organisations, the common nominator of which is concern about how individuals and organisations can extricate themselves from accustomed ways of thinking and identify new opportunities ahead. It is typical that the thinking of individuals and organisation is limited to existing and familiar things. This can be explained, for example, with the concept of cognitive dissonance. It means the uncertainty an individual experiences in situations where they meet information that is contradictory to their own cognition (Wilson 1997). The dissonance between an individual's mind and new information may lead to selective information behaviour, where the information acquisition of an individual is limited to looking for information that supports the person's preconceptions (Jalonen 2010). For example, Rogers (2003) has spoken about selective knowledge behaviour (selective exposure, selective perception) in connection with adopting innovations, by which he means activity in which people direct their attention to things that are in line with the conceptions and beliefs they have adopted earlier. Instead of information acquisition, the result is subconscious or conscious avoidance of information.

Although inconvenient, the complexity arising from the increase of operational connections is not absolute or unlimited. Based on the thoughts of Newell et al. (1962), Zack (2001) suggests that the complexity arising from connections is a

function of the ability of an organisation and its people to process information and the available information. In other words, the thinner the basic information and ability to process information, the bigger the complexity is perceived. In the spirit of an information based organisation conception, it can be assumed that versatile information resources increase the probability of an organisation's success, because they enable operation in complex situations (Grant, 1991). It seems to be particularly important then that the organisation consists of people who have different information. This creates diversity, which promotes examining things from several different angles, which on one hand enables identifying the interdependencies of things and on another hand enables a breakdown of complicated entities into better manageable thematic entities.

From the viewpoint of adopting systemic innovation, avoiding selective information behaviour is particularly important, because otherwise there is a danger that the potential related to innovation is not fully understood. There are many different ways to strive for increasing the diversity of information resources. In this article, increasing the absorptive capacity of an organisation is seen as one of the most promising methods. Besides an organisation's capacity to acquire information, absorptive capacity means above all the ability to adopt and apply the acquired information (Cohen & Levingthal, 1990). The absorptive capacity of an organisation is much determined by the knowledge and competence the organisation has. This is a complex process, where the diversity of the information base feeds the internalisation of new information. Therefore it is worthwhile for the organisation to invest in actions which increase its information capital, because it may result into multiplication of positive development, where the increase in information base increases absorptive capacity, which again promotes acquisition and adoption of new information and converting it as part of the organisation's information capital. Cohen & Levinthal (1990) connect absorptive capacity to the internal and external interfaces of an organisation, which have a pivotal impact on how organisations use and create information. People at the interfaces are at the same time 'gate keepers' and 'bridge builders' (Tushman 1977), and it depends a lot from their activity how versatile the infomation resources of an organisation become. In so called 'boundary spanning' activity (Aldrich & Herker, 1977) consisting of different operations, tasks, processes and roles, the primary goal is not to increase information but adoption of information and promoting its use.

In light of the above, this article estimates that the complexity of systemic innovation cannot be responded to by increasing the information available to adopters per se, but by strengthening the absorptive capacity of the organisation, which then increases the diversity of the information resource. Together absorptive capacity and diversity of information resources promote both the perception of complex thematic entities and breaking them down for easier analysis.

Dissipation of ambiguity

Systemic innovation challenges existing services, processes and modes of operation, which creates ambiguity that manifests itself in difficulties to interpret phenomena and events. Multidimensional information problems are connected to the adoption of systemic innovation, and the solving of the problems cannot be advanced by simply increasing information. For example, the Naantali people interviewed for this article had experienced ambiguity related to, among other things, how the VIRTU channel can be integrated as part of the existing service production. The technical characteristics of the VIRTU channel were not so much seen as problems, but the issue was uncertainty directed at the attitudes of the personnel and clients. Management of ambiguity is made challenging by the fact that one cannot resort to a simple exchange of question-answer type of information (cf. Daft and Lengel, 1986), because people and organisations are lacking a functioning framework to identify and understand the phenomena (Brun et al., 2009). Therefore, it is essential that an attempt is made to meet ambiguity by creating common meanings and interpretation. This is because only information identified as meaningful can lead to action (cf. Wheatley, 1999). According to Chon (1998), ambiguity creates some kind of 'opacity', which cannot be removed by increasing information, but by solving the issues related to the difficulty of perceiving meanings or ambiguity (Anttiroiko, 2000).

Assuming that how any given problems are defined inevitably affects the attempts to solve them, we can think like Rogers (2003) that it also means that mistakes that took place in problem analysis tend to accumulate in the proposed solutions. To avoid this, the article regards it as of utmost importance that attention is paid to understanding emerging information problems in connection with adopting systemic innovation. One potential way to improve the understanding of problems manifesting themselves as ambiguity is to make sense to the phenomena and events related to a problem.

Sensemaking means a process where the unknown is structured and individual information stimuli are placed into a wider interpretative knowledge framework. Sensemaking is about processes of detecting, understanding, explaining and predicting phenomena (Weick, 2000). Due to the ambiguity of phenomena sensemaking can never – understood literally – be perfect. However, the credibility and usability of sensemaking can be increased by supporting social interaction of individuals (Weick, 1995). At its best, sensemaking can lead to social constructions guiding the operation of an organisation, which make individuals focus their thinking on topics important and meaningful for the organisation.

Since systemic innovation requires co-operation of many actors, it is natural to think that sensemaking that facilitates their adoption should be iteratively and cyclically progressing process of explanation, interpretation and social strengthening by nature. In addition to existing understanding, sensemaking can be seen as creating what exists, where action plays a role, in addition to awareness. When applied for the adoption of systemic innovation, sensemaking can be seen as an activity where people not only state or notice epistemic challenges related to innovation but also strive for creating feasible solutions for them. Since not one actor alone has the capacity to solve epistemic problems manifesting themselves as ambiguity, this article suggests that the organisation's ability to promote the interaction between actors is made essential in sensemaking. A foundation for mutual understanding, which is a prerequisite for operation, can only emerge in interaction. This requires attention from the organisation to circumstances which promote interaction. As to the circumstances, the article suggests that sensemaking and management of ambiguity can be most efficiently advanced by investing in measures that increase trust between the actors. This is because trust acts as some kind of social 'cement' and carries in situations were interacting actors cannot be sure of each other's intentions. Trust makes the interaction of the actors easier, because it improves the actors' ability to predict each other's behaviour (Venkula 2005). What makes the above difficult is that based on studies, trust is not only a precondition for interaction, but a phenomenon emerging from interaction (Creed & Miles 1996; Tuomela, 2006). Supported by numerous studies, the article supposes that essential for the emergence of trust, which facilitates interaction, is that different interpretations are worked on openly. In the best case scenario the result is that different views can be questioned and compared and that the actors are ready to give up the frame of reference which guides their thinking, when necessary.

Encountering equivocality

When uncertainty manifesting itself as a lack of information deals with tame information problems, equivocality deals with wicked information problems. They are wicked, because they are accompanied by contradictory interpretations, several different, hard to combine solution proposals, and connections to larger entities (Raisio, 2010). Wicked problems often come with political and ethic-moral tension. In this article the criterion of a wicked information problem is met, for example, with different interpretations of what the role of a VIRTU channel type of service formats is in solving the productivity challenges of wellbeing services. It is clear that mere offering of information does not advance the adoption of innovation, if different beliefs and contradictory interpretations slow down the adoption (Rogers, 2003).

Instead of solving wicked problems manifesting themselves as equivocality it is easier talk about how to encounter them. In encountering equivocal information problems it is essential to accept the fact that one and the same reality can be interpreted in different ways and from different starting points. Basically, parallel interpretations of reality can be considered as necessary (cf. Bäcklund, 2007). The best case scenario is that the acceptance of the existence of contradictory interpretations creates polyphony in the organisation (Haxen, 1993, Clegg et al., 2006). For innovation, polyphony is necessary, because it acts as counterforce for a strong corporate culture, which many studies have found to be a factor which restricts innovation activity (e.g. Shane, 1995). In polyphony the 'quiet' actors of an organisation also get a voice; they may have information that is needed when a wicked problem is encountered, but they cannot or do not want to make their thoughts known to others. Regarding equivocality unavoidably linked to systemic innovation, the power of polyphony is that it accepts the hidden ability of actors with different motives and values to interpret things interactively in a way that individual actors would not be able to do.

Encountering wicked problems related to adopting systemic innovation by increasing the polyphony of an organisation is in line with the the principle formulated by Ashby (1952) of sufficient diversity. According to the principle, the diversity of an organisation must correspond to the diversity of the tasks at hand. The more 'eyes' and 'mouths' there are, the better the organisation can perceive the different aspects of wicked problems. However, polyphony does not come about on its own, but requires conscious actions

from an organisation. This article considers that delivering on the promise related to polyphony requires, in addition to trust, responsiveness in the interaction of different actors. By responsiveness we mean interaction where actors accept and understand that there is not always only one truth and one correct solution. To avoid cognitive dissonance, diversity of subjective interpretation is appreciated in responsive interaction. In case of wicked problems, instead of one truth the actors are also prepared to question the values and attitudes steering their own thinking, not only that of the others'. Thus, the formal position of the actors is not critical in encountering equivocality, but how they participate in interaction processes that create information and interpretations. The above also means that power is not considered as something that comes from the position in the organisation but as an ability to achieve things. At least Michel Foucalt and Hannah Arentdt have addressed the dimension that enables power. According to them, power can be perceived as a resource like information that does not diminish when it is shared (Kuusela, 2010). Instead of restricting the freedom of actors, empowerment may create information behaviour where the prerequisites of encountering wicked problems improve. In the best case scenario this may mean that the equivocality linked to systemic innovation is seen not only as natural but also as a useful phenomenon, which opens new viewpoints that have been beyond the reach of individual actors. The article believes that the responsiveness of interaction and empowerment can act as social mechanisms which not only support encountering equivocality, but lead to an atmosphere where equivocality is also appreciated.

SUMMARY AND CONCLUSIONS

Information promotes the coping of individuals and organisations with tasks ahead. Therefore, it is natural to think that adopting innovation can also be supported by investing in the practices of managing by information. The article examined epistemic problems related to adopting systemic innovations and potential solutions to them. As a conclusion it is suggested that different by nature problems should not be solved using the same methods, and similarly, different methods should not be resorted to when solving similar problems. It is essential to understand that different epistemic problems require different ways to solve them.

The four epistemic problems (uncertainty, complexity, ambiguity and equivocality) identified based on literature and the interviews also have some common characteristics. In cases of uncertainty and complexity, we are talking about convergent epistemic problems that can be solved, whereas ambiguity and equivocality are by nature divergent problems, which do not have one solution that can be accepted by all parties. Convergence refers to phenomena becoming alike, but divergence means that phenomena disperse. Uncertainty boils down to lack of information, and complexity to an epistemic problem arising from abundance of information. In reduction of uncertainty and simplification of complexity it is essential that the problems are thoroughly and carefully *analysed*, because it enables the convergence of the solution options to one solution that all parties can accept (cf. Cameron, 1986). In the dissipation of ambiguity and encountering of equivocality, it is important to accept that even a thorough analysis of the problems will not reduce the solution options, but instead will introduce numerous new and often competing ones (cf. Cameron, 1986). Instead of a lack or abundance of information, ambiguity and equivocality arise from incomplete or different information bases. Instead of analysis, encountering equivocality and ambiguity requires development of *interpretation processes*.

In addition to 'analyse' and 'interpret' recommendations derived from convergence-divergence dichotomy, the four epistemic problems can be approached like Zack (2001) by dividing their solution or encountering attempts into restrictive and acquisitive information behaviour. In uncertainty and ambiguity the solution is acquisition of the lacking information or knowledge. For uncertainty this means acquiring the information about the phenomenon, whereas for ambiguity construction of the epistemic interpretative framework concerning the situation or phenomenon is essential. In complexity and equivocality a better functioning approach is restrictive information behaviour. For complexity, restrictive information behaviour means breaking down the situation or phenomenon into meaningful parts and carefully analysing the information related to the parts. Correspondingly, in case of equivocality, restrictive information behaviour refers to consolidation of different information bases and interpretative frameworks. The above is summarised in Figure 1.

Uncertainty Regarding systemic innovation, may mean, for example, that actors deciding about the deployment of innovation do not have enough information about the needs of the alleged target group. A possible solution is comprehensive development of the organisation's information management and systematic management of information flows.	**Ambiguity** Difficulty to interpret concerning situations/phenomena. Regarding the adoption of systemic innovation, it may mean that the alleged users of innovation do not perceive the relation of the innovation to the renewal need of a larger socio-technical system. As a possible solution, construction of meaning for individual fragments of information and promotion of dialogue style interaction based on trust.	DEFICIENCY OBTAIN
Complexity Abundance of information due to the interconnection of situations/phenomena. Regarding the adoption of systemic innovation, it may mean that interdependencies make the assessment of the pros and cons of innovation difficult. Ensuring the diversity of an organisation's information resources by increasing absorption capability is a possible solution.	**Equivocality** Multitude of interpretations regarding situations/phenomena. Regarding the adoption of systemic innovation, it may mean that the adopters see different motives and hidden agendas behind innovation. A possible solution is ensuring the responsivity of interaction, which creates polyphony and enables cooperation between different actors.	MULTITUDE LIMIT

ANALYSE   INTERPET

FIGURE 1. *Manifestation of uncertainty, complexity, equivocality and ambiguity, and possible solutions for them.*

The observations of this article are in line with the observations of Rogers (2003) and many other researchers: innovations do not diffuse and they are not adopted automatically. Adoption of information is greatly affected by what kind of information and knowledge the adopters have available at a given time.

REFERENCES

Alavi, M. & Leidner, D. (2001) "Knowledge Management and Knowledge Management System: Conceptual Foundations and Research Issues", *MIS Quarterly*, 25(1), 107–136.

Albino, V., Claudio, G. A. & Schiuma, G. (1999) "Knowledge transfer and inter-firm relationships in industrial districts: the role of leader firm", *Technovation*, 19, 53–63.

Aldrich, H. & Herker, D. (1977) "Boundary Spanning Roles and Organization Structure", *Academy of Management Review*, 2(2), 217–230.

Anttiroiko, A-V. (2000) "Strateginen tietojohtaminen kunnallishallinnossa", *Hallinnon Tutkimus*, 19(1), 19–32.

Ashby, W. R. (1956) *An Introduction to Cybernetics*, Chapman & Hall, London.

Brun, E. (2011) "Ambiguity – A Useful Component of 'Fuzziness' in New Product Development", Proceedings of the 6th European Conference on Innovation and Entrepreneurship, Robert Gordon University, Aberdeen, Scotland, UK, 15–16 September 2011.

Brun, E., Saetre, A. S. & Gjelsvik, M. (2009) "Classification of ambiguity in new product development projects", *European Journal of Innovation Management*, 12(1), 62–85.

Bäcklund, P. (2007) *Tietämisen politiikka. Kokemuksellinen tieto kunnan hallinnassa*, Academic dissertation, Helsingin kaupungin tietokeskus, Helsinki.

Choo, C. W. (1998) *The knowing organization. How organizations use information to construct meaning, create knowledge and make decisions*, Oxford University Press, Oxford.

Cohen, W. M. & Levinthal, D. A. (1990) "Absorptive capacity: A New Perspective on Learning and Innovation", *Administrative Science Quarterly*, 35, 128–152.

Creed, D. W. E. & Miles, R. E. (1996) "Trust in Organizations. A Conceptual Framework Linking Organizational Forms, Managerial Philosophies, and the Opportunity Costs of Control", in Kramer, R. M. & Tyler, T. R. (eds) Trust in Organizations: Frontiers of Theory and Research, 16–38. Sage Publications, Thousand Oaks.

Daft, R. L. & Lengel, R. H. (1986) "Organizational information requirements, media richness and structural design", *Management Science*, 32(5), 554–571.

Ellsberg, D. (1961) "Risk, ambiguity and the Savage axioms", *Quarterly Journal of Economics,* 75, 643–669.

Eskola, J., & Suoranta, J. (1998) *Johdatus laadulliseen tutkimukseen*, Vastapaino, Tampere.

Galbraith, J. (1977) *Organization Design,* Addison Wesley, Reading, MA.

Geels, F.W. (2004) "Understanding system innovations: A critical literature review and a conceptual synthesis", in Elzen, B., Geels, F. & Green, K. (eds) *System Innovation and the Transition to Sustainability: Theory, Evidence and Policy,*. 19–47. Edward Elgar, Cheltenham.

Gershenson, C. (2011) *Complexity*. Draft entry for the Ensyclopedia of Philosophy and Social Sciences (Sage). http://arxiv.org/abs/1109.0214.

Granovetter, M. (1973) "The Strength of Weak Ties", *American Journal of Sociology*, 78(6), 1360–1380.

Grant, R. M. (1991)"The Resource-based Theory of Competitive Advantage: Implications for Strategy Formulation", *California Management Review*, 114–135.

Hansen, M. T. (1999) "The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits." *Administrative Science Quarterly*, 44(1), 82–102.

Hazen, M. A. (1993) "Towards Polyphonic Organization", *Journal of Organizational Change*, 6(5), 15–26.

Jalonen, H. (2012) "Clarifying 'fuzziness' in systemic welfare service innovation", a paper presented in the 5th International Conference on Entrepreneurship, Innovation and Regional Development, 28–39 May 2012, Sofia, Bulgaria.

Jalonen, H. (2013) "The knowledge–innovation nexus in the welfare service ecosystem", to be published in International Journal of Knowledge-Based Development.

Kokkinen, L., Kivisaari, S., Saari, E. & Lehto, J. (2011) "Top-Down ja Bottom-Up: Huomioita systeemisten innovaatioiden johtamisesta julkisessa terveydenhuollossa", *Kunnallistieteellinen aikakauskirja*, 4/2011.

Kuusela, S. (2010) *Valta ja vuorovaikutus johtamisessa*, Academic dissertation, Acta Universitatis Tamperensis 1573, Tampereen yliopisto, Tampere.

Laihonen, H. (2009) *Terveysjärjestelmän johtamisen tietovirrat,* Academic dissertation, Publication 824, Tampereen teknillinen yliopisto, Tampere.

Lehto, P. (2008) *KOTIIN-hanke – Asiakasvetoiset interaktiiviset ratkaisut ikääntyvän kotona selviytymisen tukena*, InnoELLI Senior –ohjelma 2006—2008 Redfina Oy, Espoo.

Lämsä, A-M. & Takala, T. (2004) *Tulkitseva käsitetutkimus*. www.metodix.com.

Mason, R. O. & Mitroff, I. I. (1981) *Challenging Strategic Planning Assumptions. Theory, Cases and Techniques,* John Wiley & Sons.

Newell, A., Shaw, J. C.& Simon, H. A. (1962) "The Processes of Creative Thinking" in H. E. Gruber, G. Terrell, and Werthemer (eds), *Contemporary Approaches to Creative Thinking*, Atherton Press, New York.

Nonaka, I. (1994) "A dynamic theory of organizational knowledge creation", *Organization Science*, 5(1), 14–37.

Raisio, H. (2010) *Embracing the Wickedness of Health Care – Essays on Reforms, Wicked Problems and Public Deliberation,* Academic Dissertation, Acta Wasaensia No 228, Social and Health Management 5, Universitatis Wasaensis, Vaasa.

Rogers, E. M. (2003) *Diffusion of innovations* (5th ed.), Free Press, New York.

Schumacher, E. F. A. (1977) *A Guide for the Perplexed*, Harper & Row, New York.

Shane, S. (1995) "Uncertainty avoidance and the preference for innovation championing roles", *Journal of International Business Studies*, 26(1), 47–68.

Simon, H. A. (1962) "The Architecture of Complexity", *Proceedings of the American Philosophical Society*, 106(6), 467–482.

Sotarauta, M. (1996) *Kohti epäselvyyden hallintaa – Pehmeä strategia 2000-luvun alun suunnittelun lähtökohtana*, Adacemic dissertation, Acta Futura Fennica No 6. Tulevaisuuden tutkimuksen seura, Gummerus Kirjapaino Oy, Jyväskylä.

Tuomela, M. (2006) *Trust and Collectives,* Doctoral Dissertation, University of Helsinki, Department of Social Psychology, Research Reports, 1/2006.

Tushman, M. L. (1977) "Special boundary roles in the innovation process", *Administrative Science Quarterly*, 22, 587–605.

Valovirta, V. & Hyvönen, J. (2009) *Julkisen sektorin innovaatiot ja innovaatiotoiminta*. Sektoritutkimuksen neuvottelukunta.

Venkula, J. (2005) *Epävarmuudesta ja varmuudesta. Johdantoa epävarmuuden kohtaamiseen*, Kirjapaja, Helsinki.

Walsh, J. & Ungdon, G. (1991) "Organization memory", *Academy of Management Review*, 16(1), 57–91.

Weick, K.E. (1995) *Sensemaking in organizations*, Thousand Oaks, Sage, CA.

Weick, K.E. (2001) *Making Sense of the Organization,* Blackwell Publishers, Oxford.

Wheatley, M. (1999) *Leadership and the New Science: Discovering Order in a Chaotic World,* Berrett-Koehler Publishers Inc., San Francisco.

Wilson, T. D. (1997) "Information behaviour: an interdisciplinary perspective" *Information Processing and Management,* 33, 551–572.

Zack, M.H. (2001) "If managing knowledge is the solution, then what's the problem?", in Malhotra, Y. (Ed.), *Knowledge Management and Business Model Innovation*, 16–36, Idea Group Publishing, London.

Yin, R. K. *(2003) Case Study Research: Design and Methods,* Sage Publications, Thousand Oaks.

NEW TOOLS TO SOCIAL CARE IN ESTONIA

Inge Lunkova & Helis Roosimaa

ABSTRACT

Current article introduces the VIRTU channel as a new social welfare tool for the elderly and persons with mobility disability. The first part of the article provides a review of identifying potential users to Kuressaare Hoolekanne SA. The user profile, used at the initial stage of the project, and activities for user identification in the spring of 2011 is described as well as the adjustment of the user profile. The implementation of the VIRTU channel group activities (programmes) for users all over Estonia is described. The article provides a review of the development, frequency, topics etc. of the broadcasted activities throughout the project lifetime. In addition to group activities, the VIRTU channel of the Kuressaare Day Centre has been used for the provision of supported living service and a number of clients use the channel to communicate with their caregivers. These two examples prove the versatility of possibilities to utilise VIRTU.

The second part of the article focuses on analysing the feedback from various surveys conducted during the project (hosts of broadcasted activities, users, social workers, local government leaders/politicians). The surveys provided information on the following issues: how long it takes to prepare a broadcasted activity and what the costs are, what kind of activities prevail, what kind of activities/programmes/services are the most popular ones among the elderly and what they offer to the elderly, the opinions of the hosts of broadcasted activities in the success of activities, how social workers have adapted to the technical device as well as what local government leaders think about proceeding with the service after the project lifetime. The article gives an assessment of the further perspective of using the channel and extending customer groups.

Key words: social care, user feedback

FROM USER IDENTIFICATION TO INSTALLATION OF TECHNICAL DEVICES

It has been a true challenge to the employees of SA Kuressaare Hoolekanne to identify users for the VIRTU project. The initial selection criterion identified persons with mobility disability not able to leave their homes as suitable to be involved in the project. These persons were found with the help of Kuressaare City Government. The first potential users were introduced to the services by the employees who themselves lacked precise knowledge of the future service. They could only use one video clip by HyvinvointiTV that had been broadcasted in a news programme in Finland. At the beginning, the elderly who had not been the clients of the Day Centre were visited. It was understood that this strategy did not work as these people did not know the employee of the Day Centre and took her for an annoying salesperson trying to take an advantage of the old age people. The elderly were explained of the VIRTU programme and the benefits it would provide, but it sounded unbelievable to old age people. Thus, another solution had to be found.

As a positive image of any event or activity spreads with the help of bright personalities, a conclusion was drawn that a suitable user should certainly be active and cheerful. It was decided to select users among those using open care services. We had an impression that the first users agreed to join the VIRTU programme out of pity to the Day Centre employee. Still, as a positive result, it was pointed out what an enthusiastic and passionate attitude the employee had to her job. Further attracting of users was highly facilitated by the news clips on VIRTU programme on the Estonian national TV channel, in the main news programme and a special programme for the elderly, Prillitoos (Glasses Case). After identifying the users, a waiting period for the technical device installation started. Some of the potential users never had the chance to await the service. A months-long waiting period did major damage to joining the VIRTU programme. Many people lost their faith and they just gave up and often even when the time to install the technical device had finally been reached.

THE SERVICE

The elderly, who had joined the programme and had started using the technical device, were soon convinced that they did not have to be disappointed: the VIRTU programme truly is an efficient tool for communication and means of entertainment, although only some group activities a week were available at the starting period. Like the social workers, so were the two friends, Elfriide and Vilma, very glad to be able to communicate face to face after a long time. Prior to the VIRTU programme they had been talking over the phone but they had not met each other for years. As the users were identified among those using open care services, the caregivers naturally started communicating with them via the VIRTU channel. Those users of the Day Centre to whom groceries are taken home can in the morning place their orders and communicate with the caregiver face to face. Thus an elderly person living alone has someone to say "Good morning!" to. The VIRTU channel gives a much used possibility for a visual contact and such communication gives the feeling of security to the users.

The Day Centre has clients for home services who are visited at home only once or twice a week. During the rest of the week they have a connection via the VIRTU channel and the caregiver has constant information on the client's condition and that is also satisfying for the social worker to know that the client is doing good. Although this kind of communication is similar to a phone communication, it still enables a closer and more direct contact and following the client's condition by observation.

PICTURE 1. *Social worker Inge Lunkova meeting a VIRTU user in the channel. (Photo: VIRTU project)*

In the Supported Home of the SA Kuressaare Hoolekanne, there lives a user using a supported living service. He can cope with his daily activities quite well but to avoid the deterioration of his health, it is essential for him to take his pills at regular hours. The VIRTU channel is of good assistance to follow his intake of pills. Earlier, it was always the caregiver who called him to remind of the time to take his pills. These days, the user often calls the caregiver to tell that he is going to take his pills. It proves that he has developed a habit as well as the skill of following time that he could not do earlier.

It gave special pleasure to install the VIRTU technical device to a user of Russian nationality whose daughter lives in Russia and can visit her mother only once a year. Currently, they have a possibility to communicate on daily basis as the daughter uses special VIRTU software for a regular PC.

While in 2011 three activities a week were broadcasted, today there are 4–5 activities a week. The activities were started with gymnastics that is highly appreciated by the elderly and quiz shows that have become the most popular of all activities. The number of participants has increased so much that there was a need to form two groups. In addition to those, books are read and discussions on acute issues take place. A discussion issue may be a topic currently discussed in the society or any other issue of general interest. Also guests are invited to the programmes. There have been ministers, representatives of the Rescue Service, ambulance, local governments and a transport organiser attending the activities. Medical specialists from Kuressaare Hospital attend the activities regularly twice a month and they are always expected very much.

The VIRTU technical device has been installed in the care homes of Kuressaare Hospital and Pärsama. Usually, that kind of institutions have activity instructors who are involved with their clients on daily basis. The VIRTU programme provides an additional opportunity in connection with the work of activity instructors. At the same time, it is known that due to the scarcity of resources, not every care home in Estonia can afford activity instructors. This is where the advantages of the VIRTU channel could be used to create a possibility for the communication with people outside an institution and make a daily life of clients more varied. To the elderly living at their homes, the VIRTU channel would serve as an "activity instructor" in turn.

In spring 2012, the social work students from Kuressaare Regional Training Centre under instruction of their teacher Kai Rannastu hosted discussion programmes, organised collective singing and taught armchair dance. For the

students, VIRTU served as a part of their practical studies on how to provide interactive distance guidance, how to assess a user's mood and condition through computer etc.

The objective of open care is to assist the elderly as well as handicapped people, to support their ability to stay at their homes as long as possible and to postpone the need for them to move to hospital or care home. An innovative system, like VIRTU, would serve one of the best facilitators in open care.

ANALYSIS OF THE FEEDBACK SURVEYS

In the course of the project, several surveys were conducted in Saaremaa and Hiiumaa. The feedback has been essential for learning about the necessity of applying the VIRTU channel for distance service to the elderly as well as about the convenience of using the device. The surveys involved social workers, the elderly people, the production team of the broadcasted activities as well as leaders and politicians from local governments. The number of respondents to different questionnaires varied. For feedback, interviews were conducted and the questionnaires were available for filling in in the Internet. Feedback could be provided during March to September 2012.

The questionnaires covered:

- activities evaluation
- feedback on the activities from users
- feedback from the hosts of activities
- feedback on the VIRTU channel from social workers
- feedback from leaders/politicians of local governments.

ACTIVITIES EVALUATION QUESTIONNAIRE

The questionnaire was aimed at the production team of the broadcasted activities and the team exploring how long it took to prepare one activity and what the estimated cost of a broadcasted activity was. Also explored was which topics and issues were mostly covered.

In total, 22 filled-in questionnaires were received. As a result, it was identified that most of all activities covering health issues were broadcasted – 36%. 27% of the activities were dedicated on current acute issues. The activities covering culture issues and quizzes rated at 18% and 14% respectively, and the least activities, 5%, covered religious issues. Although the aim of the broadcasted activities is to broaden the mind of the elderly and support their independent living, also entertainment activities and sports activities, allowing the elderly to actively participate in gymnastics, are not missing.

Out of all broadcasted activities 77% were repeated broadcasts and 23% were first broadcasts. An average activity lasted for 42 minutes and had 7 guests participating. Activities were prepared by teams and the same team that had developed the activity was ready to broadcast and host it. The preparation time for an activity was 2 hours in average. It was very difficult to evaluate preparation costs but as a result of the survey, the estimated average cost was at 35€ per activity.

FEEDBACK ON THE ACTIVITY FROM USERS

The questionnaire was aimed at the elderly using the VIRTU technical device. Feedback was gained via interviews by a social worker or some other person related to the VIRTU project. The elderly people could report back on various activities. In total, there are 33 people in Saaremaa and Hiiumaa who can use the technical device on daily basis. 35 reports were received on different activities.

We were exploring how comfortable and secure old age people felt using the VIRTU device and whether the device encouraged them to be active and communicate with other people. Responses proved the elderly feeling comfortable and secure with the device. The technical device was not intimidating. Every broadcasted activity had brought joy and given enthusiasm and provided the sense of belonging. We also explored if the broadcasted activities had had an educational impact. Most of the respondents found the activities not exactly educating but enlightening and entertaining. The gymnastics activities turned out to be the most popular ones. The respondents thought that the correct way of working their muscles out was highly important and doing it under guidance was easier than doing it alone.

The respondents highly appreciated also the discussion activities. In the course of those discussions the topics interesting and important to the elderly were identified. It was essential for them to talk about the issues discussed in the media but in which they had no chance to convey their opinions. Thanks to the VIRTU channel activities they had a chance to share their understanding in these issues and to raise new viewpoints in a joint discussion. Discussion activities allow sharing knowledge and learning the experience of other people.

It turned out from the feedback that communication via the VIRTU channel was of high importance. The people met with the help of the broadcasted activities were kept further contacts with, thus providing support to each other and eliminating loneliness. The VIRTU channel and activities assist in coping with daily life and participating in different activities helps to keep spirits up, build confidence and keep thinking brisk. Various physical exercises accompany people also outside the time of broadcasted activities and keep people physically healthy.

FEEDBACK FROM THE HOSTS OF THE ACTIVITIES

There have been several organisers and hosts in the course of the VIRTU project. The broadcasted activities have been prepared by single persons and teams from different organisations. Also, the elderly themselves have had a possibility to address some issues they have been interested in sharing with others. Contribution to the activities has been made by the students of social work from the Kuressaare Regional Training Centre, EELC Kuressaare congregation, journalists from the Postimees newspaper, Kuressaare Hospital, Saaremaa Development Centre Foundation, Kaarma Municipality Government, National Health Board, Tuuru Foundation etc.

From the hosts we asked about the activity they hosted. In total, 25 responses were received on various activities. The respondents could evaluate the broadcasted activities in a 5-point range (5 – very good, 1 – poor). In total, 64% of the activities were rated as very good, 32% as good and 4% as satisfactory. Also the opinion of the hosts in their idea of a success of an activity as well as of the shortcomings of the VIRTU channel was asked. One thing pointed out was that if the activity was attended by numerous people, it could be regarded a success. The number of attendants has been essential to hosts. Numerous attendants prove that the elderly are not intimidated by

modern technical devices and they are not afraid to use them. Numerous and frequent attendance as well as the courage to actively intervene in discussions gave the hosts a signal that they were on the right track and the issues were essential to the elderly. The elderly, in turn, felt being needed and that in turn contributed to their good mood.

Nearly all hosts pointed out that during broadcasting, a disturbing echo of a person's own voice came up and that made it difficult to understand what was said or asked. To avoid the problem, all microphones but the host's one were switched off and this remedy considerably reduced the disturbance. It was also mentioned that coverage was chopped from time to time. The problem probably occurs due to the quality of the internet connection.

FEEDBACK FROM SOCIAL WORKERS

In Hiiu and Saare counties, the social workers of all municipalities had a chance to provide feedback on the VIRTU project and the VIRTU channel. In total, 12 responses were delivered.

All social workers agreed on the importance of the VIRTU channel since it gives a good chance for communication, provides the feeling of security and helps the elderly to be socially active. The channel is especially important to those old age people who cannot leave their homes and thus are not involved in active life. The channel helps to prolong the time of an old age person to stay living at home. The VIRTU channel would be of high importance to the old age people living in remote low-density areas. Unfortunately, the device cannot yet be installed in such places today due to technological issues.

The VIRTU channel serves a good assistance in open care. Prior to a visit, a social worker can contact the user and find out if (s)he is in need of anything. It also helps to follow the intake of pills etc. To the old age people, the channel provides the security of being able to contact their social worker, medical worker, their relatives or other VIRTU users face to face at any time. In the future, it is absolutely necessary to continue the VIRTU project. The VIRTU device should be installed at every home where it is required – also, where it cannot yet be installed today due to technological issues but is actually needed most.

As of today, all social workers agree that the service is too costly and most of the elderly or their relatives cannot afford it. Therefore, some financial support could be provided by local governments. In an ideal situation, the service could be fully provided by the state social care service. Considering current low pensions, the service cannot be extended and the channel can only exist as a project-based service.

The surveys also explored how efficient the VIRTU project might be and if the set objectives were attainable. The social workers are positive they say the project is good and necessary but at a wider scale it should be extended in the future. Among the old age people of today, there are many who are not completely comfortable with technical devices, but the upcoming generation that is used to computers will feel more comfortable.

The adaption to the VIRTU channel by social workers has been different. There are social workers who see considerable benefit in applying the device and communicating with clients via it and in providing the elderly with different activities. All this enables the elderly staying active and social. There are also social workers who only see the possibility of the elderly to communicate with their relatives through the channel and they would not use the device in their job. It is reported by social workers, as they perceive it, that the elderly have very well adapted to the channel, they have passed the initial estrangement and rather enjoy it and wait for the activities.

FEEDBACK FROM THE LEADERS OR POLITICIANS OF LOCAL GOVERNMENTS

Also the leaders and public figures of local governments were asked for feedback. In total, 11 persons were interviewed. They were asked how much they knew about the VIRTU project and the VIRTU channel. 82% of them knew that the project was aimed at providing distance services to the elderly. They had got the information from the media or events introducing the project. There was less knowledge on the technology applied and it was only known that for launching the channel, the internet connection with sufficient speed was required. It was less known, what kind of equipment was required to launch the service.

It was said that the channel was beneficial, in particular for those living far away from bigger centres and have mobility difficulties. What has been started with the project should be extended and possibilities should be identified for extending the service to remote low-density areas. The efficiency of the service was considered low currently due to a limited number of the elderly being involved during the pilot-project. Still, it was seen that the VIRTU channel could be an efficient tool for social workers, assisting them in reducing their work load timewise as the need to visit the elderly at home would decrease due to the possibility for distance communication. It is generally accepted that home visits cannot fully be omitted, since it is necessary to have a person-to-person communication without a screen. It is also generally accepted that the VIRTU channel enables abolishing several bottlenecks in social care sector.

As for the costs of the channel, it was unanimously agreed that these should not exceed the costs for mobile telephony, TV or computer. Otherwise, the elderly cannot afford the service and since the resources of local governments are rather limited, they cannot cover the costs. It was also suggested that after the lifetime of the VIRTU project, the service could be furthered on by the Ministry of Social Affairs because the elderly have earned dignified ageing.

The VIRTU channel has been well adapted by the elderly and using it causes no problems. The elderly who are more modest and less active might not know about the VIRTU and its possibilities. Therefore, even more intensive introduction and promotion should be given to VIRTU. Still, like in case of anything new, it takes time to get accustomed to it and it is necessary to raise the awareness of people so that they would know to request for it.

BEING LIKE AN OCTOPUS – THE PROJECT COORDINATOR'S EXPERIENCES OF STARTING UP AND IMPLEMENTING VIRTU PROJECT

Jenny Husell

ABSTRACT

Working as a Project Assistant involves many meetings with people and different tasks. My position as Project Assistant in Eckerö was changed to part time Project Leader in Eckerö Municipality. At the same time, I was a part time Project Assistant at the Åland University of Applied Sciences and acted as coordinator across Åland. I have had great use of my education in health care and social services, previous work experience and my own personal experience. Driving a project forwards, while developing and seeing new opportunities, has been a challenge. During the time I have been involved in the project, I have not only encountered simple but even time consuming and at times complex tasks. This demands an ability to take a positive view of everything and to support the personnel as well as the elderly living at home and their relatives, even when one does not even know the answer oneself. It is like being an octopus with many different tasks and contacts with elderly users, personnel as well as others involved.

Key words: project coordination, municipal co-workers, work content

PICTURE 1. *VIRTU user and Project Manager Jenny Husell. (Photo: Helena Fors-gård)*

DEVELOPMENT OF THE VIRTU CHANNEL IN EKERÖ MUNICIPALITY AND ON ÅLAND

With my experience from working in elderly care, home service, as home service supervisor, office work as well as in childcare, I felt committed, motivated and full of inspiration for all imaginable tasks, meetings and opportunities when I joined the VIRTU project in July 2011. I am employed part time by the Åland University of Applied Sciences and part time by Eckerö Municipality.

When Eckerö Municipality joined the VIRTU project, the initial intention was for the existing personnel to drive the project forwards. Not long after, I was employed as a Project Assistant and, together with the Project Manager, I was to work with the project in the municipality. A project, if it is to succeed, takes more time than expected and with more time there are more chances for

developing it optimally, and maybe more. The Project Manager (who is also the Elderly Care Manager in the municipality) soon discovered her working hours were not sufficient for the project as well and, after a few months, my position as assistant was therefore changed to Project Manager for the project in the municipality.

At the start of the project, computer monitors and the customised video conferencing equipment were installed with connection to the Internet via the 3G network. When it was shown that the coverage was not sufficient, this was changed to ADSL, which goes via the telephone cable. Many conversations and mails with various concerned parties were needed before we finally got it installed with all users. When testing new technology, it is important for it to be functioning before it is tested on older people, and this had been done in an earlier project in an urban environment in Finland. On the other hand, the technology had not been tested regarding the possibilities for using 3G on Åland. The elderly are not familiar with new technology and the best possible situation is when it functions from the start, so as not to create uncertainty and opposition. The problem, and it turned into a recurring problem on Åland, was the Internet connection. Making use of the 3G network was better for the home care service, since it was cheaper and easier to move the technology to another user, when it needed moving for various reasons. In contrast, ADSL does not work with everybody, as you have to live within a 6 km radius of the nearest exchange (Åland's telephone/Ålcom 2011). This restricts the possibilities for those who live further away.

When we could get started, in September 2011, once everybody had received a better Internet connection, it was possible to start using the devices in Eckerö properly. The elderly started to call each other and they also contacted the home care service via the devices. The aspect they appreciated most was the sensation of seeing to whom they were talking. "Feels as if we were meeting in reality" was one comment from an elderly person during an interview in 2011. This has contributed to them calling others more often than they would otherwise do.

For some of the elderly, this could mean that instead of being rather lonely, and perhaps seeing no one for several days, they now have the opportunity to meet as well as to be seen at the VIRTU channel. It means a lot, when someone sees "me". When we also gave one user the opportunity to contact Finnish speakers (for an elderly user whose native language was Finnish, who could thus take

part in the Finnish broadcast in additions to those we offered on Åland), a new world opened up for this individual. The opportunity to preserve her native language, to talk and listen to songs in her native language and perhaps meet others from the same district – this gave quality of life. Several times, she said *she was so happy*.

In order to increase security in the home, we introduced a 24 hr service. The home care personnel's screen was forwarded to the GSM telephone in the sheltered housing. If no one is available to answer on screen, a message is sent to the telephone with information on who rang, so the personnel can then go to the screen and call back when they have the opportunity to do so. A further way to increase security, and improve the elderly's social life, was in January 2012, when the service was expanded and the pharmacy, Nya Apoteket, in Mariehamn joined the project and our users could contact them directly via the device. They obtained better contact with the pharmacy and once again could do some of their own pharmacy business themselves, for which many elderly today need the help of relatives or the home care service. Now, the elderly could ask their questions in peace and quiet as well as see with whom they were talking. They could even order products that they recognised by their appearance, since the product can be shown on the screen.

INTERACTIVE PROGRAMMES AND GREATER SOCIAL NETWORK

An important part of the work is to coordinate the interactive programmes from the VIRTU channel's studio at the Åland University of Applied Sciences and Nya Apoteket. Connections to users can be taken also from home care units in different municipalities and from PC clients. The programmes are broadcasted to different groups on Åland and, at times, to all groups on Åland simultaneously. The Eckerö users' group is called Havsörnarna and the Brändö and Jomala users' group, Gudingarna. Brändö joined the project in October 2011 and Jomala in May 2012. The programmes also give the users the opportunity to get to know each other and then dare to call each other via the screen. Some of the users are very social and will call an unknown person just to test and ask who it is. Others are rather shy and appreciate it when some else contacts them. Some become good friends while other are satisfied with those

they had from before. Everyone has different needs. While one group takes part in nearly all of programmes and a second calls each other more often, the third group has more contact with the home care service or relatives. The opportunity to have contact with relatives via the device, which the majority have chosen, is especially appreciated.

The content of interactive programmes

So I could get to know our users and find out the type of programmes they would be interested in, I travelled around and interviewed them. We are all different with have different needs and I wanted to find something for everybody. During the entire project, they have been able to make requests and respond to different programmes. Not everybody is interested in everything and different people take part in different programmes, based on needs and opportunity. Some wanted more chair exercises and memory training while others wanted to have more social meetings. During all of the programmes, I have made sure everybody has had a chance to talk a little, since this may be the only moment of the day when they meet someone else. I try to give them a joyful moment, a chance for laughter and companionship. If I saw a hand beating the rhythm, a fleeting smile on the lips, a spirited look – then I was pleased.

We try to have regular chair exercise, which is a very popular activity, as it helps the elderly in every way to manage at home longer. Apart from chair exercise and memory training, we have also had Christmas worship with Mariehamn's parish priest, bingo, quiz, library visits, meetings with the Municipality Director, visits from the Assistive Technology Centre, from Agenda 21, visits from the Minister for Health and Social Affairs, the County Governor, singsongs and nursery children. In addition, the legal aid bureau and fire inspector have taken part in programmes.

When it became possible to connect the computer into the programmes, there were more opportunities for providing even better programmes. For example, with the help of photos during the programmes, I could take the elderly to different places which they may have visited before or which they knew about. We looked at photos from Eckerö, Brändö and other places and held a little quiz at the same time. During the spring, I developed this further and produced "Where are we heading?" roughly the same as "På spåret" (Sveriges Television). With the help of photos and clues/questions,

we set off to different places across Åland and they had to guess where we were heading. Usually, it was to places they had discussed and named previously.

At times, we ended up "at home" with a person, for example the author Sally Salminen and her home district of Vårdö, since we had earlier talked about the Katrina book (a novel from the 1950s, which was much discussed and prized as it described a woman's life in the archipelago during the 19th century). Now they also received factual information about the author and other books she has written. Perhaps someone was inspired to read her other books. I tried to be attentive to what interested them. "Where are we heading?" became a hit broadcast and they requested more, in particular on Åland and its archipelago.

Sitting at home and taking part in chair exercises (which they said they would never have done at home alone) or travelling around Åland from home and recognising or seeing new places – remembering or acquiring new information – gave them the opportunity to see something other than the four walls at home. They do not need to move, which many times is painful and time consuming. It gives them the opportunity "to take part in life again", as one elderly user expressed it.

Our elderly users are very fond of factual programmes. Therefore, we have also had quizzes and facts about, for example, winter birds, Lucia, the Maypole, Åland, mushrooms etc. The majority want stimulation and something to do. During one programme, I taught them how to use numbers for something to do and the brain exercise Sudoku, which can be good to do, as long as you know what to do. Later, after the summer, a user happily said to me that she had solved several Sudoku herself during the summer. This shows that the stimulation from the broadcasts can last a long time. In such moments, I feel I am doing something right.

I have also had contact with the elderly away from the VIRTU channel, when I visited them on technical matters, and informed them of the next week's program. Every now and again, I helped them with something concerning their day-to-day life. The idea for Sudoku arose from the fact I solve Sudoku myself and I was helping an elderly person in the project find something to do. The individual could not do crosswords any longer due to poor eyesight and missed having something to do. I enlarged the crossword to A3 format, and then it was okay again. The individual was very happy. When the vision deteriorated even more and the elderly person could not see the enlarged

crossword anymore, I proposed Sudoku (as it is only numbers and there is the possibility to enlarge it greatly). I drew Sudoku on A3 and taught the person what to do. When teaching someone over 90 something new, which moreover will give enjoyment, you have to take your time. Seeing joy return to this person, who now had something to do again, was an unbelievable feeling for me.

Another regular feature was the nursing students who regularly produced programmes for our elderly. It was a challenge for them to sit by the screen and produce a programme for the first time to strangers. They were rather nervous and I had to supply good support and explain how things worked, give suggestions and be flexible to their wishes. This could involve helping them before the programme with PowerPoint slides, bouncing ideas back and forth, giving tips and taking part. They appreciated my help and they felt I explained things well and that I am the right person for the job, which has inspired me even more.

When we opened up the opportunity to take part in joint Swedish VIRTU programmes in the project (March 2012), the elderly, including those from Brändö, Eckerö, Jomala, Iniö, Kimitoön, and Sipoo could take part. This was also appreciated as they could meet people from other places and with other life stories. One of our users appreciated these programmes more than the others did, since this particular user could meet people from the user's home district. These VIRTU programmes are split between Turku, Sipoo and Åland. I had planned the programmes so they had a chance to get to know each other and share their life stories. They had the chance to talk about how they live and what they do to keep busy, what possibilities they have for moving about and so, in this way, get tips from one another. They have talked about how they experienced different events in life, including wartime, which was very interesting as there had been in different locations and different countries. Since summer 2012, they can also call these new friends via the VIRTU screen, which they had requested, and not just meet during the joint programmes. During autumn 2012, the contact net was extended to users in more municipalities on Åland, including Hammarland and Mariehamn.

In my job as coordinator for the programmes, apart from putting together the programmes from the University's nursing students, I tried to invite individuals from outside to produce programmes (in order to obtain a varied

range of activities). I also asked the personnel in home care about their possibilities for producing programmes. I always made sure I had reserve material to send, if someone was prevented from coming. I planned my own programmes, kept statistics and filled in the follow-up documents. I filled in the users' calendar on the VIRTU screen, sent out monthly letters with all the coming month's programmes. I made sure that some received letters with large text and others who so needed, received even larger text. Then, everyone had the chance to read the letter independently and keep up with the dates and times. There were some who also wanted me to give them a call in advance, to remind them about the interactive programme, which I did of course. I tried to be involved in all of the programmes, so I would know what had been said, allowing me to follow up. I also wanted to keep some kind of thread running through the schedule, so it would be good for our users. I tried to listen to what they wanted to have as programmes, as well as what I believed would be good for them. During the entire time, the elderly could request programmes and subjects.

REFLECTIONS ON THE TASK OF COORDINATOR

Many people have been involved in the project. It has involved multifaceted work, in particular as it also included spreading information to the community and trying to create some kind of continuation after the end of the project. The meetings with social welfare boards, social welfare secretaries, ministers, municipality directors, rectors, members of the legislative assembly, home care personnel, home care supervisors, students, university teachers, study visits, elderly pensioners etc. and above all the media, would have been impossible if I had not believed in what I was doing. I was motivated when I saw that my work increased our elderly's quality of life.
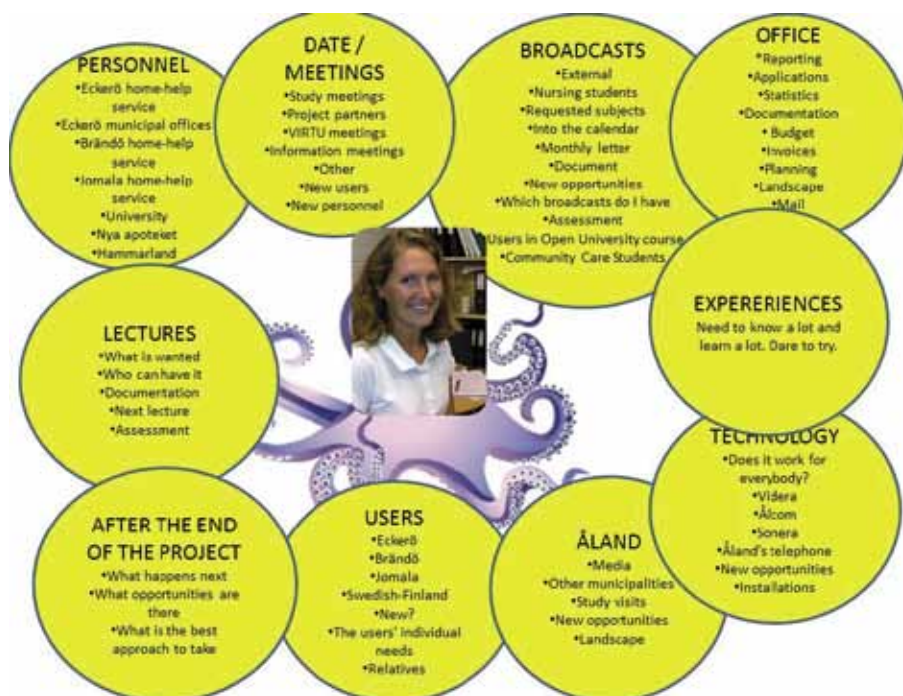
PICTURE 2. *Project work is like being an octopus.*

My tasks included so many things that it could be likened to being an octopus. The tasks included EU reports, applications to the province, statistics, documentation, budget control, checking invoices were correct, many meetings, orders, technical problems, informing and guiding personnel in different municipalities and workplaces, updating the municipality's website, project news, installation at home with the elderly in the municipality as well as guiding them in the use of the device. It was also important to inform relatives about the technology and the opportunity to have contact with relatives. I ensured the users have received programmes three times a week, listened to them to find out what type of programmes they want, booked programme producers with external parties, made many programmes of my own, recruited students from different schools, done interviews, encountered problems and been available for many people.

From the start, I felt I was keeping ten balls in the air at once and that all of them had to be kept going all of the time, they were all just as important and none of them could be dropped. As the project developed, I had contact with

more people, more tasks, more dates, and meetings – the balls filled up. They were still all equally important. I had to know to whom I was talking and what we talked about last time. What the subject concerned or what this particular individual needed. Which date had to be kept, time, programmes that had been and gone and those to come, which nursing students had booked in or not, what they needed help with, how things turned out last time, how we could involve the community care students and home care personnel more, which external parties had been on, or should be booked.

I even a check on the documents that have to be sent out and when, which meetings were impending, with whom, what was important to discuss this time, what was said last time, when was it time to despatch the monthly letter, which of the elderly should have larger text and how were things were going for Nya Apoteket, for the home care personnel in Jomala, on Brändö and Eckerö. Which of the elderly would need the device, when was there time for installation, was the screen ready, what should be on the screen for this particular person? Moreover, find out what new opportunities the device made available. Did the device work or did I need to call Videra, Åland's telephone, Ålcom for help? When did the statistics have to be in, which of the decision makers needed contacting to obtain an extension of the project. Keep in touch with the home care supervisors in the municipalities. It was important to follow up how things were going for each one of our elderly users, what needs did they have. EU reports had to be filled in for the project; was everything included, were we in budget, and were the invoices correct. And all the time, new ideas and possibilities, planning, overview, keeping one-step in front and, as said, many balls in the air.

Every ball included many smaller balls (see Picture 2). When we had the chance, we installed devices in more municipalities and gave more opportunities. Things filled up with "balls". However, the best of all, it benefited our users, the home care personnel and others involved in the project.

To coordinate, being a Project Manager and Project Assistant requires knowledge and experience from many fields. A person with this job needs to be multicompetent, have experience of elderly care and office work, and be sociable, flexible and ingenious. There were many things I needed to know or learn quickly. One must dare to try, test and adapt. This requires structure, care and good order. At times, I had to think on – rethink and even think back. Be smart. Develop and be attentive. Exchange experiences with others with similar tasks.

With my education in the nursing profession, I know about illnesses and the body's physiology and anatomy, which was useful for me. With my nursery experience, I am ingenious and can find solutions for most things. I am used to having collections and things to do. Most things are possible as long as they are suited to the age and possibilities. I am used to drawing up individual development plans. Seeing the complete individual. I was used to seeing every individual as equally important, regardless of sex, education or occupation. As a home care supervisor, I have been in charge of budget, invoices, statistics, HR issues, guiding personnel etc. and, above all, contact with the elderly. I am used to working towards set goals and it is important to see what is important and not to get stuck in problems. I feel I do a good job and I know what I am doing.

Inger Nygård (Project Manager for the University of Applied Sciences) and I have had an wide-ranging collaboration and we have complemented each other well. We have batted ideas about various things backwards and forwards. We are both committed and positive. We try to take a holistic view of the project and develop it to achieve the best possible result.

To also be a support in life

A coordinator for interactive distance services in elderly care needs to do more than just look after the technology. When I visit our elderly, I try to take the time to talk for a while. Listen to what they have to say and what they do not say in words. Often, I help them with things they really would like help with, but do not have anyone to ask or must wait until someone comes (can take several days). Apart from my project work, I try to help the complete individual. I am used to seeing the separate individual and the opportunities that exist for developing the quality of life. I feel I have the knowledge needed to see the individual's needs. Provide tips on possible aids that are available, replace the battery in the clock, look up telephone numbers when they are needed and to listen when they need someone to lean on. I meet both joy and sorrow. I have also stayed on and tried to help them find something to do (including audio books, when their eyes deteriorate). I feel I have been there for them and they have always been able to call me if something cropped up. They are a part of my working life and I am a part of their personal life. If I have a moment free, I give a call at the VIRTU channel to those I know need a chat.

Interactive distance training for personnel

Apart from the work in the project, Inger Nygård and I decided we could offer lectures for the personnel. It was a superb opportunity as the device was already in the home care service's premises. There was only a small amount of training on offer and the long distances reduced the chances of attending. Now, the personnel could remain in their workplaces, take part in lectures (they were allowed to ask for those they needed) and more people could attend from each workplace (which benefited the workplace) and the personnel familiarised themselves with the device. The municipality obtained updated personnel and saved money on training. Cost efficient and strengthening for the personnel. We tested with one and then continued with one to two lectures a month, 45 minutes (between lunch and coffee). The lectures were produced to all Swedish-speaking workplaces in the project. A few more tasks for me and another ball to keep in the air. It was very appreciated by the personnel. The response has been good.

CONCLUSION

It made me very happy to be involved and develop the quality of life for different people. I was very happy to have this opportunity to work with the project and its tasks. I have got to know many people of different ages and received such a wonderful response from municipalities, University personnel, students, managers, the elderly's relatives and above all from our users. It was then I felt I had succeeded. I knew that many people have difficulties, more or less, in participating in the community's social life, feeling the joy of life, feeling secure and for me to be allowed to help to develop new opportunities does not just give them quality of life but it also gives me joy.

I feel I have helped the elderly make social contact, to be seen and to increase their quality of life, which inspired me most. I became a part of an individual's life. I tried to see every individual and his/her personality. What could I do for you in particular to increase your quality of life? Seeing how an elderly person recovers his/her joy of living, feeling social again and becoming an important person who is seen by somebody.

Thank yous:

- our wonderful users on Åland and other Swedish speaking users in the project
- municipal employees on Åland
- employees at the University of Applied Sciences
- nursing Students, Community Care Students
- the private sector
- other people with whom I worked in the project.

ENGAGEMENT OF THE ELDERLY CARE WORKERS IN DISTANCE SERVICES

Kaisa Jokela

ABSTRACT

Implementing a new kind of welfare technology and alongside it, a new work method requires investment both in learning its use in the initial stage and in ensuring that the operation is imbedded. Achieving permanent change in work practices requires a lot of work and familiarisation of the personnel. Planning the operation, developing points of use, observing the benefits and openly discussing the good and bad sides together with the end users (in this article, the care personnel working with the elderly) advance the imbedding of technology as a daily tool.

Generally, in the implementation of welfare technology, the following three factors seem to be emphasised, all of which need to be taken into consideration simultaneously: the technology must be easy to use, clearly directed to the needs of the users and useful; the leadership, supervisors and persons doing the implementation must carefully prepare the organisation for the coming changes; the employees must have the possibility to develop their skills, utilise their professional competence and be involved in developing the new operating model as the implementation progresses. The article describes the stages of the commitment and change process of end users, reports the experiences of the case in Naantali in implementing a new tool, and finally presents a check list of implementation and generating commitment in the personnel based on source literature and personal experiences.

Key words: implementation, familiarisation

TECHNOLOGY, EMPLOYEES AND SOCIAL SYSTEM

The stage of implementation of new innovative solutions is the most important and on the other hand also the most difficult step in adopting new work practices. Good and user-friendly welfare technology is of no use if it is not used in a purposeful and efficient way. Adopting technology and committing to using it are a central part of the change process, which the new kind of technology inevitably generates in end users (in this article, end users refer primarily to the care personnel working with the elderly). The care personnel must be given adequate time to learn new things and possibilities to assess what they have learnt. The change toward a new way of working requires both thorough preparation and solid support form the supervisor level. The new method forces the care personnel to change the traditional work roles and work practices with which they are familiar. After all originally, the personnel have chosen to work with people, not with technology.

Implementing welfare technology and distance services is a complex process which requires careful planning in advance. In the implementation, many factors linked with technology, employees and the social system must be considered. (Vuononvirta et al. 2009, 281.) There are many kinds of effects on employees resulting from technology. These effects can target for example the community, use of time, communication, attitudes and conflicts, participation, sense of work and training needs as well as services and the economic situation. Furthermore, technology may impact the image of the work place. (Melkas et al. 2007b, 59.)

Implementing an operating model that utilises a new kind of welfare technology requires success in the variables linked with the individual, technology and the social system. The research of Vuononvirta et al. (2009, 272) studied the experiences of health centre employees in implementing distance healthcare. The purpose of the research was to examine the most crucial factors influencing the implementation of distance healthcare and the benefits associated with the implementation from the point of view of the health centre employees. In the study on matters influencing the implementation of distance healthcare, the ones mentioned most often of the factors linked with the operating model were user-friendliness, benefit and need for the use. Of the factors linked with the employee, the one most often mentioned was attitudes, and of the factors linked with the social system, shortage of time was mentioned most often. (Vuononvirta et al. 2009, 275.) According to Kanste (2011), a significant factor in the formation of care personnel's positive work attitude was successful management.

Generally, three main factors seem to be emphasised in implementing welfare technology. All these factors need to be taken into consideration simultaneously: the technology must be easy to use, clearly directed to the needs of the users and useful; the leadership, supervisors and persons doing the implementation must carefully prepare the organisation for the coming changes; the employees must have the possibility to develop their skills, utilise their professional competence and be involved in developing the new operating model as the implementation progresses.

IMPLEMENTATION PROCESS

According to Rogers (2003, 20), the length of the process of implementing innovative new methods is influenced by many factors, among which there are the advantage introduced by the new innovation compared with the old practice and its compatibility with the existing values, experiences and needs of the persons doing the implementation. If the new method is not compatible with these, implementation is slow. Other factors influencing the implementation are the complexity of the new method and the concreteness of results. Implementation is supported by an opportunity to test and results that are fairly quickly and concretely visible after implementation. Also according to Mahoney (2010, 78) and Vuononvirta et al. (2009, 280), the end user's ability to detect the value of the use of new technology in relation to his or her own wishes of its benefits is important for adopting it, and in justifying the implementation it is worthwhile to stress the benefits gained.

Taking into consideration the impact of welfare technology in advance and handling the familiarisation appropriately and patiently are bases for its sensible use (Melkas et al. 2007b, 60). The actual end users of the solution should be involved already in the planning stage of new projects. Engagement, planning together and working so as to consider everyone's input is also a good way to prevent resistance to change. According to Vuononvirta at al. (2009, 280), the employees are crucially significant in implementing new technology solutions, and that is why many factors influencing the implementation from the employees' perspective should be taken into account in planning new projects. Also, according to earlier research, it seems that the representatives of personnel are likely to have a positive attitude toward innovative solutions if they have been involved in planning the process to be implemented (Huryk 2010,

610). Commitment to change can best be supported by engaging planning, in which the employees participate in the determination of needs, solution alternatives and solutions (Valkeakari & Hyppönen 2009, 6; see Jalonen in this publication). Planning the training and communication, anticipating and preventing the resistance to change are an essential part of implementation planning. Anchoring the change, starting from the planning stage, to existing operation and the organisation's operating culture are is in the leading role in controlling resistance to change. (Hyppönen & Niska 2008, 50.) According to Kanste (2011), management is important in implementing technology. The supervisor's commitment, involvement and enthusiasm get also the personnel to commit to trying and using technology. Adopting the use as part of one's work is also furthered by the existence of a change agent among the personnel, who pushes the matter forward in the work community by familiarising and encouraging others to be involved.

As has already been noted earlier, a significant factor motivating an individual employee in implementing new methods is the benefit he or she will gain. The impact of technology is often indirect and hard to detect (Melkas et al. 2007b, 56). In implementing electronic services and welfare technology, the traditional implementation will not be enough, but changes must be done primarily in the organisation's internal work processes. In order for the genuine developing of operation required by the implementation of innovations to occur, it requires genuine exertion of the end users and expansion of their responsibilities from mere use toward development. (Valkeakari & Hyppönen 2009, 24.) All in all, getting familiarised with the new technology before beginning its actual use is a matter that is worth doing uncompromisingly. According to Melkas et al. (2007b, 58), it is important to take care of comprehensive continuous familiarisation with the use of technology and to assess the effect of the use of technology in advance and during its use. Familiarisation does not end with having adopted the use of technology and learnt the necessary knowledge. In addition to coaching for and familiarising with change, one must assess the areas involved in implementing technology and the benefits it has introduced. Impact assessment can facilitate achieving the goal of engaging various people in the changes occurring in the work place (Melkas et al. 2007b, 5–6). It is important to re-assess each current state in relation to the past. Thus you can also better assess the technological applications that do not meet the needs. (Melkas et al. 2007a, 41.)

CASE NAANTALI

The implementation of a new work method demands the organisation's resources for learning the use and reflecting on the imbedding of the operation. Achieving change requires a lot of work and familiarisation of the personnel. Primarily, the issue is overcoming prejudices. Planning the operation, developing points of use, observing the benefits and openly discussing the good and bad sides together with employees advance the imbedding of technology as a daily tool.

In Naantali, the care personnel involved in the project used the VIRTU channel for various purposes. Some of the care personnel used the channel to ensure the condition of the customers, whereas the personnel of service centres and senior citizen's homes regularly arranged various programmes through the channel or coordinated for the customer doctor's appointments using the equipment, for example. Feedback and experiences of the use of the channel have been received both unofficially through various meetings and feedback sessions, and through interviews carried out for a thesis. According to the interviews of Naantali care personnel, done for the thesis work of nurse students in Turku University of Applied Sciences (Lindvall et al. 2012), the personnel had started the project with a spirit of experimenting without an actual need for a new tool. Thus, especially in the initial stages of the project, each person used the equipment largely according to his or her own likes and motivation. The employees' prejudices were influenced by their ignorance of the potential uses of the channel and its potential benefits. The employees feared that the use of the channel would unduly increase the work load and hinder the performance of other tasks. (Lindvall et al. 2012, 22.)

In Naantali, in the beginning of the implementation process of the VIRTU channel, familiarisation sessions were arranged by the project personnel. Also, guidance was given in the use of equipment when it was installed. Afterward, it was noted that in the initial stage, in addition to the technical implementation, not enough time was used to reflect on how, where and to whom will the new welfare technology be utilised. Also systematic planning and charting of possibilities together remained marginal. Based on the feedback received, it was noted that with new technology it would have been good to arrange first implementation including internal technology testing and charting of possibilities of use during which the personnel could have been in contact with each other and practiced the use of equipment for purposes that benefit their particular work. Only after this, the new operation could have been

"launched" and taken into use between all external actors and customers. The stage of internal use would have helped to avoid the ignorance about the equipment's possibilities of use and the inability to market the use of the equipment to customers.

Because the equipment was unknown in the beginning, also defining the customer criteria and the customer selection process should have been made clearer. Due to the lack of user experience, the personnel found it difficult to estimate for whom this kind of equipment could be suitable; still, finding motivated customers is an important prerequisite for appropriate utilisation of the equipment. All in all, one of the greatest challenges was found to be the charting of the correct target group and finding eager users.

The project arranged regular meetings during the project both in the pilot locations and among the entire personnel involved in the pilot project. In some of the meetings, the remote connection using the VIRTU project equipment was used. The personnel in Naantali were engaged in the project through these joint meetings, various feedback sessions, assessments and realising of wishes. In each pilot object (two home care areas and two assisted living facilities) a person in charge was chosen to act as the primary contact person in matters pertaining to the VIRTU channel and as mediator of information in situations of change. Also, the persons in charge encouraged other employees to use the equipment. The head nurse of Naantali area home care worked actively and encouraged the personnel to use the equipment as planned and regularly as aid to home care house calls for certain customers, for example.

Also, choosing a person in charge of cooperation with municipalities and customers within the body coordinating the project, Turku University of Applied Sciences, was a means to support the utilisation of the equipment. During the course of the VIRTU project, these areas of responsibility were centralised to one person so that the information about the customers' and personnel's situations concerning to the use of the equipment was with one person. Although efforts were made in the project to have the personnel contact the equipment supplier directly in problem situations, the person in charge of the project acted as a technical intermediary in both directions if necessary. All in all, Turku University of Applied Sciences made efforts to activate the personnel to think up development ideas and to give feedback on the current state. Based on the personnel's feedback, in equivalent

situations in the future we know to take into consideration for example the familiarisation in implementation stage and the significance of internal testing.

Most representatives of personnel were willing to continue using and developing the channel also after the project is over. The employees felt that participating in the VIRTU project was an extra effort, but being involved in the project was also felt to be a unique and fine opportunity to be part of developing new technology to aid the care work. It has required a lot to get accustomed to using the VIRTU channel, because the VIRTU channel is seen as a new and different tool and no such technology has ever been utilised before in care work. Also, the technical problems of the new tool hindered adopting it; they caused frustration especially initially. (Lindvall et al. 2012, 22.)

Experts in Naantali saw that the VIRTU channel has many potential uses in supporting coping at home: distance home care visits, various guided group functions, consultations between professionals, customers' peer groups, communication with family and interactive rehabilitation activities. Also, increasing the senior citizen's possibilities for interaction and social participation as well as making it easier to reach people living alone was felt to be a very positive aspect. In the feedback interviews made for a thesis, the interviewed persons believed that the VIRTU channel decreases the customers' loneliness and they felt that the connection with image facilitated asking about the customer's condition and assessing it (Lindvall et al. 2012, 23).

IMPLEMENTATION CHECK LIST

Based on the experiences in Naantali and the factors emerging form the source literature, Table 1 has a list of things that need to be taken into consideration in the implementation of new welfare technology and new innovative methods. The table divides the things to be taken into consideration into three different stages: technology to be purchased and organisational factors, orientation process and implementation and imbedding. As to the schedule, these stages are implemented also so that they partly overlap.

TABLE 1. *Implementation check list.*

TECHNOLOGY TO BE PURCHASED AND ORGANISATIONAL FACTORS	Defining the need: what is the goal, what gives (cost) benefits, what activities will be supported by technology Carrying out the procurement process: mapping the market, procurement planning, definition, realisation, scheduling, assessment Taking into consideration views, needs and usability issues of different end user groups Thinking about the way the organisation supports the implementation of a new method Linking image matters and the external network
ORIENTATION PROCESS	Examining the personnel's needs in supporting the change: change coaching already before the actual implementation Developing and planning together, thinking of challenges and solutions Giving all users an opportunity to influence the implementation, increasing thus the level of commitment Drafting process descriptions of the division of work and current and future operating models Anchoring the new method into existing operation Processing earlier experiences and discussing matters that cause apprehension Nominating persons in charge of implementation

IMPLEMENTATION AND IMBEDDING	Planning and realising the implementation well so that the personnel finds it easier to orientate in the change
	Meeting with the future end users, supervisors and persons realising the project as soon as the technology to be purchased is known
	Looking for benefits from the perspective of everyone's work
	Defining measures and making a concrete implementation plan together. Examining for example the following issues:
	- Scheduling: when, what, to whom
	- Selecting customers: criteria, who selects and how, communication, initial charting, familiarisation, contacting in problem situations, encouraging, family
	- Purposes: is something replaced or added, with what do you begin, with what do you continue, who is responsible for each area
	- Assessment: who is responsible for it and how is it done, are the concreteness and benefit of results made visible
	Drafting an implementation plan and roadmap divided into 4-month periods
	Giving technical training
	Realising an internal test implementation before the actual implementation, if necessary
	Agreeing on scheduled meetings to ensure the progression of use and planning of next steps
	Making visible the concreteness and benefit of results
	Assessing and rejecting defunct solutions

REFERENCES

Huryk, L. 2010. Factors influencing nurses' attitudes towards healthcare information technology. Journal of nursing management. 18(5), 606–612.

Hyppönen, H. & Niska, A. 2008. Kohti kansalaisen sähköisten terveyspalvelujen rakentamisen hyvää käytäntöä. Stakesin raportteja 9/2008. Helsinki: Stakes.

Kanste, O. 2011. Johtajuuden yhteys hoitohenkilöstön työasenteisiin ja työhyvinvointiin. Tutkiva
Hoitotyö. Sairaanhoitajaliiton koulutus– ja kustannusyhtiö. 9(2) 30–36.

Lindvall, S., Luukkonen, S. & Tamminen, T. 2012. Hoitohenkilökunnan kokemuksia VIR-TU-kanavan käytöstä. Opinnäytetyö. Hoitotyön koulutusohjelma. Turku: Turun ammattikorkeakoulu.

Mahoney, D. F. 2010. An Evidence-Based Adoption of Tehchnology Model for Remote Monitoring of Elders´Daily Activities. LLC. Ageing Int (2011). Vol. 36, 66–81. Published online: 23 Sept 2010 Springer Science+ Business Media.

Melkas, H., Raappana, A., Rauma, M. & Toikkanen, T. 2007a. Teknologian vaikutusten arviointi vanhuspalveluiden työpaikoilla. Tykes, Helsinki.

Melkas, H., Raappana, A., Rauma, M. & Toikkanen, T. 2007b. Teknologian käytön sudenkuopat sosiaali- ja terveysalan organisaatioissa. In Suhonen, L. & Siikanen, T. (eds.). 2007. Hyvinvointiteknologia sosiaali- ja terveysalalla – hyöty vai haitta? Lahden ammattikorkeakoulun julkaisu, sarja C, osa 26, 50–63. Lahti.

Rogers, E. 2003. Diffusion of innovations. New York: Free Press.

Vuononvirta, T., Kanste, O., Timonen M., Keinänen-Kiukaanniemi, S., Timonen, O., Ylitalo K. & Taanila, A. 2009. Terveyskeskustyöntekijöiden kokemuksia etäterveydenhuollon käyttöönotosta. Sosiaalilääketieteellinen aikakauslehti. No. 46, 272–284.

Valkeakari, S. & Hyppönen, H. 2009. Muutosvalmennus terveydenhuollon sähköisten palveluiden käyttöönoton tukena, Case Oulu omahoito. Raportti 34/2009. Helsinki: Terveyden ja hyvinvoinnin laitos.

DEVELOPING HOME CARE INTERVENTIONS IN VIRTU PROJECT

Leena Pekkonen & Carita Saarikivi

ABSTRACT

According to the quality recommendation on the care and services of the elderly (2008), the elderly should be able to live at home for as long as possible. In developing the care and services of the elderly, customer-oriented participation of the elderly and recognising the needs of and differences between the elderly is important. According to the senior citizens' policy programme of Sipoo (2012), the focus in the services for the elderly is in preventive and seeking way of producing senior citizens' services. During the VIRTU Project, workshops were organised in Sipoo's home care to support the implementation of new technology and to initiate embedding it. The workshops elaborated the daily work and customer-orientation of home care. In the workshops, home care employees discussed the possibilities of use and future of the VIRTU channel. This article describes the workshop operation of Sipoo home care according to the fishbone model (Figure 2).

According to Jääskeläinen (2004), technical devices make it possible to offer care and medication to home care customers without expressly visiting external services. However, utilising welfare technology as part of the daily care presupposes an operating culture with positive attitudes toward technology, knowledge in the use of devices and knowing the benefits resulting from the use of devices as part of the effectiveness of care work. According to Suhonen and Siikanen (2007), use of technology requires developing the human resources, working conditions and service systems as well as a change in the practices and competencies of the user.

Key words: home care, workshop, customer-orientation

DAILY LIFE OF HOME CARE

The quality recommendation of senior citizens' services (2008) emphasises the necessary and adequate training and competence of the actors, and the significance of competent management. The goal of managing competence, work satisfaction and occupational safety is to support the manageability of work for example by dividing the customers and personnel into appropriate smaller entities that are easier to manage so that the goals of the work can be defined clearly. Furthermore, changes must be made in operating methods, for example by guiding the operating culture to allow open discussion, lessening routines and increasing flexibility in carrying out the work.

In customer-oriented care and service, also the customer's family and other persons significant to the customer are involved in service design, implementation and assessment. At its most active, the role of the customer is that of a developer so that the customer participates in developing the quality of the service by setting quality criteria, planning the implementation of service and by assessing the service according to his or her resources. Central ethical principles ensuring dignified old age are self rule, resource-orientation, justice, participation, individuality and safety. High-quality home care is proactive.

Resource-orientation is underlined in all care of the elderly. It emphasises possibilities and self-realisation and focuses more on solutions than problems. Resource-orientation means taking into consideration the senior citizen's own competence and skills. The individual is an active actor and an expert in his or her own life. In resource-oriented operation, it is important to know the elderly person's life, cultural background and social context. Good home care also included preventive dimensions and home care customers benefit from versatile intermediate services. We must enhance a "3P" approach in the entire service system: promotion, prevention and intervention. (Voutilainen & Tiikkainen 2008.)

The home is a demanding care environment, in which acting on the customer's terms is underlined. Counselling and guiding the customer is part of daily life. Assistance associated with managing life physically and psychologically, and supporting the orientation to time and place are important for home care. Home care employees may often be asked to clarify for example letters and medical documents received by the customer. (Heikura 2011.)

Welfare technology is hoped to introduce savings in social and healthcare services and to provide solutions to future challenges in the population. Technology should facilitate the independence of the user on his or her terms and based on his or her starting point. The development in technology makes possible the shift from service-based care to self-care. According to Juntunen (2004), the new technology must be seen as an opportunity to improve the efficiency of the service system, to support senior citizens' managing daily life at home and to reform the operating methods of nursing and care work.

At the moment as demand is increasing, senior citizens' home care is struggling with the deficit of experienced employees and haste. In spite of this, the productivity of public home care units is usually low. Home care personnel consider its work human relations work and assistance that is independent, fruitful and emotionally rewarding, but also vulnerable to conflicts and mentally stressing (Toljamo & Perälä 2008). Work planning causes an artificial rush hour in the mornings, which results in temporary personnel deficit. For home care to be able to answer the increasing demand, the only alternative is to balance the service production through the entire day. Prioritising the tasks is more relevant from the point of view of efficiency than counting the kilometres. The correct allocation of resources would release care persons from some areas. Change in the work culture is a big question. (Groop 2012.)

CUSTOMER-ORIENTATION

The more the operation of society – let it be economic, communicating or artistic – moves into virtual space, the more elderly people are in danger of being excluded from central social debate and activity, and becoming dependent on the assistance of others in this regard. Equally well the web can become an instrument of monitoring, control and increasing polarisation. We will need to ponder how a generation of decision-makers with such a different background of experiences will be able to empathise and take into consideration the cultural models and ethos regulating the thinking of an older generation, and by what means could this empathy be furthered. However, the versatility of choices can only be enjoyed by those, who have the health and economic resources to manage their own lives. (Marin & Hakonen 2003.)

One of the greatest challenges of the care of the elderly may well be linked to thinking about the set of concepts and work methods that should be used to organise life's important issues in old age. The past may suddenly appear in a different light when it is examined together with others. Reminiscing is a way to tell another person who and what kind of a person I am and at the same time invite the other person to participate in one's life through listening and discussing. "Now we offer what we produce but we do not necessarily produce what is needed". Customer-orientation saves social and healthcare service provision costs and enhances the effectiveness of the services. The significance of the customer in social and healthcare services is widely recognised and theorised, but customer-orientation is easily created and defined based on the needs and interests of the organisation providing the services. In order to truly develop customer-orientation, instead of speaking about it, the customer and his or her needs must be returned to the center of service provision. The ability of the customer to participate may vary, but the significance of participation does not decrease. (Virtanen et al. 2011.)

For this reason, the introduction of technological aids requires a functioning help desk service system, which has been a challenge also in Sipoo's home care. Both the users and home care employees have found it important to have uncomplicated contacts with the equipment supplier when technical problems occur. Technical problems in the VIRTU equipment has contributed to slowing down the introduction of the equipment and impacted the cooperation with the users. Installing and learning to use the equipment took a lot of time in the beginning. Also, the user interface malfunctions have impacted programme production and slowed down the developing of home care practices. Finding suitable users has also presented a challenge. In workshops, customers who are in excessively poor condition were found not to be suitable users. On the other hand, customers in good condition do not commit to the service to a sufficient degree. Also, the language of equipment planners and the user-friendliness of the equipment do not always meet the users' needs. This should be considered when designing services for demented persons. According to Juntunen (2004), the elderly people's need for safety should also be considered in developing technological aids.

The elderly people and their families have been allowed to influence the design and development of services and products directed to them. With the help of user feedback, it is possible to make the products easier to use and more user-friendly so that they better meet the needs of elderly people. User-friendly

and functioning equipment lengthens the period of living at home, enhances the feeling of safety, alleviates the feeling of loneliness, enhances self-rule and supports the ability to function. According to Välimaki (2012), the feeling of coherence of family caregivers is linked with depressive symptoms and feelings of strain. Low feeling of coherence correlates also with low quality of life. Early rehabilitation and virtual technology make it possible to influence the quality of life of family caregivers by raising it and in this way to contribute to making dignified old age possible. Elderly people and their families have felt that they are doing important work when testing the products and services. (Välimäki 2012.) The VIRTU users have been satisfied with the VIRTU channel and contacted also other users. This has enhanced the users' sense of community and social interaction during the VIRTU project.

VIRTU IN PRACTICE

In Sipoo home care, during the VIRTU project, workshops were organised, in which the expansive learning cycle phase model of Engeström (1995) was applied. The model progresses as follows:
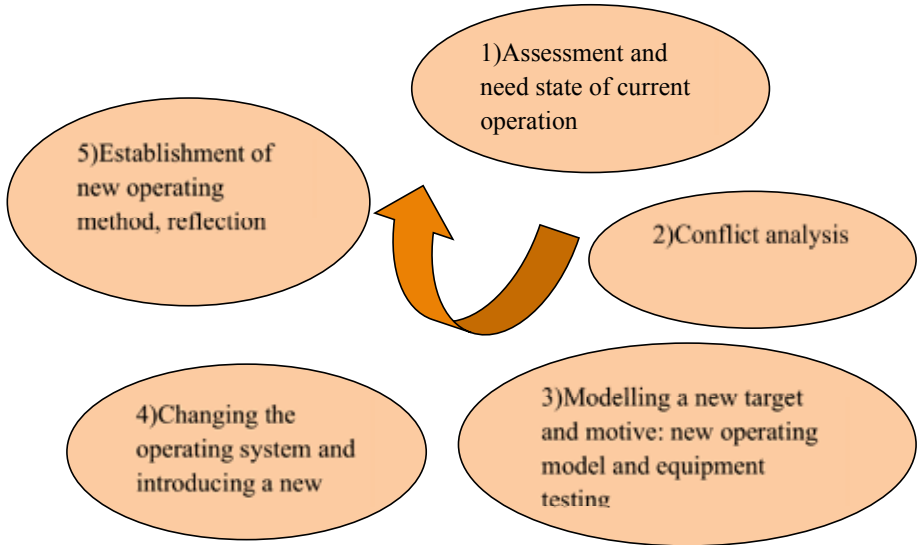

FIGURE 1. *Expansive learning cycle.*

The workshops focused especially on elaborating the three last points in order to chart the possibilities of using new equipment and of developing and testing new work methods in Sipoo home care. The first workshop examined the content and bases of current work in Sipoo home care. In the workshops, employees charted both functioning and challenging factors associated with the work. An important observation was that during the workshops, the time resources available in Sipoo home care for developing the VIRTU operations and for utilising the new welfare technology were not adequate.

Sipoo home care personnel also examined how customer-orientation was realised in their work. Home care is emphatically bilateral, so the customer has an opportunity for an equal relationship with the caregiver. In the workshops, health promotion of elderly home care customers and family caregivers was considered important to make living at home possible even in the future.

Home care supervisors considered developing the work processes important so that home care needs can be met in the future. The caregivers of home care understood the goals of the management, but it was not always easy to follow the instructions given from a higher level. Home care employees felt that they are involved in designing a new operating model for home care, but more time should be available for development work.

During the project, there was ethical, even critical debate with the management of elderly care work about the suitability of welfare technology especially for demented persons. For obtaining the best possible benefit from technology, it should be introduced at a sufficiently early stage. In this way, the use of technology would be already fluent and familiar when the ability to function gets lower. In this way, technology can have a preventive effect and can help the elderly person to cope in his or her home as long as possible. A good technical device designed for a person with symptoms of dementia takes into consideration the requirements resulting from the illness, the requirements of the usually old age of the users and the human requirements resulting from the effect of dementia (Mäki et al. 2000). The workshops examined the suitability and possibilities of use of the equipment also as a reminder method. This could be utilised in home care for example for medical treatment and nutrition. These remained at the planning stage, because experimenting was hindered by lack of time and making the development work part of one's work.

The far advanced dementia of the customers who discontinued the use of the service clearly weakens the usefulness and suitability of IkäLinja (Vaelma 2011). The quality of the service received by the senior citizen improves when the service is made accessible also to those customers who cannot themselves come to the service for example due to poor ability to function. Thanks to technical innovations, interaction with other persons of similar age can be enhanced and also the participants' feeling that he or she is a significant person. One family member of a VIRTU user said that it would have been good to have had the equipment a few years earlier so that the user would have had time to get used to it and learn to use it.

FUTURE

The operating plan of the Health 2015 programme of the Ministry of Social Affairs and Health (2006) emphasises the senior citizens' possibilities to be active and develop their skills and preparedness for self-care so that they could continue independent and high-quality life for as long as possible. Health promotion among the elderly is more comprehensive than mere prevention of illnesses i.e. primary prevention. Secondary prevention refers to the best possible treatment of illnesses and preventing the recurrence of illnesses. Tertiary prevention, in turn, refers to slowing down the progress of capability limitations caused by illnesses. In addition to actual physical and mental health, health promotion encompasses taking into consideration the entire life situation of the elderly person. (Heikkinen & Marin 2003.)

New forms of rehabilitation increasing physical activity and enhancing the ability to function and quality of life are needed to support the ageing population's managing at home. Furthermore, due to the limited economic resources of society and healthcare, support service alternatives are needed to support the voluntary activities of the elderly. (Niemelä 2011.) Rehabilitation must be arranged without delay as part of the care process and it requires a methodical approach and continuity. The government programme 2011 is committed to organising high-quality public services and social welfare to all people equally. Rehabilitation can improve the ability to function, participation and quality of life and lessen the need for round-the-clock care. In addition to health and the ability to function, also the rehabilitation customer's life situation impacts the functionality, timeliness, content and

goal-setting of the rehabilitation process. The Social Insurance Institution of Finland is providing more rehabilitation for the elderly and for family caregivers. (Huusko 2012.)

What degree of evidence is there in healthcare of the various preventive measures among the elderly? There is strong evidence that exercise prevents mobility limitations and deficits in the ability to function. There is evidence of exercise in people with various physical conditions. Exercise maintains the ability to function and the condition of muscles and slows down their weakening process, i.e. it can be used in primary, secondary and tertiary prevention. Exercise slows down the process of weakening of the ability to function also among those living at home. Exercise also protects from the weakening of cognition and from dementia. (Pitkälä 2012.) VIRTU workshops discussed the possibilities of distance rehabilitation. The employees thought that rehabilitation belongs to physical therapy, in which the VIRTU channel was considered to have wider possibilities of use.

In home care, welfare technology supports the monitoring of care, and the customer terminal can be used for example in dressing of wounds, in using pain meters and in MMSE testing. Welfare technology would provide support to those who will remain excluded from care in the future. (Heikura 2011.) Studies show that various care methods utilising technology have proven useful in guiding the patient and in supporting and furthering the ability to function. The video phone has proven useful for example in guiding weight-loss groups (Kanste et al. 2012). In carrying out continued rehabilitation of home care customers, the use of video connection and touch screen has been primarily found easy and comfortable and the video connection was considered purposeful in carrying out group activities (Vesterinen 2010). Karppi's (2011) research shows that distance rehabilitation made it possible to improve home care customer's ability to function and their coping at home. Such services made available at home enhance the customers' satisfaction and participation. The Tel Lappi III Project of Liimatta and Paananen (2007) notes that with the help of the technology used, the most concrete savings is in the form of saving in time use and in travelling when distances are long. At the same time the traffic risks associated with travelling lessen and communication becomes more versatile.

Preventive services and more efficient utilisation of personnel's work time through welfare technology have been found to lessen hospital days, care visits and the need of intensified care and to increase satisfaction with care (Barnard & Locsin 2007; Thurmond & Boyle 2002). The use of virtual services and equipment

has been found to offer the users also peer support and to increase the number of contacts with friends and family (Torp et al. 2008). Preventive activities that maintain the ability to function can prevent and postpone the need of care and services. Early intervention requires implementing and increasing various preventive and rehabilitating work methods. Preventive house calls make early intervention possible when the ability to function and the health condition of the elderly person becomes poorer. Preventive house calls are primarily directed to those elderly persons who are not regular customers of social and healthcare services. (STM 2008.)

In KASTE programme, the goal is to improve social and healthcare knowledge base so that the work and care methods are ever more based on researched information and developing is basic work. For those working in healthcare, research-oriented development is an obligation, but also an opportunity. Efforts are made to create completely new operating models that work better for the customer and save resources partly with the help of new technology and existing competence. New things do not emerge automatically, but as a result of conscious operation. (Heikura 2011.)

From the point of view of developing operations, the prerequisite of successful change is a learning organisation. In service production, supporting the competence, welfare and energy of personnel is in key position. Research-oriented management benefits internal and external research and assessment data. Utilising the good national practices is a requirement for the operation of a new kind of efficient organisation. In accordance with national recommendations, the Senior Citizens' Policy Programme of Sipoo (2012) emphasises the primality of preventive work and the wishes of the elderly in Sipoo to have services of different levels and kinds expressly to prevent the weakening of the ability to function in the long run. The programme also discusses a renewing and versatile concept of the elderly. (Senior Citizens' Policy Programme of Sipoo 2012.)

The senior citizens' policy strategy of Sipoo underlines safety and renewal. Also utilising the newest care technology, furthering accessibility and developing a healthy work community are focuses of the work for the elderly. Critical examination of current operating models and structures and directing the operation requires ever more a direction that is preventive, seeking and maintains ability to function. Along with welfare technology, the innovativeness of work community is enhanced. The caregivers are offered an opportunity

to influence their work and supervisors are supported in their work. With the help of functioning technological solutions, the municipalities have an opportunity to increase open care, accelerate the rate of returning home from the hospital, curtail care costs and direct services more appropriately as well as develop the fluency of care processes.

It is worth while to invest in the welfare and health of the elderly, because welfare and health are the most crucial factors in the need and costs of social and healthcare services. Preventive activities directed to the senior citizens should be a natural part of the service system. (Hietanen & Lyyra 2003.) Improving welfare and health supports independent managing, living at home and possibilities to be an active member of society and of one's community.
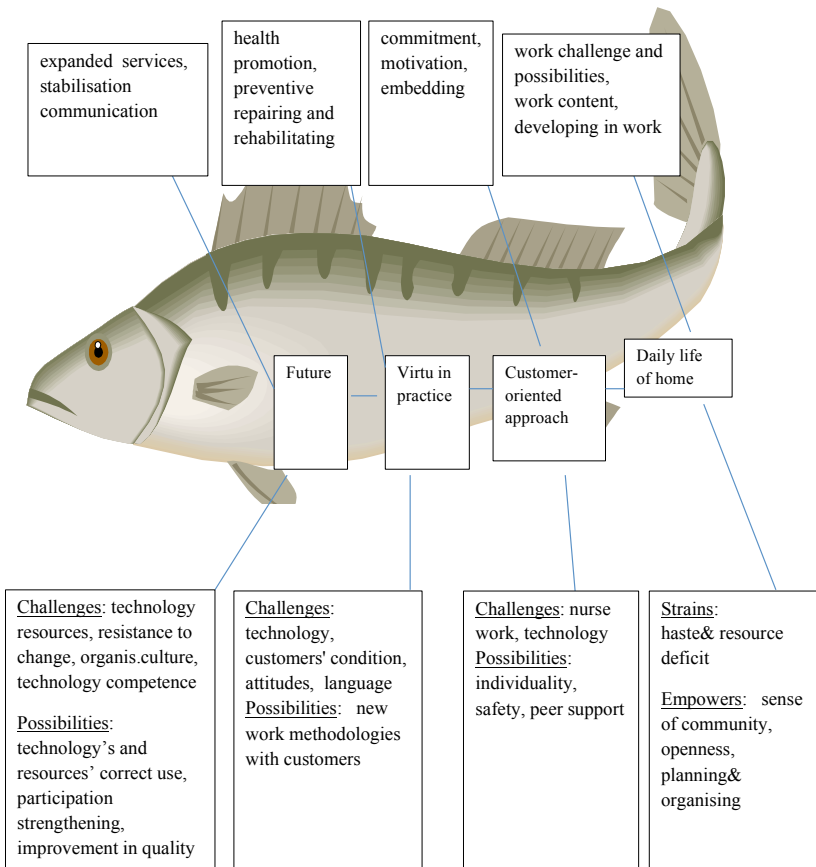

FIGURE 2. *Workshops in home care in Sipoo.*

REFERENCES

Barnard, A. & Locsin, R. 2007. Technology and Nursing. Practice, Concepts and Issues. Palgrave.

Engeström, Y. 1995. Kehittävä työntutkimus- perusteita, tuloksia ja haasteita. Hallinnon kehittämiskeskus. Helsinki.

Groop, J. 2012. Theory of Constraints in Field Service: Factors Limiting Productivity in Home Care Operations. Väitöskirja Aalto-yliopisto.

Heikkilä, A, Jokinen, P ja Nurmela, T. 2008. Tutkiva kehittäminen – avaimia tutkimus- ja kehittämishankkeisiin terveysalalla. WSOY.

Heikkinen,E. & Marin, M. 2003. Vanhuuden voimavarat. Tammi. Helsinki.

Heikura, M. 2011. Hyvinvointiteknologian yhdistäminen osaksi kotihoidon käyntejä. Opinnäytetyö Laurea, Otaniemi.

Hietanen, A. & Lyyra, T-M. 2003. Iäkkään väestön terveyden ja toimintakyvyn ylläpitäminen ja edistäminen. Sosiaali- ja terveysministeriön selvityksiä 2003:2.

Huusko, T. 2012. Kuntoutus vanhuusiässä. Julkaisussa Kohti parempaa vanhuutta. Konsensuskokous. 2012. Suomalainen Lääkäriseura Duodecim & Suomen Akatemia. Painotalo Kyriiri Oy. Helsinki. 90–95.

Juntunen, A. 2004. Uusi teknologia ikääntyvien hoito- ja hoivatyössä. Selvitys teknologisten apuvälineiden käyttöön liittyvistä kokemuksista Kajaanissa ja Sotkamossa. Kajaanin Ammattikorkeakoulun julkaisusarja B, raportteja ja selvityksiä 5.

Jääskeläinen, J. 2004. e-Welfare: Tuottava tietotekniikka hyvinvointipalveluissa. Sitran raportteja 41. Helsinki.

Kanste, O., Timonen, O. & Ylitalo-Katajisto. K. 2012. Videopuhelimella etäohjatuista painonhallintaryhmistä hyviä tuloksia. Sairaanhoitaja 85(4), 55–57.

Liimatta, S. & Paananen, T. 2007. Tel Lappi III. Teknologian käyttöönotosta palvelujen kehittämiseen 2001–2007. Lapin sairaanhoitopiirin kuntayhtymä.

Marin, M. & Hakonen, S. (eds.) 2003. Seniori- ja vanhustyö arjen kulttuurissa. PS-kustannus, Jyväskylä.

Mäki, O., Topo, P., Rauhala, M. & Jylhä, M. 2000. Teknologia dementiahoidossa. Eettinen näkökulma päätöksentekoon. STAKES. Oppaita 37.

Niemelä, K. 2011. Iäkkäiden tuettu kuntoutuminen: laitoskuntoutusjakson, kotikuntoutuksen ja keinutuoliharjoittelun vaikutukset iäkkäiden toimintakykyyn ja elämänlaatuun. Väitöskirja, Itä-Suomen yliopisto.

Pitkälä, K. 2012. Sairauksien ehkäisy ja terveyden edistäminen vanhuusiässä. Julkaisussa Kohti parempaa vanhuutta. Konsensuskokous. 2012. Suomalainen Lääkäriseura Duodecim & Suomen Akatemia. Painotalo Kyriiri Oy. Helsinki. 70–78.

Sipoon vanhuspoliittinen ohjelma vuoteen 2012. Sipoon kunta.

STM. 2006. Hyvinvointi 2015 -ohjelma: Ikärakenteen muutos ja kansainvälistyminen hyvinvointivaltion suurimmat haasteet. Sosiaali- ja terveysministeriö.

STM. 2008. Ikäihmisten palvelujen laatusuositus. Sosiaali- ja terveysministeriön julkaisuja 2008:3.

Suhonen, L. & Siikanen, T. 2007. Hyvinvointiteknologia sosiaali- ja terveysalalla – hyöty vai haitta?. Lahden ammattikorkeakoulun julkaisuja. Tampereen yliopistopaino Oy.

Thurmond, V. & Boyle, D. 2002. An integrative review of patients' perceptions regarding telehealth used in their health care. Online Journal of Knowledge Synthesis for Nursing, 9(2), Document number 2, 21.

Toljamo, M. & Perälä, M-L. 2008. Kotihoidon henkilöstön työn, työtyytyväisyyden ja palvelujen laadun muutokset PALKO- hankkeen aikana. Kysely kotihoidon henkilöstölle vuosina 2001 ja 2003. STAKES.

Torp, S., Hanson, E., Hauge, S., Ulstein, I. & Magnusson, L. 2008. A pilot study of how information and communication technology may contribute to health promotion among elderly spousal carers in Norway. Health and Social Care in the Community, 16 (1) 75–85.

Vaelma, M. 2011. Apu on kosketuksen päässä. T-seniorit-projekti 2008–2010. Loppuraportti. Tampereen kaupunki; Tietotuotanto ja laadunarviointi C2/2011.

Vesterinen, R. 2010. Etäkuntoutus- mahdollisuus kuntoutua kotona kaksisuuntaisen videoyhteyden avulla: käytettävyystutkimus Innokusti- hankkeessa. Pro gradu- tutkielma. Terveystieteiden laitos. Jyväskylän yliopisto.

Virtanen, P., Suoheimo, M., Lamminmäki, S., Ahonen, P. ja Suokas, M. 2011. Matkaopas asiakaslähtöisten sosiaali- ja terveyspalvelujen kehittämiseen. Tekesin katsaus 281/2011.

Voutilainen, P.& Tiikkainen, P. 2009. Gerontologinen hoitotyö. WSOY.

Välimäki, T. 2012. Family caregivers of persons with Alzheimer's disease: Focusing on the sense of coherence and adaptation to caregiving. Publications of the University of Eastern Finland. Dissertations in Health Sciences 116.

PART IV
– STUDENTS LEARNING
IN VIRTU PROJECT

VIRTU PROJECT AS LEARNING ENVIRONMENT

Anne Eskelinen

ABSTRACT

The pedagogic basis of Laurea University of Applied Sciences is Learning by Developing that enables the student's competence to be developed in development projects realised in cooperation with the workplace. This article discusses the development of students of the Bachelor of Social Services programme in the VIRTU project and describes the VIRTU project as a learning environment through the dimensions of Learning by Developing – authenticity, experiential nature, partnership, creativity and research-oriented approach.

In the spring of 2012, 60 students of the Bachelor of Social Services programme participated in the VIRTU project as part of Methodical Customer Work study unit. Students' feedback of project work was gathered at the completion of the study unit. Student's feedback showed that project work developed students' customer work competence generally in the form of developed guiding skills, i.e. distance guidance, and as developed methodological competence. Through the project, students learnt about elderly care and 68 % of student respondents described working in the VIRTU project as a pleasant experience and said that it had changed the student's attitude toward elderly care and the elderly in a positive direction.

Based on student feedback, the VIRTU project proved to be a very good learning environment when project work was examined through the dimensions of Learning by Developing. Genuine and spontaneous encounters with the elderly and developing personal professionalism through experiencing were mentioned in feedback.

Key words: Learning by Developing, interactive distance guidance, elderly care

ELDERLY CARE AND TRAINING CHALLENGES

The objective of the VIRTU project is to meet the great challenges of future welfare services. By utilising technology, the project seeks solutions to the ageing of population and the increase in the need of services directed to the elderly. Challenges must be recognised also in the education organisation. In their article, Saari and Viinamäki (2010) discuss the competencies Bachelors of Social Services must have as welfare service system employees in the 2010s and 2020s, and the professional titles they have when hired.

Based on content analyses made of anticipation publications, Saari and Viinamäki (2010) note that the need and demand of social and healthcare services increase as the population ages. As the education level of the elderly rises, service requirements increase. Welfare service needs, demand and availability of work force, and income bases of municipalities develop differently in different parts of the country and ensuring versatile high-quality services in areas of net out-migration with elderly majority can be seen as a challenge.

Education organisations involved in the VIRTU project have begun to respond to welfare service challenges by developing the competence of future professionals though a project. According to an analysis written by Saari & Viinamäki (2010, 186–188) based on anticipation publications, in the future, tools used by Bachelors of Social Services (Bachelor or Master, university of applied sciences) should be ethically, ecologically, socially and economically compatible with a sustainable work method. The vision is that work is done in multidisciplinary groups committed to customer-oriented operating methods. In working groups, division of work is based on tasks divided by competence and groups try to meet the needs of ever older and multi-cultural customers in the form of tailored services. The report challenges universities of applied sciences to consider whether the current training meets the competence challenges of the future job description. (Saari & Viinamäki 2010, 186–188.)

As population ages, we should resolve what professional groups and how many employees are needed in the future for welfare work done among the elderly. To ensure the social dimensions of welfare, we need trained employees to enable social and healthcare services required for comprehensive welfare. In education, when it comes to welfare services, the significance of care instead of treatment should be underlined in training as well as producing the competence needed for supporting social ability to function. (Saari & Viinamäki 2010, 194, 198.)

Students' impression of today's elderly care is regrettably often negative. A survey done in Laurea in autumn 2010 (Putkonen et al. 2011) studied the experiences and opinions on elderly care of 217 students in two educational establishments of social services and healthcare. The study showed that earlier positive experiences of the elderly and experience of elderly care increased the willingness to work in the field of elderly care. Poor resources and negative experiences of elderly care were felt to be the greatest obstacles in seeking employment in elderly care. Elderly care developers and knowhow enhancers with positive opinions about elderly care and a desire to continue working in it stood out as a special group in the study.

PROJECT WORK AS BASIS OF LEARNING BY DEVELOPING

In the beginning of the 2000s, development work to integrate the three missions of universities of applied sciences – education, R&D and regional development – began in Laurea. This resulted in generating the Learning by Developing (LbD) operating model which combines developing students' competence and the basic missions of the universities of applied sciences. The operating model resulted in generating open learning environments, in changed leadership and the quality of being a teacher, and provided the prerequisites for developing R&D and innovation activity. The model combines professional education and research-oriented higher education and the goal is creating competence and new information. (Laurea-ammattikorkeakoulu 2011a.)

The five characteristics of a Learning by Developing process are authenticity, partnership, experiential nature, research oriented approach and creativity. Authenticity is in genuine workplace orientation and workplace connection because the learning environments are R&D projects near the workplace. Partnership is seen as cooperation between workplace, customers, students and lecturers in different stages of the project. Equality and trust are central principles of partnership. Experiential nature means communal sharing and utilising experience-based knowledge in project cooperation in the form of competence development and for example the project's impact assessment. Research oriented approach is seen as utilising researched information and research method information in the project and on the other hand as a research-oriented and critical approach to work. Creativity is a resource in a development project and the project enables implementing creativity. Creative

and curious participation is the basis for forming new operating methods and operation that renews the workplace. (Laurea-ammattikorkeakoulu 2011a, 12–13; Laurea-ammattikorkeakoulu 2011b, 8–9, 29; Raij 2006, 27–28.)

The basis of Laurea University of Applied Sciences' Learning by Developing is that teaching progresses in joint R&D projects done with the workplace. Learning concerns authentic development situations and problems encountered in the workplace. (Laurea-ammattikorkeakoulu 2011a.) According to Rauhala (2009, 33) Learning by Developing includes the view of a learning situation according to the Deweyesque education idea in which the learning situation is part of the activities of workplace and society and not an isolated artificial island. According to Raij (2006, 22), in a Learning by Developing process the individual and also all actors in the project can be seen always in the learner's role. It generates learning in the individual and community and production of new information based on partnership. At best, all parties' competence develops in project operation.
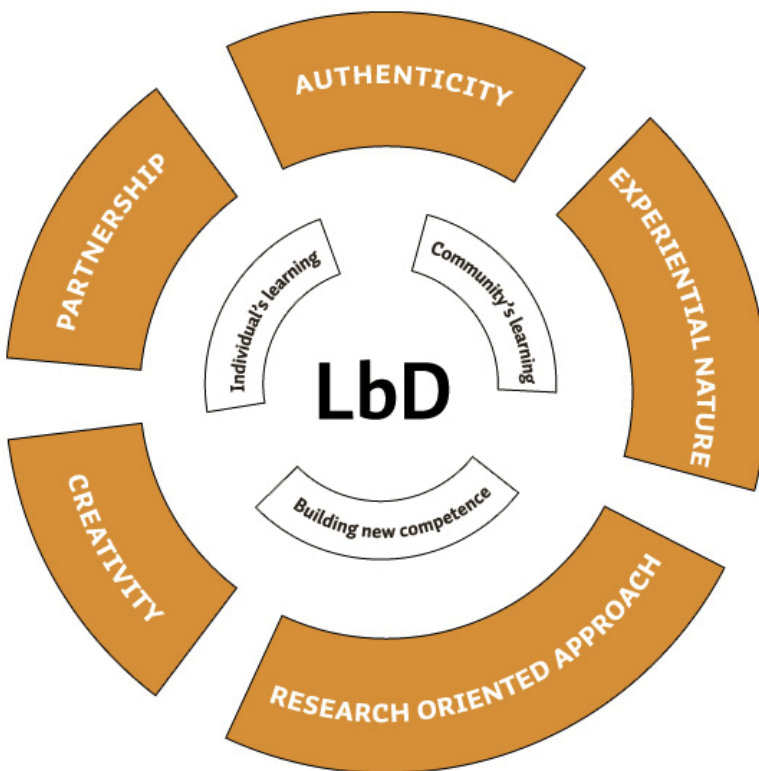

FIGURE 1. *Learning by Developing (LbD).*

VIRTU PROJECT OPERATION IN LAUREA

In Laurea, a total of 249 students in nursing, social services, business management and business information technology degree programmes participated in the VIRTU project operation during the academic years 2010–2011 and 2011–2012. Students' acting in the project was linked to different study units, thesis process, practical studies or elective studies. In project work, central operations were VIRTU channel development activities in cooperation with Sipoo municipality and planning, realising and assessing VIRTU channel activities.

Competence development of social services students in VIRTU project

In spring 2012, 60 social services students of Methodical Customer Work study unit participated in VIRTU channel activities. During the study unit, the VIRTU project acted in "unifying the dialogue of theory and practice". The project was also seen as an opportunity to introduce elderly care services to students. The goal of an exercise done in the VIRTU project was to develop students' readiness to act as instructors in social services customer work. Students planned, realised and assessed guided activities for VIRTU channel users. The goals and methods of guidance were determined according to customers' needs in accordance with VIRTU channel's general goals.

The guidance lesson was carried out in five-person groups as interactive distance guidance and peer assessment in the VIRTU project. Planning and realising the guidance lesson was done in cooperation with lecturers and a student assistant, and the suitability of chosen methods and implementation for VIRTU channel users was discussed. According to Raij (2006, 22, 31), learning within a development project progresses through a bilateral relationship with different types of know-how. Research-based knowledge, knowledge latent in skills and abilities, ethical knowledge and experiential knowledge are combined through sharing and collaborative action. There is knowledge included in workplace competence, the knowledge that explains it, and, through the development project, also new knowledge and know-how. (Raij 2006, 22, 31.)

Student feedback

After the study unit was completed, student feedback on participating in the VIRTU project work was collected. The feedback questionnaire contained five questions. It consisted of two fill-in-the-gaps statements seeking answers about the students' views on combining project work and a study unit. The usefulness of the students' learning experience was surveyed with a question having a scale of 1–5. With an open question, the survey asked for the student's view on the impact of the VIRTU project on the student's attitude toward elderly care services and the elderly. In addition, the student had a chance to present development ideas concerning the VIRTU project. 51 students answered the feedback questionnaire when the total number of students participating in the study unit was 60 students. Answer percentage of the feedback questionnaire was 85%.

Experience of a new kind of customer work

Students' feedback on participating in the VIRTU project was primarily positive and customer work in the VIRTU project was considered an interesting and important operating form. Interaction between students and the elderly and listening and respecting the elderly person were underlined in the operation. According to Rantanen & Toikko (2008, 88), the competence strength of a Bachelor of Social Services is in customer work and interaction. This does not mean only mastering the tools of customer work or limiting them to certain kind of contexts, but readiness to act in changing situations and developing one's work are an essential part of work. In interaction, linking it to concrete daily operations is considered important. Work with individuals, group work and community work are central areas of expertise of a Bachelor of Social Services. Skills in social analysis, welfare state skills and change management orientation are also seen as central in the professionalism of a Bachelor of Social Services. (Rantanen & Toikko 2008, 88.)

According to students' feedback, participating in the VIRTU project gave valuable practical experience in interactive distance guidance. Student described distance guidance as part of future customer work. The project was seen as a way to do elderly care in a new way. Interactive distance guidance was felt to be very different from traditional guidance; it showed a new way to have interaction and communication. For most students, distance guidance was an unknown concept and way to do customer work.

Competence in customer work of a Bachelor of Social Services requires goal-oriented support and guidance of the customer and ability to analyse the customer process. A systematic approach and mastering different work methods are part of competence. A Bachelor of Social Services is required to have continuous modifiability and ability to learn in situations. (Rouhiainen-Valo et al. 2010, 18.) In the project, students were able to utilise different customer work methods that had been discussed in the study unit's face-to-face sessions. Students saw that the project work was about guiding and observing the customer. Project work enabled reflection on the goals of the operation, on different guidance ways and guidance methods from the customer's perspective. Also, the technological approach of the future became familiar through the project. Students felt that project work supported well reaching the study unit goals because *"you personally got to guide and also had a chance to apply in practice what you had learnt"*. Considering the perspective of VIRTU channel users, students felt that the method gave senior citizens an excellent opportunity for interaction, but on the other hand they discussed whether the constantly changing instructors are in the interest of the customers.

In the field of elderly care, a Bachelor of Social Services' competence consists of social gerontology and social awareness and advocacy. Another core competence is socio-cultural competence, in which socio-cultural literacy, knowledge of cultures and resource-oriented working are important. Supporting the social ability to function, in which the elderly person is seen in his or her own social contexts, is part of a Bachelor of Social Services' core competences in elderly care. (Salonen 2008, 165.)

As to planning, students considered it especially good that they were allowed to include different methods in the programmes, and they were also allowed to design the content freely in their own groups. Creativity and creative actions as part of the customer's daily life were emphasised in planning. The study unit discussed different creative ways to approach a customer group and students thought that these experiences helped them in planning their own topics. Plans were presented to other students and student groups discussed together how the topics suited to the needs of the customer group and interactive distance guidance. Some students would have hoped for more guidance in and tips for planning the programmes and an opportunity to study more extensively different methods, "after which we could have better applied in VIRTU what we have learnt". Students hoped for clearer scheduling and organisation in

project work, but on the other hand some students considered it an advantage that they were allowed to take the responsibility for schedules when working in a small team.

An expert's competence consists of knowing, understanding, skills in doing and ability to manage situations. Learning by Developing can enable development in information gathering and processing skills. Reflection of and sharing experiences develop skills in understanding. Participating in and following different operations as well as independent work enhance skills in doing. When troubleshooting skills, self-directedness and research-oriented and developmental approach to work develop, also the ability to control situations develops. (Laurea University of Applied Sciences 2011a, 10.)

In their feedback, three students said that they would have preferred to guide a group face to face. Referring to the extensive scope of Bachelor of Social Services degree, it was said that the operation was too tied to one customer group, i.e. elderly care. All methods handled in the study unit could not be directly applied in distance guidance or in elderly care. The limitations of technology were met in applying methods, because "technology greatly limited the kind of creative things that could be done, some other environment could have given more possibilities to creativity".

The feedback questionnaire asked about the value of the learning experience obtained in the VIRTU project to the student with the statement "learning experience obtained in the VIRTU project was useful". Students assessed their learning experience with a scale of 1–5 so that number one meant 'I completely disagree' and number five meant 'I completely agree'. 26 respondents completely agreed with the statement, 21 nearly agreed, one could not say and three students nearly disagreed with the statement. The average of answers given was 4.37 which can be considered a very good result.

Attitudes of Bachelor of Social Services students toward the elderly and elderly care services

The attitudes of Bachelor of Social Services students toward the elderly and elderly care services were asked with the question "How have your experiences of participation in the VIRTU project influenced your attitude toward elderly care services and the elderly?" Student's answers were classified in four groups. The answers of 34 students (68%) indicated that **participation in**

the VIRTU project was a pleasant experience and changed the person's attitude toward the elderly and elderly care in a positive direction. Students felt that the experience of elderly care obtained through the VIRTU project was "interesting, taught assessment of one's own actions with the elderly and appreciating the elderly had a big role". Students felt that when talking with the elderly "one personally learnt new things and learnt to think of things from a different perspective". Students felt that the elderly had a positive attitude toward guidance and the topics chosen by students. Through the project, the elderly became more familiar as a customer group and one learnt to have a more natural attitude toward them. Through project work, students' self-confidence in encountering the elderly was enhanced and it gave them courage to encounter the elderly. Working in the project changed one's attitudes toward elderly care, because "through experience, one had the feeling that the scope of elderly care is wider than the stuffy smelling assisted living facilities etc.". The elderly were seen as positive persons and eager to learn new things: "also the fact that something new can be created with the elderly" was considered important.

Three students (6%) had the opinion that the **project did not bring anything new to their attitude toward the elderly and elderly care, but the experience was a positive one.** "The experience did not really change my perception of the elderly, but it was a positive experience and the elderly participating in the activities seemed satisfied with the service in question." Nine students (18%) felt that **project work did not change their attitudes toward the elderly and elderly care in any way.** Some students already had experience of the elderly as clients or students felt that encountering them through a video conferencing system was distant. For four students (8%), project work **changed their attitudes so that the project work concretised the idea that elderly care is not what they want to specialise in their studies.**

VIRTU PROJECT AS LEARNING ENVIRONMENT

Below is a discussion of the participation of students of Bachelor of Social Services programme in the operation of the VIRTU project through five characteristics of Learning by Developing. It can be noted that students saw project work as a positive experience and the VIRTU project acted as an interesting opportunity to learn about a new form of elderly care.

VIRTU Project as learning environment described by the characteristics of Learning by Developing

Authenticity
- genuine guidance of the elderly
- chance to apply in practice the learnt content
- chance to interact with the elderly

Partnership
- appreciation of the elderly
- learning a more natural attitude toward the elderly
- much can be learnt from the elderly

Experiential nature
- experience of interactive distance guidance
- experience of assurance for doing of one's own
- experience of the functionality of various practices

Research oriented approach
- considering what methods work with the elderly
- utilising methods learnt in the study unit
- assessing one's own actions with the elderly

Creativity
- chance to try the methods one has chosen
- chance to use with creativeness and versatility different methods to activate the clients
- chance to see that new things can be developed with the elderly

FIGURE 2. *VIRTU project as learning environment of Bachelor of Social Services students.*

Based on student feedback, the VIRTU project gave students an authentic experience in guiding the elderly and an opportunity to apply learnt information in practice. The significance of interaction in encounters with the elderly was pointed out as central by students.

Partnership in Learning by Developing is seen as cooperation between all actors in the project. Partnership means doing together, learning together and sharing competences. (Raij 2006, 27.) In the VIRTU project, students felt they are in the learner's role when encountering the elderly. Based on student feedback, students noted that they learnt to have a more natural attitude toward the elderly, and appreciating the elderly was emphasised in the operation.

VIRTU project as a learning environment gave students of Bachelor of Social Services programme practical experience in guiding the elderly and in interactive distance guidance. On VIRTU channel, the student had a chance to apply methods and theoretical information discussed in the face-to-face sessions. The project offered a possibility to study and practice elderly care methods in practice through experience.

The students' task was to apply learnt methods and reflect on the functionality of methods in VIRTU channel activities. Student feedback showed the significance of assessment and critical reflection of the applicability of methods as part of the VIRTU project operation. In Learning by Developing, research oriented approach is seen as the utilisation of research knowledge and knowledge of research methods in projects and in personal competence development (Laurea-ammattikorkeakoulu 2011a, 12). Working in the VIRTU project developed the students' methodological competence in elderly care services and more broadly in social services.

In project work, the goals are creating new information and competence. Projects aim to solve problems and develop operations in cooperation. Project work requires creativity for producing new ideas and operating models. (Laurea-ammattikorkeakoulu 2011a, 12; Laurea-ammattikorkeakoulu 2011b, 9.) On VIRTU channel, the students of Bachelor of Social Services programme involved in the VIRTU project were allowed to try the methods they had chosen and use them in a creative and versatile manner to activate customers. An important aspect that the students noted was to understand through the project work that something new can be created when working with the elderly.

Through learning environments like the VIRTU project, the students' image of elderly care can be changed to be more versatile and possibly more positive toward elderly care and toward working in elderly care services. According to a survey by Putkonen et al. (2011), positive experiences of the elderly and experience of elderly care enhanced the desire to work in the field of elderly care services.

The VIRTU project proved to be a meaningful learning environment and modifier of attitudes and prejudices for students of Bachelor of Social Services programme. In student feedback, appreciation for and learning from the elderly were crucially noted. The project introduced to the students a work form of the future, interactive distance guidance, and developed the students' skills from the perspective of being an instructor in elderly care.

REFERENCES

Laurea-ammattikorkeakoulu. 2011a. Kehittämispohjaisen oppimisen strategia Learning by Developing (LbD).

Laurea-ammattikorkeakoulu. 2011b. Kehittämispohjaista oppimista. LbD-opas.

Niiniö, H. & Putkonen, P. (eds.) 2011. Kehittämishanke muutosvoimana vanhustyössä. Laurea-ammattikorkeakoulun julkaisusarja B 42. Helsinki: Edita Prima Oy.

Ora-Hyytiäinen, E.(eds.). 2009. Learning by Developing -toimintamalli ja arvioinnin haasteet. Laurea-ammattikorkeakoulun julkaisusarja B 32. Helsinki: Edita Prima Oy.

Putkonen, P., Toikko, A. & Ruohoniemi, M. 2011. Sosiaali- ja terveysalan opiskelijoiden käsitykset vanhustyöstä. In Niiniö, H. & Putkonen, P. (eds.) 2011. Kehittämishanke muutosvoimana vanhustyössä. Laurea-ammattikorkeakoulun julkaisusarja B 42. Helsinki: Edita Prima Oy. 223–240.

Raij, K. 2006. Kehittämispohjainen oppiminen ammattikorkeakouluosaamisen mahdollistajana – Learning by Developing ammattikorkeakoulukontekstissa. In Erkamo, M. & Haapa, S:& Kukkonen, M-L. & Lepistö, L. & Pulli, M. & Rinne, T. (eds.) 2006. Uudistuvaa opettajuutta etsimässä. Laurea-ammattikorkeakoulun julkaisusarja. B11. Helsinki: Edita Prima Oy. 17–34.

Rantanen, T & Toikko, T. 2008. Sosionomin (AMK) osaaminen ja sosiaalityön tutkimus. Julkaisussa Viinamäki, L. (eds.) 2008. 14 puheenvuoroa sosionomien (AMK) asemasta Suomen

hyvinvointiasiantuntijajärjestelmässä. Kemi-Tornion ammattikorkeakoulun julkaisuja. Sarja A: Raportteja ja tutkimuksia 2/2008. Anjalankoski: SOLVER palvelut Oy.

Rauhala, P. 2009. LbD ja arvioinnin haasteet aluekehityksen näkökulmasta. In Ora-Hyytiäinen, E.(eds.). 2009. Learning by Developing -toimintamalli ja arvioinnin haasteet. Laurea-ammattikorkeakoulun julkaisusarja B 32, 32–42.

Saari, E. & Viinamäki, L. 2010. Ennakointeja sosionomien (AMK & ylempi AMK) paikasta tulevaisuuden hyvinvointipalvelujärjestelmän ammattilaisina. In Viinamäki, L. (eds.) 2010. Sosionomin ammatti ja työ 2010–2025. Havaintoja ja päätelmiä sosionomien (AMK & ylempi AMK) profiilista Suomien hyvinvointiasiantuntijajärjestelmässä. Sarja A: Raportteja ja tutkimuksia 3/2010. Anjalankoski: SOLVER palvelut Oy.

Salonen, K. Sosionomin (AMK) osaaminen 2000-luvun senoiri- ja vanhustyössä. In Viinamäki, L. (eds.) 2008. 14 puheenvuoroa sosionomien (AMK) asemasta Suomen hyvinvointiasiantuntijajärjestelmässä. Kemi-Tornion ammattikorkeakoulun julkaisuja. Sarja A: Raportteja ja tutkimuksia 2/2008. Anjalankoski: SOLVER palvelut Oy.

Viinamäki, L. (eds.) 2010. Sosionomin ammatti ja työ 2010–2025. Havaintoja ja päätelmiä sosionomien (AMK & ylempi AMK) profiilista Suomen hyvinvointiasiantuntijajärjestelmässä. Kemi-Tornion ammattikorkeakoulun julkaisuja. Sarja A: Raportteja ja tutkimuksia 3/2010. Anjalankoski: SOLVER palvelut Oy.

Viinamäki, L. (eds.) 2008. 14 puheenvuoroa sosionomien (AMK) asemasta Suomen hyvinvointiasiantuntijajärjestelmässä. Kemi-Tornion ammattikorkeakoulun julkaisuja. Sarja A: Raportteja ja tutkimuksia 2/2008. Anjalankoski: SOLVER palvelut Oy.

STUDENTS AT THE VIRTU CHANNEL – PLANNING, REALISATION AND ASSESSMENT OF STUDENTS' ACTIVITIES WITH ELDERLY USERS AT THE NOVIA UNIVERSITY OF APPLIED SCIENCES

Bodil Julin, Marina Grunér, Ann-Maj Johansson
& Minna Syrjäinen-Lindberg

ABSTRACT

Students and lecturers at the Novia University of Applied Sciences (YH Novia) are involved in developing a new service model in collaboration with other partners in the VIRTU project. The service model is being realised virtually at the VIRTU channel and YH Novia is responsible for the Swedish activity in Åboland. The service model constitutes part of the students' activities. The purpose of this article is to describe how students plan, implement and assess activities with the elderly users at the VIRTU channel.

Key words: students, the elderly, resource strengthening method, guidance, telecare.

INTRODUCTION

Students and lecturers at the Novia University of Applied Sciences (YH Novia) are involved in developing a new service model in collaboration with other partners in the VIRTU project. The students' participation in

the project follows the guidelines in the curriculum for the Novia University of Applied Sciences, Department for Nursing and Social Services in Åbo, which emphasises a multi-professional, development-focused and resource strengthening approach as well as consideration of sustainable development. The project work is integrated in the students' courses. Students implement Swedish language activities at the VIRTU channel twice a week. The activities deal with health, memory training, physical exercises, culture and current topics as well as spiritual existential programs. The goal for the activities is to support the elderly, so they can manage their daily life better and improve their quality of life through social interaction and an increased feeling of safety at home. A supervising lecturer is always in place during the activity as examiner. The purpose of this article is to describe how students plan, implement and assess activities at the VIRTU channel.

Students' participation in the project

So far, more than 100 students from YH Novia have contributed with activities at the VIRTU channel. From the nursing programme, some 50 future nurses and, from the social services programme, over 40 future social workers have held programme activities. In addition, around 20 community educators and health care students have contributed with other types of activities. Students will continue to run Swedish activities on the VIRTU channel until the end of the project period.

The elderly users

The target group, the elderly users, is Swedish speaking elderly people living at home and family carers from Åboland's archipelago. Since participation in the VIRTU channel is voluntary, the size of groups for a programme can vary from no users to eight users and students need to be prepared for this.

Student activities at the VIRTU channel

The students' tasks are to plan, realise and assess an activity for a group of elderly users. The activity is realised virtually and the students' task is to support the elderly by making use of and strengthening the elderly's own resources. The elderly's health is seen as a process, where the elderly are given the opportunity

to take increased control of the health determinants so as to promote their own health. The method, which was developed and used in the activities at the VIRTU channel, consists of three parts: the view of the elderly, the conversational technique and a topic concerning the elderly's health. Together, these three parts constitute the resource-strengthening method that students use when they realise their activity (see Figure 1).

FIGURE 1. *The resource-strengthening method used at the VIRTU channel.*

SALUTOGENESIS, RESILIENCE AND EMPOWERMENT AS APPROACHES TO THE ELDERLY

Students, based on their own interests and learning needs, choose one or more of the approaches to the elderly described below, which they study in more depth prior to the activity – salutogenesis, resilience and/or empowerment.

According to Antonovsky (1991), salutogenesis refers to an approach to life, where the sense of coherence is connected to good health and well-being. A salutogenetic perspective focuses on things that promote maturity and development in individuals, groups and networks. The sense of coherence

consists of three components. Meaningfulness, which is a motivational or emotional component; comprehensibility, which is a cognitive component; and manageability, which describes the elderly as a player in their own life with the ability to influence circumstances. Everybody, even the elderly, is subject to physical, psychological or social stresses that vary throughout life's different stages. Generalised resistance resources (e.g. self-esteem, intelligence, social relations, hereditary, healthy way of life, belief, religion and meaningful occupation) help the elderly to understand and manage the stress factors (Gassne 2008).

Resilience is described as a dynamic characteristic that is influenced by social, cultural and spiritual factors, and it is used to understand how an elderly person withstands adversities. For example, by promoting meaningfulness in the elderly's life, the elderly withstand adversity better. During activities at the VIRTU channel, students can take resilience as their starting point and concentrate on factors, together with the elderly, which strengthen the elderly's well-being and health. (Alex 2010; McAllister & McKinnon 2009.)

In this context, empowerment refers to the elderly's ability to take control of their own life through increased knowledge and learning. Empowerment can be considered as an approach, as a method and as an outcome. The goal is not to influence the elderly's behaviour, rather the students' task is to place knowledge, skills and the elderly's own resources at their disposal so they keep their autonomy and make independent decisions. Empowerment makes use of the elderly's resources, strengths and opportunities and it is a positive approach that focuses more on solutions than problems. (Funell & Andersson 2003; Kuokkanen & Leino-Kilpi 2000.)

APPLICATION OF PEDAGOGICAL METHODS IN THE MEETING WITH THE ELDERLY

During their activities at the VIRTU channel, students on the nursing course use an application of the methods for professional guidance described by Hägg and Kuoppa (2007) as well as guidance conversation according to Kostenius and Lindqvist (2009). In this context, the term professional guidance, which is directed to a group of elderly people, is used. The method's intention is to help the students structure, listen, ask questions and lead conversations in

groups of elderly people. The openness of these meetings is one condition for them to be beneficial. It deals with how well students can see things from the elderly's perspective. A lot of advice on how the elderly live a healthy life can turn out to have the opposite effect, when it comes to the elderly's health promoting behaviour.

In the social area, the programme's starting point for students is professional communication and interactive group instruction. Professional communication is based on the profession's fundamental values. The profession's professional ethical goals are to satisfy the elderly's needs, consider individuality, and promote equality and respect as well as to assist elderly people use their own resources (Dysthe 2010). A basic idea in social pedagogy is that the individual develops in a social context, in communion with others and through interplay in groups. Interaction occurs in meetings of all types and concerns teamwork, communication and individuals in some way adopting an attitude to one another. Interplay comes about during communication, an exchange where notions about others and ourselves are formed. (Svensson et al 2008.) The aims of the social pedagogical work with the elderly include supporting the elderly's activity, social contacts and intellect. Students build on social pedagogical principles and choose salutogenesis, resilience or empowerment as approaches to the elderly. As instructors, students also act as enthusers. Enthusers are a catalyst who challenge, encourage and motivate the elderly users to participate as well as to make use of their experiences. Enthusers create the outer framework for the meetings and they help the elderly to create new contacts, so together, they can develop their day-to-day life. (Eriksson & Markström 2000.)

The activity starts with the students welcoming the users, introducing themselves and briefly explaining how the programme will be realised. After this, nursing students examine the elderly users' situation regarding the current subject and adapt their language and tempo to suit the users. All elderly users have the right to be respected and to be treated as individuals. Students do not take a position on the elderly user's statements, but rather give space and opportunity for all of the elderly users to present their thoughts and opinions. Students are free to ask open questions that start with how, when and what and who, in order to get the discussion started. The students' task is to expand the users' perspective by information, presentation, narration or discussion with the elderly. Optimally, a discussion considering the elderly users' furtherance of their own resources and self-care can be conducted, but it is not the students' task to produce solutions for individual users. For social-work students, there

follows the realisation of the pedagogical plan for a group activity (warming up, activity and informing). Finally, the students summarise, conclude the program, and conduct a short feedback discussion together with the elderly users in the programme.

CHOICE OF SUBJECT

Students choose a subject for the activity that is relevant considering the elderly's health and well-being, e.g. memory training, or the elderly's functional capacity and physical exercises, or culture and topical subjects or spiritual-existential questions. The goal is to apply resource-strengthening principles by emphasising the preservation and promotion of the users' functional capacity and self-care. (Kurki 2008.)

THE STUDENTS' WORK PROCESS

In order for the students' work process to run well, it starts with information about the VIRTU project and a visit to the studio. Students also get to know one or more of the elderly users at the interactive VIRTU channel. After this, students prepare a written action plan, individually or in pairs, for an activity at the VIRTU channel. Students are given guidance in the form of workshops, in which students exercise their skills prior to the activity. During the workshop, the supervising lecturer, who also approves the plan, approves the subject chosen for the activity. The work process is also described in the implementation plan for the course in the respective educational programme.

Written plan for the activity at the VIRTU channel

Students write in pairs a plan for the activity based on their educational programme's specific course instructions. Students use at least two scientific articles and at least five relevant other sources in the action plan. The plan is written in accordance with the Novia University of Applied Sciences writing instructions and it should include the following: Introduction with justification of the choice of subject and method, application as well as justification of the choice of approach, application of pedagogic methods, goal specification

(student/the elderly/subject/method), description of the central parts of the subject as well as a detailed timetable for the realisation. The supervising lecturer must approve the plan for performance before the activity is held. The assessment criteria for the plan are for the student to demonstrate his or her knowledge by being able to apply nursing or social pedagogical theory while planning the instruction for a VIRTU activity as well as knowledge in the application of the programme's guidance structure.

Realisation and assessment of the programme

Students implement activities at the VIRTU channel twice a week. Each activity lasts 45 minutes. The activities deal with health, memory training, physical exercises, culture and current topics as well as spiritual-existential subjects. The goal for the activities is to support the elderly, so they can manage their daily life better and improve their quality of life through social interaction and an increased feeling of safety at home. During the activity, a supervising lecturer (preferable the same one as in the workshop) is in place in the studio, as examiner. The assessment criteria for the activity are professional attitude in the instructor role based on the action plan.

After the activity, students make an individual written assessment of the whole in relation to the plan. The assessment covers the following questions: how the program was realised as a whole, how the students achieved their goals, the student's role as instructor and lessons learned.

CONCLUSION

Students assess their own learning in the VIRTU project as good. Practising as an instructor in authentic situations is demanding but educational. Students say that they need to arrive well prepared to the activities and that they learn a lot from the conversations with the elderly users. They say that their own attitudes to elderly people have changed to more positive once they had the chance to meet the users at the VIRTU channel. Students will run Swedish language activities on the VIRTU channel until the end of the project period.

REFERENCES

Alex, L. 2010. Resilience among very old men and women. Journal of research in Nursing 15, (5) 419–431.

Antonovsky, A. 1991. Hälsans mysterium. Natur och kultur.

Dysthe, O. (ed.) 2010. Dialog, samspel och lärande. Studentlitteratur.

Eide, T. & Eide, H. 2006. Kommunikation i praktiken – relationer, samspel och etik inom socialt arbete, vård och omsorg. Liber.

Eriksson, L. & Markström, A-M. 2000. Den svårfångade socialpedagogiken. Studentlitteratur.

Funell, M. & Anderson, R. 2003. Patient empowerment: A Look Back, A Look Ahead. The diabetes Educator 29, 454–462.

Gassne, J. 2008. Salutogenes, Kasam och socionomer. Lund University.

Hägg, K. & Kuoppa, S. M. 2007. Professionell vägledning – med samtal som redskap. Studentlitteratur.

Kostenius, C. & Lindqvist, A-K. 2009. Hälsovägledning. Från tanke till handling. Studentlitteraur.

Kuokkanen, L. & Leino-Kilpi, H. 2000. Power and empowerment in nursing, three theoretical approaches. *Journal of advanced Nursing 31 (1),* 235–241.

Kurki, L. 2008. Innostava vanhuus. Finn Lectura.

McAllister, M. & McKinnon, J. 2009. The importance of teaching and learning resilience in the health disciplines. *Nurse Education Today, 29 (4), 371–379.*

Svensson, K., Johnsson, E. & Laanemets, L. 2008 Handlingsutrymme, Utmaningar i socialt arbete. Natur och kultur.

TOUCH THE SCREEN – NURSING STUDENTS' PARTICIPATION IN VIRTU CHANNEL COMMUNICATION WITH ELDERLY PEOPLE

Anette Häggblom & Regina Santamäki Fischer

ABSTRACT

This article describes the Åland University of Applied Sciences' students' involvement and participation in a programme called VIRTU channel. The method of choice was experiential learning methodology used as the communication tool in the video dialogues with the elderly clients participating in the VIRTU project. The topics discussed were about health issues important to the elderly persons. The results showed that overall, the students found the interaction with the elderly through interactive programmes useful.

Key words: students' experiences, experimental learning, interaction

INTRODUCTION

Information and communication technology (ICT) has entered all aspects of our world, including education. Telehealth is established in health education, information and counselling from a distance (Sävenstedt, 2009), and is used as an umbrella term that is interchanged with e-health and (previously) telemedicine. In the field of health services, the use of e-health is growing rapidly by health workers (Hsu et al. 2011). The term e-health can be defined as "all forms of electronic healthcare services delivered over the internet" (Mclendon 2000). E-health can be one response to the increasing numbers of elderly people in need of home-based care.

Benefits of ICT include real time video communication (Wade et al. 2010), increasing patients' quality of life and eliminating their health care travelling costs (Hsu et al. 2011). Elderly persons living alone are able to receive health education, have social contacts and be in daily contact with social and health workers. However, some technical connection problems have been mentioned (Bischoff, 2004; Kyberd et al. 2003). The development of Internet has led to increased opportunities for people to get health information more or less on an ad hoc basis. This means that the dependency approach is exchanged towards a more empowerment-based strategy. The receivers of health information are not seen as empty vessels (Freire, 1996), instead they are empowered to use their own recourses and capabilities to up-hold their authority over their own lives. Therefore, the use of e-health can be recognised as an instrument strongly emphasising the empowerment of the patient, the patient has the options but decides who acts, what is done and when (Klang Söderström, 2008).

For nursing students, learning about communication in patient education is mandatory, since communication, counselling and education are part of nurses' daily work (Vårdförbundet, 2003). Education is also one of the most important competences of nurses (Tingström, 2009). In order to increase the nursing students' ability to communicate health education to elderly persons, mainly to those living in their homes, the students at ÅUAS were introduced to the VIRTU project.

Student involvement

The number of students participating in the VIRTU channel was 17. The nursing students were introduced to the VIRTU channel through a short introduction during their first semester, all in all three lessons. The students were to plan and produce four interactive programmes during their VIRTU channel course to be able to obtain 6 European Credit Transfer System credits (ECTS). The nursing student's participation in the VIRTU channel was during four semesters. During the first one and a half year, the numbers of facilitators supporting the students were four. During the last half a year two facilitators were responsible for the students' involvement in the VIRTU channel.

Introduction to VIRTU channel

The introduction to communicating with the elderly by using the VIRTU channel included the creation of a programme outline, setting up a written programme plan together with a brief outline of a lesson plan, and an introduction to the teaching method. The students had to have a written programme plan, which was to be prepared one week before their activity in the channel. In the written plan they described the topic of the programme including an introduction and a SWOT analysis. That would make the students reflect on strengths, weaknesses, possibilities and threats concerning the elderly participating in the interactive programmes. Further factors to be described by the students were the aim, objectives, and analysis of resources, content, timetable, method, evaluation (see programme evaluation) and references to the material used. The facilitator then gave feedback on the content, the teaching method etc. before the students' VIRTU programme was realised.

Programme contents

The focus of the students' programmes varied from ready-set topics to the users' own topic wishes and areas they wanted to discuss. The content varied from common health problems faced by elderly such as constipation and hearing loss, first aid and gymnastics. The programmes started by the students' introducing themselves and continued with an overview of the content. After that, the students showed a picture or used role-play to trigger the dialogue with the participants.

Teaching method

The learning approach chosen for the VIRTU channel programmes was the experiential learning methodology (Kolb, 1984). Its aim is for learners to learn through experience. Burnard (2002) defined experiential learning as any learning activity that enhances the development of experiential knowledge. The learning process is simply described as learning by doing and it is developed from a humanistic approach. The students learn by active involvement in the learning process. In the experiential learning approach, learning is not a process by which facts are 'tacked on' to the person, nor is the person 'filled with knowledge' (Burnard, 2002). The main characteristics of experiential learning are the emphasis on action, the students' being encouraged to reflect on their experience, the facilitator's adopting a clarifying approach, the emphasis on

personal experience and finally, that human experience is valued as a source of learning. The concept of experiential learning includes four stages in a learning cycle (Figure 1) (Kolb, 1984), and another fifth stage suggested by Johnston and Rifkin (1987), mentioned as the third stage in the cycle. The learning starts from number one, concrete Experience, through a game, roleplay, story or a case study. The starter or trigger should provoke and alert the students to think and reflect on their real life experience. The students proceed to the second step, Reflection, and examination of one's experiences, which leads to the third stage, Discovery/insights, then to Generalisation and formulation of abstract concepts, and finally, the fifth stage, the Planning/implementation stage. The facilitator (used instead of teacher in experiential learning) emphasises reflection that leads to consciousness' rising and an awareness of understanding the problem based on the trigger. The facilitator guides the student in the learning process through asking questions. A question to start with can be: What do you see happening (in the picture or in the story)? By asking the first question, the facilitator can assess whether the trigger was understood. The facilitator moves on using questions such as: Does this happen? Is it a problem? What other problems does this cause? The learners should start to plan activities to solve the problem.
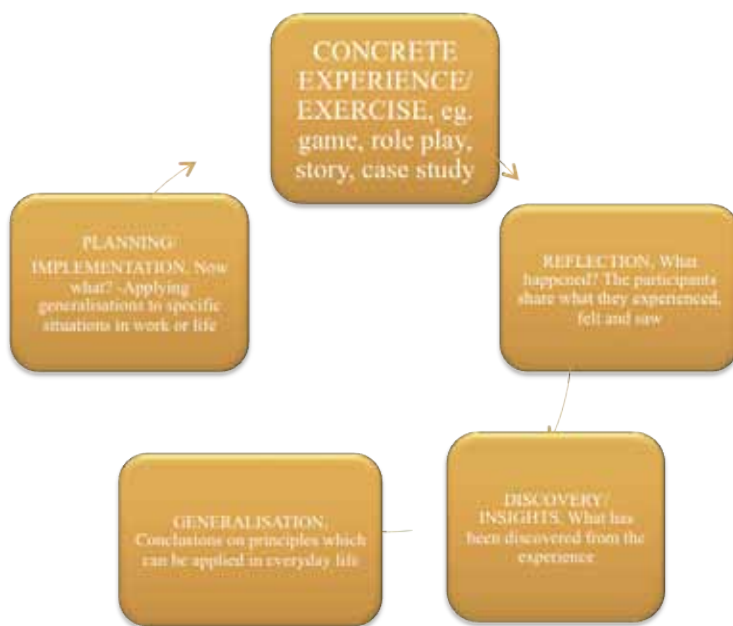

FIGURE 1. *Kolb's cycle changed by Johnston and Rifkin.*

Evaluation of the intervention

The students created 19 interactive programmes, with a total of 38 involved students from May 2011 to May 2012. The elderly participating in the VIRTU channel were 20 persons from two municipalities. Approximately three to nine elderly participated in the programmes offered weekly. Programme evaluation included all in all three different evaluation forms. The participating students evaluation form A was used each time a student participated in the VIRTU channel activities. Evaluation form B was a more extensive evaluation and done once after the student's first year in the VIRTU channel. The evaluation form A used by students included six questions, which were: How relevant was the topic? How well were the objectives fulfilled? How active were the participants? To what extent were the participants able to cooperate? How well did you succeed with the trigger? How lively became the dialogue with the elderly?

The participating facilitator observed and gave support to the students during each programme transmission. The facilitator also evaluated and then graded the students' programme transmission. The facilitator's evaluation form consisted of nine questions. Five of the questions were the same as for the students. The rest of the questions asked about the students' involvement in the interactive programme and about the quality of the lesson plan. The more extensive evaluation form B included four areas of questions, such as concerning carrying out the programme (technical problems, studio, the length of the programme etc.), describing and assessing the students' goals for the programmes, perception of the facilitator's support, and the students' own learning.

RESULTS

Success factors

Facilitators and students completed the summary of the evaluation form A. Facilitators evaluated the students, and the students evaluated all their programme activities, in which they communicated with the elderly through the VIRTU channel. The evaluation showed that in most of the questions, the facilitators graded the students' performance as very satisfying. The students did more or less the same when they assessed themselves and their performances; they scored most often very high on each question.

Concerning the relevance of the subject, both the students and the facilitators thought that they covered the content well. The objects of the sessions were fulfilled very well or to a certain extent the students thought. However, the facilitators' answers showed that in eight occasions, the students did not fulfil the objectives well. All of the students answered that the elderly were active in the discussions. The facilitators answered most often in the same way, except five times where the elderly had been given only a few possibilities to act. The students answers about the use of a "starter" were the following: the starter "was useful only to a certain degree" said five of them, fifteen responded "quite well" and finally eighteen students said "very well". Four of the facilitators' assessments of the students' use of a starter were answered that it was useful only to a certain degree, two thought that it was not at all useful. However, in ten occasions, the facilitators thought that the starter was very well suited.

According to the students' assessment, the interaction was lively in six occasions "only to a certain degree"; although in 19 occasions it was thought to be quite lively, and in 13 occasions to be lively. The same aspect assessed by the facilitators was answered: in two occasions "only to a certain degree", in eleven occasions "quite lively", and in 12 occasions "lively". The facilitators had three further questions one of which was "how well was the programme plan written". The facilitators opinion was that the students fulfilled the objective only once "to a certain degree", at in 13 occasions "sufficiently" and finally ten times "with excellent performance". The second question was "how well was the lesson plan worked out by the students". The facilitators answered that in 16 occasions it was done sufficiently, and eight times with excellent performance. The last question put to the facilitators was "how well was the theoretical perspective grounded in the programme plan by the students". The facilitators answered that in twelve occasions it was done sufficiently, and in 13 occasions the performance was excellent. The results from the evaluation form B (consisting of four open questions) showed that students' experiences of their involvement in the VIRTU channel were mainly positive.

Students' experiences of interaction with the elderly

The students emphasised both the usefulness and lessons learnt from being involved in interactive programmes with the elderly. Students commented on the usefulness and benefits in the VIRTU channel like this, for example: "Interactive contact at distance with the elderly has been very encouraging

and fun", "Interactive contact at distance with the elderly with the purpose of discussing is a good alternative." In the interaction with the elderly, some students emphasised that the elderly had met them with respect. Students were asked about the factor of empowerment in interaction with the elderly in the VIRTU channel. The students differed in their opinions; some thought that the elderly were very active, took part and were choosing the content by themselves, while other students pointed out that the elderly ought to take much more control themselves, meaning that the elderly should be more active, steer the discussions and choose the topics more often. Nevertheless, there were less positive comments as well, such as the fear that the interaction with the elderly through the VIRTU channel will exclude personal contact in the future and leave the elderly alone. One student expressed it like this: "[I'm] negative to change [i.e. to replacing] the human eye-to-eye relation".

Students' evaluation of planning and implementation

During the programmes students were never left alone in the studio; a facilitator always supported students during the interactive programmes. Students were most often working in pairs but could be sending programmes alone or in a group of three. The students commented that they most often got useful guidance, ideas and support from the facilitator. Some students wished that the contact before transmitting the programme could have been more conducive. The facilitator, who remains in the background during the programme, afterwards takes time to discuss the students' plans and respond to their questions.

Students were asked about the usefulness of preparing written programme plans covering the content and method of the VIRTU channel programme. Mainly students commented the usefulness of the manual and mentioned that the knowledge and skills gained from writing the plan would be of use in the future. A student wrote, "Indisputably, I have learnt a lot through writing the manual. It will be a great help in my future work."

Students' evaluation of the teaching method

The students were mainly satisfied with the teaching method. They mentioned the usefulness of Kolb's circle in the interaction with the elderly. They also mentioned that the trigger, which was supposed to start the dialogue, was

helpful. A student wrote: "Kolb's circle is good in planning and evaluation of knowledge which has been delivered to the users. The 'trigger' is a very good way to start the programme, something that the participants can relate to in the real world."

Problems reported by the students

In the beginning of the student's involvement in distance communication with the elderly, there were often problems with technical devices. The problems were mainly due to technology supplier and the Internet connections. The students had very few problems with the device in the studio. Although students also mentioned that some of the elderly had hearing problems. That made the communication more difficult and hindered the message to get across.

DISCUSSION

Interactive programmes can be a very beneficial complement in supporting the elderly in home care. That conclusion comes from the positive view students had about their involvement in interactive programmes to elderly persons in their homes. The students focused in their evaluations on advantages and pitfalls of communication via the device. They emphasised the creative dialogue with the elderly as something very useful and meaningful. The students have also mentioned the teaching method with Kolb's circle as something useful, as well as their own programme manual including the preparation of the content and the creation of the dialogue. Besides these, the students also pointed out less beneficial factors, such as excluding a person-to-person contact with the elderly by using TV. Furthermore, the students asserted that the preparation of a programme took too much work and too much time. However, from the point of view a facilitator is observing the students in the studio, it can be emphasised that it was satisfying to experience the students' programme transmissions. The elderly responded most often with great enthusiasm, they asked questions and commented a lot on the basis of their rich life experiences. Thus, the topics have been formed to fit the users' needs and wishes. The programme plans were extensive, covering the most important aspects of the topics. The students used the Kolb's circle including a trigger in a very smooth and suitable way accordingly to the situations and the topics. Despite the too short introduction to the channel

activities, the students were able to deliver programmes very satisfactorily to the elderly. The triggers they used often gave a good start to the discussion that focused on an important and common aspect of the elderly person's daily life.

The students increased their ability to listen, understand and support the elderly. The reactions of the elderly were supportive, cheerful and warm. The students did a lot of teamwork. They learnt for the future to work in groups, thus being respectful and supportive to one another. In the programme, one student at a time guided the dialogue. The responsibility to guide the programme changed each time that the same students participated in the VIRTU channel. However, there are also factors that facilitators have to take into account and preferably change. The students need to be well informed about their coming involvement in the VIRTU channel. Introduction to the VIRTU project should start already when the students start their nursing studies. Introducing the students' participation in the VIRTU project should emphasise more the pedagogic methods and the creation of interactive programmes. There is a risk that the person producing the programme shifts to providing entertainment because of becoming too familiar with the elderly. Not because of being familiar but because of the ease of chatting. The VIRTU channel should be used also for the purpose of entertainment, although the aim of the students' involvement was focused on delivering health messages to the elderly participants. The facilitator ought to guide the students so that this does not happen, so that the focus on learning does not get lost. All in all, the VIRTU channel has increased the students' contacts with the elderly in a more familiar and natural way, created good learning and understanding between users and students, developed fruitful team working, increased management of technical media and fun. Thus, the use of VIRTU channel in every day contact in elderly care can be a beneficial complement to ordinary activities. The students' learning to make pedagogically interactive programmes enhances the students' experience of planning and implementing the sharing of knowledge, which is outstanding compared with only classroom learning and teaching.

REFERENCES

Bischoff, R. J. 2004. Considerations in the Use of Telecommunications as a Primary Treatment Medium: The Application of Behavioral Telehealth to Marriage and Family Therapy. American Journal of Family Therapy. 32(3): 173–187.

Burnard, P. 2002. Learning human skills: an experiential and reflective guide for nurses and health care professionals. (4 ed.) Oxford: Butterworth-Heinemann.

Freire, P. 1996. Pedagogy of the oppressed. (New rev. ed.) Harmondsworth: Penguin Books.

Hsu, C-L.; Tseng, K. C. & Chuang, Y-H. 2011. Predictors of future use of telehomecare health services by middle-aged people in Taiwan. Social Behavior and Personality. 39(9): 1251–1262.

Johnstone, M.; & Rifkin, S. (1987). Health care together: training exercises for health workers in community-based programmes. London: Macmillan.

Klang Söderkvist, B. (red.). 2008. Patientundervisning. (2., [uppdaterade] uppl.) Lund: Studentlitteratur.

Kolb, D.A. 1984. Experiential learning: experience as the source of learning and development. Englewood Cliffs, N.J.: Prentice-Hall.

Kyberd, P.; Chappell, P. Gow, D. Lemaire, E. D. Fawcett, J. Nielen, D. & Leung, A. L. 2003. Telehealth strategies for remote prosthetic applications. Technology & Disability. 15(2): 145–150.

Mclendon, K. 2000. E-commerce and HIM: ready or not, here it comes. AHIMA. 71(1): 22–23.

Sävenstedt, S. 2009. Informations- och kommunikationsteknik som stöd I omvårdnad. I A. Ehrenberg & L. Wallin (red.). 2009. Omvårdnadens grunder: ansvar och utveckling. (1. uppl.) Lund: Studentlitteratur.

Tingström, P. 2009. Information och utbildning. I A. Edberg & H. Wijk (red.). 2009. Omvårdnadens grunder: hälsa och ohälsa. (1. uppl.) Lund: Studentlitteratur.

Vårdförbundet. 2003. Pedagogik inom vård och omsorg. Lund: Studentlitteratur.

Wade, V.A.; Karnon, J. Elshaug, A.D. & Hiller, J.E. 2010. A systematic review of economic analyses of telehealth services using real time video communication. BMC Health Services Research. No. 10, 233–245.

STUDENTS' EXPERIENCES OF WORKING ON THE VIRTU CHANNEL

Pia Suvivuo, Sari Asteljoki, Anu Kuikkaniemi & Sirppa Kinos

ABSTRACT

The article discusses the experiences of students of welfare services and healthcare at Turku University of Applied Sciences concerning the interactive programmes carried out on the VIRTU channel. The programmes were carried out for two groups formed of family caregivers and those living alone in the city of Naantali. The clients on the VIRTU channel were mainly elderly. The empirical material of the article consisted of a survey of students (N= 80), using Webropol software, who had made interactive TV programmes, and it examined the students' experiences of working on the VIRTU channel, of the interaction and guidance that took place there, as well as of their own learning.

As a central result, students felt that interactive distance guidance was fairly easy, although it differs from guidance given face to face. The use of technology and its functionality made interaction more challenging. Also ethical questions sparked new kind of interest in students.

Key words: interactive, distance guidance, student experience, group guidance, VIRTU channel

INTRODUCTION

The ageing of population is a challenge in Finland and nearly the entire Europe. There is and will be a shortage of economic resources, especially of employees in various senior citizens' services. New innovations are needed to ensure the offer of necessary services to a growing number of senior citizens. (Ahtiainen & Auranne 2007, 10). There have been doubts about the

possibilities of technological innovations to offer solutions to the adequacy of social and healthcare services. Technological applications have been seen even as an opposite of human care, but as user experiences increase, senior citizens' attitudes may become positive (Sävenstedt et al. 2006). It is important for the elderly to be a part of modern world and to be able to use modern communication technology, especially when the elderly person lives in a sparsely populated area or when the person's ability to function is impaired (Ahtiainen & Auranne 2007, 10).

It is important to learn to utilise new technology already when learning one's profession. These skills can be used in the workplace. Welfare technology requires versatile and multidisciplinary competence, and at best also pertinent studying should be common activity of experts from many different fields and learning by doing (Suhonen et al. 2007, 29).

Interactive TV can be seen as part of social media. It is an interaction space, in which participants produce meanings and content in their own community in a user-oriented manner and spontaneously. Social media can mean media content that is produced and shared communally. The social part can be seen as human interaction and media is the means that also introduces new opportunities for interaction compared with face-to-face interaction, for example. Interaction occurs in spaces of which the virtual space is only one of many. Social media is user-oriented; often users are producers of new services and forms of operating. In social media, the most relevant thing is not technology, but what is done with social media and why. Therefore, the issue is not networking, but the communities and the sense of community. In communities, each community member feels that he or she belongs more deeply to a certain community and feels that he or she gets significant information and contacts from the community. (Heinonen 2009, 6–7.) Social media is a process, in which individuals and groups build common meanings and content with the help of communities and network technologies; it is public discussion, information construction and sharing with the help of the net (Kalliala & Toikkanen 2012, 18).

Based on the results of a survey directed to students, this article examines professional guidance activity and client work when it is carried out through interactive TV.

INTERACTIVE TV IN GUIDING A GROUP

Guidance is one of the central forms of professional interaction and methods of client work. From the perspective of social, healthcare and education sector, professional guidance activity can be defined as follows, for example: "Guidance activity is pursued when a person having an instructor's role either regularly or temporarily gives time, attention and respect to a person or persons temporarily in a client's role. The objective of guidance is to offer the client a chance to examine, invent and clarify ways to live more resourcefully and healthily". (Onnismaa 2007, 38.) Professional guidance activity has always been goal-oriented (Ruponen et al. 2002, 166). It can be carried out as individual or group guidance. The group can be temporary or permanent.

In Finland, the term group guidance is used loosely as a general term for various activities occurring in a group. Usually, it refers to long-term guidance with common goals and aspirations. The members feel they belong to the group, activity is interactive and the group has common norms. A central requirement for successful group activity is an accepting and supporting atmosphere. (Ruponen et al. 2002, 163–165.)

The instructor is responsible for guiding group processes that are forces influencing the activities of the group. Central group processes are communication, agreeing on work norms, decision-making, handling problems and resolving conflict situations. In this activity, the instructor needs many kinds of skills, such as reaction skills, interaction skills and action skills. Central reaction skills are, among others, active listening and expressing empathy. Equal taking into consideration and limiting could be mentioned among interaction skills. Observing the process, agreeing on methods, giving a model and asking are examples of central action skills of an instructor. (Ruponen et al. 2002, 168, 170–171.) Also non-verbal communication, such as gestures, expressions and tone of voice, is important. Emotions, actions, corporeality, observations and meanings are all mutually influencing parts of the holistic human entity. (Peavy 2004, 27.)

Using interactive TV as means of group guidance presents various challenges to guidance activity, and on the other hand also opens up new possibilities. Matikainen (2004, 128–129) pays attention to the number of social cues, which usually in face-to-face interaction is large. Cues received of the actual person may be fewer through interactive TV, but on the other hand cues

are also received of the members' environment through the image. Web discussion offers more possibilities for indifference and withdrawal than face-to-face interaction. This may also occur in guidance situations carried out through interactive TV. Interactive TV also presents its interaction challenges to the instructor. From the instructor's perspective, the significance of his or her skills is emphasised, such as clarity of verbal communication and ability to have dialogue.

BACKGROUND INFORMATION OF STUDENT SURVEY

The objective of student survey was to examine the students' experiences of working on the VIRTU channel, interaction and guidance there and their own learning. The survey written on Webropol software was elaborated during the autumn of 2011 and it was pre-tested on a student group in November 2011. The survey was specified based on pre-testing. The survey consisted of 25 questions of which 12 were open questions. Some results of the open question answers will be reported in another article.

The student survey was carried out in period between December 5th, 2011, and May 31st, 2012. Students (n=80) filled out a questionnaire after completing the study unit associated with VIRTU. The material was analysed with statistical methods (structured questions with percentages and frequencies) and with content analysis (open questions). The material was analysed in August-September 2012.

The survey's student respondents were from several degree programmes of the Turku University of Applied Sciences. Of the students, 30% (n=24) studied in the Degree Programme of Nursing, 22% (n=17) in the Degree Programme of Social Services and 18% (n=14) in the Degree Programme of Occupational Therapy. There were 12 students (15%) of the Degree Programme of Dental Hygiene and five respondents (6%) were basic nurse students specialising in rehabilitation. A total of 6% (n=5) of respondents were students of the Degree Programme of Business Administration and 4% (n=5) were students of the Degree Programme of Physiotherapy.

STUDENT SURVEY RESULTS

Most of the students who responded in the questionnaire had worked in the social and healthcare sector earlier. Most of the student respondents had no prior experience of making interactive programmes. 80% (n=63) of the students who responded in the questionnaire had very positive or fairly positive attitudes toward virtual and/or interactive technological solutions and innovations. 5% (n=4) of students had very sceptical or fairly sceptical attitudes toward them and 15% (n=12) were neutral. Most of the students estimated that various virtual and/or interactive technological solutions and innovations are very useful or fairly useful.

Most of students (88%, n=70) felt that planning a VIRTU programme was very easy or fairly easy. 12% (n=14) of students found it very difficult or fairly difficult. Students hoped for technical support especially with the use of equipment both before the VIRTU channel activity programme and during it, preferably already in the activity programme's planning stage. Also, advance information about the clients was desired. Some hoped for information on experiences of functional practices as well as possible problem situations and practical examples of them. Students also considered necessary that teachers and project workers comment and give development proposals to their plans before the activity programme, if necessary. Also, some respondents proposed that it would be good and educational to follow programmes by others before making their own contribution. Also, they called for training in virtual guidance.

> *Information about what kind of situations occur when working virtually, what kind of programmes do not work in that environment and what is possible to do.*

Student experiences of client work and interaction on VIRTU channel

Nearly all of the student respondents (90%, n=72) estimated that interaction with clients on the VIRTU channel worked very well or fairly well. 10% (n=8) of respondents estimated the interaction to be poor or fairly poor.

Students estimated that primarily, the interaction worked well and was natural, when technology worked and when special features in guiding due to the technology were taken into consideration, for example time lapse and the risk

of speaking over each other. Also, interaction was influenced by the fact that eye contact with clients could not be obtained and gestures and expressions were harder to see. At times, both the students' own and the clients' possible excitement hindered interaction, but usually only initially. As the activity programme progressed, excitement most often dissipated.

> *Distance guidance has its own challenges, but it is possible to achieve good and useful interaction also at distance.*

Respondents' views were divided on whether the client situation was influenced by the fact that on the VIRTU channel, clients were in a different environment and space than students. In the view of most (59%, n= 47), it did not influence the client situation whereas 41% (n=33) of students thought it did influence the client situation in the form of different challenges.

> *Naturally, virtual interaction is not as flexible and automatic as interaction face to face. Guidance must be done primarily verbally and expressions and gestures cannot be utilised very well. Generating discussion among the participants may require quite a bit of guidance, for example distributing turns to talk.*

The client's home environment generated some problems for guidance situations in the VIRTU channel. Poor lighting at client's home sometimes resulted in the students' not seeing the senior citizens' face, let alone getting eye contact with them. At times, the background noise at client's home hindered both hearing the client's voice and the activity itself. The activity programme could also be disrupted by the fact that during the guidance occurring in the activity programme, clients could do their chores, for example make coffee or answer the phone or the ringing of a doorbell. Some students also considered the different space and distance to be problematic also because it may easily give a possibility to be passive especially if the client is further away from TV.

> *If the client was busy with other things during VIRTU programme (for example answered the phone) or had visitors, it could disturb other clients or programme presenter. Good lighting is important in VIRTU programmes. If the client is in dim light it may be difficult to see him or her on the screen.*

PICTURE 1. *Interactive guidance for physical function by physiotherapy students. (Photo: Terhi Hytönen)*

Technical and ethical challenges

Technical problems hindered very little or fairly little the realisation of programme in the opinion of 67% (n=53). 14% (n=11) of students were of the view that technical problems did not hinder realising the programme at all. 19% (n=15) estimated that technical problems hindered very much or fairly much.

Technical problems were caused by various problems with image and sound such as echo, crackle, interruptions and "circling" of sound and interruptions and fading of image. At times, the connection was interrupted or discontinued completely. For these reasons, things had to be repeated several times in the programmes, which at times frustrated the students. Taking into consideration the time delay of speech and image required practice of the students. At times there were also problems with focusing the camera, which introduced certain challenges in focusing on demonstration material, for example aid implements.

> *The client was dropped off line completely, image and sound got stuck or sound was lost in the middle of speech.*

Less than a quarter (24%, n=19) of students mentioned having detected some ethical problems during a VIRTU programme. These were issues associated with clients' privacy, equal treatment and on the other hand individuality. When several clients are involved in a programme simultaneously, handling personal matters perplexed the students. At times, it was difficult for students to grasp what issues were too personal for each client to be handled together with others. Some students were also perplexed by the fact that students, other clients as well as family members and other persons possibly present in clients' homes saw other clients' homes and heard the discussion.

> *Ethical issues had to be taken into account for example when asking the clients personal questions that were fairly personal, so you had to pay attention to phrasing the questions etc. You had to consider also what you can ask and what not, because this was after all a group situation and participants could hear each others' answers.*

Students also mentioned as an ethical problem that it was challenging at times to discuss equally with all online clients: more talkative clients can dominate space at the expense of quieter ones. On the other hand, when students made an effort to activate all clients to be involved in the discussion and to hear the views of each client, client's voluntary participation presented a challenge – what if the client wants to be quiet and just follow other people's discussion? In weighing these issues, students balanced between equal treatment of clients and consideration for individuality. Students' answers also discussed broader ethical issues regarding senior citizens' virtual services and the cost saving goals possibly associated with them.

Students' views on content topics and developing the activities

Students presented content areas they felt were suitable for VIRTU channel topics and development ideas. They considered it very important to offer clients an opportunity to tell about their experiences and news and to have free conversation so that the feeling of haste could be avoided. Discussion and social intercourse should be available before and after the "information portion". Themes related to both healthcare and more entertainment-oriented

topics were proposed as content for the information portions. For example issues related to daily health topics such as nutrition, exercise, first aid, oral healthcare and self-care and various illnesses were considered important. Also culture, music, literature, nature topics and various current affairs topics were considered important. These could be handled for example through reviews of newspapers and periodicals. Some students proposed more action, such as quizzes, games, brief exercise and more entertaining portions to be included in the activity programmes. However, students considered relevant a client-oriented approach; content wishes must be asked of the clients themselves.

Students' views on their own learning and future outlook

Students' learning experiences were very positive. Students felt they had learnt a lot about virtual guidance, senior citizens as a client group and about themselves as instructors when being involved in the VIRTU channel activities. As a special learning issue they considered the fact that they were able to plan and learn virtual guidance and to get to know a new and different method of client guidance, most of them for the first time. Some students felt their attitudes had changed toward welfare technology when they had realised its benefits and what it can offer senior citizens. Students were also satisfied with having an opportunity to learn interaction and natural discussion with the client through a camera; some found it easier to encounter senior citizens through the video "at a safe distance" than face to face. This was felt especially if the student had no prior experience of senior citizens. Students estimated that their participation had opened up their view to what can be done in senior citizens' work using welfare technology and its potential in doing distance work in the future.

Some students also felt they had learnt new things about senior citizens, their interests and skills regarding technology, and about the things to be considered when the client group in virtual guidance situation consists of senior citizens. Furthermore, student's self-knowledge increased especially regarding group guidance skills when planning and realising VIRTU channel activity programmes.

Overall, the students' experiences of working on the VIRTU channel were primarily very positive. The survey's student respondents were satisfied with and enthusiastic about the channel and their own learning experiences. Also the views on utilising the VIRTU channel in guiding senior citizens were positive, although limitations of its use were also presented.

20% (n=16) of respondents estimated that they would be working with senior citizens in the future. The same number estimated that they will not be working with them. However, 60% (n=47) of students were not able to express their view on the matter.

Less than half (45%, n=36) of student respondents estimated that working on the VIRTU channel had no impact on the students' own interest in working with senior citizens. There were nearly as many (46%, n=36) answers saying 'perhaps'. Instead, 9% (n=7) of students estimated that working on the VIRTU channel had had a positive impact on their on interest in working with senior citizens; it enhanced a positive attitude toward the care of the elderly and increased their interest in specialising in elderly care during internship and in their future profession.

CONCLUSIONS

Using interactive TV as an instrument in group guidance presents the guidance with different challenges; on the other hand it opens up new possibilities to it. Matikainen (2004, 128) pays attention to the number of social cues, which usually is high in face to face interaction. Through interactive TV, direct cues got from persons may be fewer in number, but on the other hand cues are also got from the group members' environment through image. Students paid attention to the fact that the number of cues from the home environment can be disturbingly high.

Matikainen (2004, 129) has noted that net discussion gives more opportunities for indifference and withdrawal than does face to face interaction. This may also be true about a guidance situation realised through interactive TV as student reported in the survey.

According to the results, students paid attention to the emphasised significance of verbal communication while the significance of non-verbal communication, such as expressions and gestures, remained marginal. The instructor's skills that were emphasised were interaction skills and equal consideration in generating discussion, as well as observing the process especially for controlling the risk of time delay and overlapping talk. The skill in controlling a group and boldness to intervene in a group situation if needed were required of the instructor. The difficult skill of limiting was also needed at times. It is good to remember that group guidance is challenging work even when done without an interactive TV, face to face.

Ethical issues associated with protection of privacy are often encountered in group guidance. In guidance done through interactive TV, non-verbal communication is marginal and more difficult to interpret so that respecting client's privacy is challenging (Peavy 2004, 27).

According to students' experiences, they learnt a lot about guiding interactively, senior citizens and group guidance. Attitudes toward utilising welfare technology in client work became more positive. Students' positive experiences challenge to continue directing and developing teaching toward the use of welfare technology.

In the future, the use of welfare technology in social and healthcare services is likely to increase (Ahtiainen et al. 2007). That is why it is important that already during training, students are offered possibilities to practice using welfare technology as an instrument in client guidance. For this reason, teaching and guiding students in interactive client guidance utilising welfare technology presents challenges also in future teaching.

REFERENCES

Ahtiainen, M. & Auranne, K. 2007. Hyvinvointiteknologian määrittely ja yleisesittely. In Suhonen, L. & Siikanen, T. (eds.) Hyvinvointiteknologia sosiaali- ja terveysalalla – hyöty vai haitta? Lahden ammattikorkeakoulun julkaisu. Tampere: Juvenes Print.

Onnismaa, J. 2007. Ohjaus- ja neuvontatyö. Aikaa, huomiota ja kunnioitusta. Helsinki: Gaudeamus.

Heinonen, S. 2009. Sosiaalinen media. Avauksia nettiyhteisöjen maailmaan ja vuorovaikutuksen uusiin muotoihin. TUTUeJULKAISUJA 1. Helsinki: Tulevaisuuden tutkimuskeskus.

Kalliala, E. & Toikkanen, T. 2012. Sosiaalinen media opetuksessa. Helsinki: Finn Lectura.

Matikainen, J. 2004. Verkko – ohjauksen väline vai areena? In Onnismaa, J.; Pasanen, H. & Spangar, T. (eds.). Ohjaus ammattina ja tieteenalana III. Ohjaustyön välineet. Jyväskylä: PS-kustannus.

Onnismaa, J. 2007. Ohjaus- ja neuvontatyö. Aikaa, huomiota ja kunnioitusta. Helsinki: Gaudeamus.

Peavy, R. V. 2004. Sosiodynaaminen näkökulma ja ohjauksen käytäntö. In Onnismaa, J.; Pasanen, H. & Spangar, T. (eds.). Ohjaus ammattina ja tieteenalana III. Jyväskylä: PS-kustannus.

Ruponen, R.; Nummenmaa, A. R. & Koivuluhta, M. 2002. Ryhmäohjaus muutoksen mahdollisuuden maisemana. In Onnismaa, J.; Pasanen, H. & Spangar, T. (eds.. Ohjaus ammattina ja tieteenalana I. Ohjauksen lähestymistavat ja ohjaustutkimus. Jyväskylä: PS-kustannus.

Suhonen, L.; Ahtiainen, M. & Siikanen, T. 2007. Hyvinvointiteknologia sosiaali- ja terveysalan koulutuksessa. In Suhonen L. & Siikanen T. (eds.) Hyvinvointiteknologia sosiaali- ja terveysalalla – hyöty vai haitta? Lahden ammattikorkeakoulun julkaisu. Tampere: Juvenes Print.

Sävenstedt, S.; Sandman, P.O. & Zinkmark, K. 2006. The duality in using information and communication technology in elder care. Journal of Advanced Nursing 56 (1) 17–25.

LIST OF AUTHORS

Specialist Qualification for Computer Mechanics, MCTS, MCITP **Mika Arvola** is a BBA Student in Turku University of Applied Sciences. Mika is also working as a System Specialist in Turku University of Applied Sciences, Well-being Services R&D department. Mika has also over 20 years of experience in the different fields of ICT.

Doctor of Philosophy (Education) **Sari Asteljoki** has graduated from Department of Education at University of Turku. She is Registered General Nurse and Public Health Nurse. She is working as a lecturer at Turku University of Applied Sciences / Health Care.

Anne Eskelinen is a Senior Lecturer at Laurea University of Applied Sciences. She is the Master of Music and the Music Therapist, graduated from Sibelius Academy. She works as Laurea's Project Manager in the VIRTU project. Her interest is to develop Laurea's Learning by Developing model in practise.

Marina Grunér Master of Health Care. 1996. She has graduated from University of Turku, the Major subject was Nursing science / Geriatrics. She has worked both in Finland and Sweden and is now working as a Senior Lecturer at Novia University of Applied Sciences. She is working as a content expert in the VIRTU project.

Ari Heikkinen is a Senior Lecturer at Laurea University of Applied Sciences. He has a long career in teaching at the University of Applied Sciences. He is the licenciate of Education and the master of Social Sciences. He works as a project worker in VIRTU project. His interest is to develop the quality of education.

Dr. **Harri Jalonen** is working as a Principal Lecturer at Turku University of Applied Sciences. He has long-term research experience dealing with knowledge and innovation management issues in different organisational contexts. Recently his research has focused on the 'fuzziness' of innovation processes and on management issues of complex service systems.

Nurse, **Ann-Maj Johansson** has graduated from Åbolands vårdutbildning in Turku. She is a Student in Åbo Akademi and is working as a lecture in the Programme of health care and Social Service at Novia University of Applied Sciences. She is working as a content coordinator in the VIRTU project.

Master of Arts (Education) **Kaisa Jokela** works as a Project Planner in Turku University of Applied Sciences, Well-being Services. She is a regional coordinator in the VIRTU project and a project coordinator in eMedic – Developing New Practices for Teleconsultation and Diabetes project.

Master of Public Health, **Bodil Julin** is a registered nurse and a senior lecturer at the Novia University of Applied Sciences. She is working as Novia's project leader in the VIRTU project.

Master of Sciences (Public Health), Bachelor of Physiotherapy **Marion Karppi** worked as a project coordinator in VIRTU project. She has previously worked with development in health care services, especially in the field of elderly rehabilitation.

Lic.Soc.Sc., social worker **Sirppa Kinos** works as a senior lecturer in the degree programme of social services at Turku University of Applied Sciences.

Bachelor of Health Care (Radiographer) **Outi Koivumäki** has graduated from Turku University of Applied Sciences. She is a Student in Master Degree Programme of Health Care and Social Service Development and Management and working as a Project Planner in Turku University of Applied Sciences, Well-being Services.

Master of Health Sciences and Occupational Therapist **Anu Kuikkaniemi** has graduated from Jyväskylä University. She works as a full-time teacher in Well-Being Services. She worked in the VIRTU project as a content coordinator.

Master of Arts (Education), lecturer **Hannele Lampo** has graduated from the University of Turku and she works as a physiotherapy teacher in Turku University of Applied Sciences. She worked as a specialist in the VIRTU project.

Inger Nygård is working as project manager at the Åland University of Applied Science. She is also a student of economics at the same university.

Carita Saarikivi, Senior Lecturer, M.Sc. in health science, RN, Licenced Psychotherapist.

MD in Nursing, **Regina Santamäki Fischer**, Umeå University, Senior lecturer at Åland University of Applied Sciences and Umeå University, Sweden. Her research concerns ageing connected to various aspects; inner strength, religiosity and spirituality and quality of life, among others.

Master in Nursing Sciences, **Minna Syrjäläinen-Lindberg** is a registered nurse and a senior lecturer at the Novia University of applied sciences. She is working as a content expert in the VIRTU project.

Master of Arts **Heidi Tuominen** has graduated from Department of Culture at University of Turku. She is working as a Project Manager at Turku University of Applied Sciences, Well-being Services. She was Project Manager of the VIRTU project.

ABSTRACTS IN FINNISH

ITÄMEREN ALUEEN YHTEISTYÖ JA VIRTU-HANKE

Tuominen

Itämeren alueella, kuten muuallakin Euroopassa, demografiset muutokset sekä palveluiden laadun ja saatavuuden turvaaminen luovat haasteita sosiaali- ja terveydenhuoltosektorilla. Erityisesti syrjäseuduilla, kuten saaristoalueilla, pitkät välimatkat ja koulutetun henkilökunnan saatavuus synnyttävät paineita palveluiden uudistamiselle. Resurssien lisäämisen sijaan uusien sosiaali- ja terveydenhuollon työmenetelmien – ja palveluiden kehittäminen on välttämätöntä. Kotiin vietävät palvelut ja kotona asumisen tukeminen mahdollisimman pitkään, ovat olennainen osa sekä kansallisia linjauksia että Eurooppa 2020 strategiaa. VIRTU – Virtual Elderly Care Services on Baltic Islands-hanketta toteutettiin vuosina 2010–2013 Suomessa, Ahvenanmaalla ja Virossa. Hankkeen tavoitteena oli kehittää hyvinvointiteknologiaa hyödyntävä palvelumalli, mikä tukee saaristossa asuvien ikäihmisten kotona asumista ja sosiaalista vuorovaikutusta sekä parantaa elämänlaatua ja lisää heidän turvallisuuden tunnetta. Hankkeessa ikäihmisillä oli mahdollisuus osallistua kotoa käsin VIRTU-kanavan vuorovaikutteisiin ohjelmalähetyksiin, joita tuotettiin pääosin kuntien ja ammattikorkeakoulujen ryhmälähetyksinä tai henkilökohtaisena palveluna. Helppokäyttöinen, kosketusnäytöllinen tietokone tarjosi ikäihmisille mahdollisuuden pitää kotoa käsin yhteyttä muihin palvelun käyttäjiin sekä hoitohenkilökuntaan myös varsinaisten ohjelmalähetysten ulkopuolella.

IKÄÄNTYNEIDEN VUORO-VAIKUTTEISET ETÄPALVELUT MUUTTUVASSA TOIMINTA-YMPÄRISTÖSSÄ SUOMESSA

Heikkinen

Artikkelissa käsitellään ikääntyneiden vuorovaikutteisia etäpalveluita muuttuvassa toimintaympäristössä. Ensiksi käsitellään yhteiskunnallisia muutoksia ja niiden vaikutuksia sosiaali- ja terveyspalveluihin. Toiseksi tarkastellaan kotihoidossa tapahtuneita muutoksia. Kolmantena esitellään VIRTU-projektissa toteutettujen väliarviointien tuloksia. Neljäntenä pohditaan VIRTU-kanavan ja laajemmin etäpalveluiden kehittämisen tulevaisuuden näkymiä.

Artikkelissa vuorovaikutteisten etäpalveluiden käsittely rajataan VIRTU-kanavaan. Näille palveluille ei liene olemassa selkeää, yksiselitteistä määritelmää. VIRTU-kanava voidaan määritellä vuorovaikutteiseksi ohjelmien lähettämiseksi ja vastaanottamiseksi. Se mahdollistaa monenkeskisen ja kahdenkeskisen yhteydenpidon käyttäjien välillä.

Projektissa on tehty merkittävää kehittämistyötä vuodesta 2010. Artikkelissa pohditaan VIRTU-kanavan mahdollisuuksia osana ennaltaehkäisevää kotihoitoa ja kotihoidon työmenetelmien kehittämistä. VIRTU-kanava tarjoaa ikääntyneille osallistumismahdollisuuksia monipuolisiin ohjelmalähetyksiin ja yhteydenpitoihin. Projektissa pyritään myös kehittämään työmenetelmiä yhdessä kotihoidon henkilöstön kanssa.

Tärkeää on projektissa saatujen kokemusten hyödyntäminen ja toiminnan jatkuminen tulevaisuudessa. Tämän voisi mahdollistaa muutama vuosi sitten esiin noussut käyttäjäkeskeisyyttä korostava palvelumuotoilu. Joustavasti sovellettuna se lisää asiakkaan osallisuutta häntä koskevassa palvelujen kehittämistyössä. Teknologian käytön vakiintumisen myötä VIRTU-kanava voi helpottaa työn kuormittavuutta ja tarjota uusia välineitä asiakastyöhön.

VIRTU-PALVELUN KUSTANNUSTEHOKKUUS

Koivumäki & Nygård

Kustannustehokkuuden analysointi tarkoittaa sitä, että tehdään kattava taloudellinen arvio, jossa huomioidaan sekä palvelun kustannukset että sen seuraukset. Arvioinnin perustana käytetään toiminnalle asetettuja tavoitteita, ja mitattavat tekijät jakautuvat koko prosessin alueelle, panostusten arvosta koettuun asiakashyötyyn.

VIRTU-palvelun pääasiallinen toiminta-alue on ennaltaehkäisevä vanhustenhuolto. Tavoitteena on tukea vanhusten itsenäistä asumista omassa kodissa, ehkäistä sosiaalista eristyneisyyttä ja lisätä turvallisuudentunnetta kotona. Toiminnan asiakashyöty tulee parhaiten esiin elämänlaadun säilymisenä tai lisääntymisenä ja mahdollisuutena asua kotona pidempään. VIRTU-palvelu on kustannustehokas, jos vanhusten kokema elämänlaatu kasvaa ja hoidon tarve vähenee, samalla kun kustannukset ovat alhaisemmat kuin vaihtoehtoisissa malleissa.

Projektista saadut kokemukset viittaavat siihen, että VIRTU-palvelu on toimiva menetelmä vanhustenhuollon ennaltaehkäisevässä työssä. Kun palvelu otetaan kunnassa käyttöön, on kuitenkin tärkeää tunnistaa, mitkä tekijät ovat ratkaisevia kustannustehokkuuden saavuttamiselle.

INTERAKTIIVINEN ETÄKUNTOUTUS – TULEVAISUUDEN MAHDOLLISUUS KUNTOUTUKSEN KENTÄLLÄ

Karppi

Iäkkäiden fyysisen toimintakyvyn tukeminen vuorovaikutteisen etäpalvelun välityksellä on varsin uusi tapa kuntouttaa kotona asuvaa iäkästä ihmistä. Etäkuntoutusta on testattu eri potilasryhmillä ja eri tavoin toteutettuna kansainvälisesti ja Suomessakin on jo jonkin verran kokemusta etäkuntoutuksen yksilötason vaikutuksista. VIRTU-hankkeessa kokeiltiin etäkuntoutusta ennaltaehkäisevän fysioterapian näkökulmasta. Asiakkaana oli iäkäs yksin asuva nainen, joka sai noin kahden kuukauden ajan fysioterapeutin ohjaamaa yksilökuntoutusta. Asiakas koki etäkuntoutuksen olleen hyödyllistä, sillä ilman ohjausta ja motivointia omasta kunnosta huolehtiminen on haasteellista. Ammattilaisen näkökulmasta etäohjaus oli myönteinen kokemus. Tätä esimerkkitapausta hyödyntämällä vertasimme etäkuntoutuksen kustannuksia perinteiseen kotikäynteinä toteutettuun kuntoutukseen. Tämän laskelman mukaan organisaatiolle tulee edullisemmaksi tuottaa etäkuntoutuspalveluita jo neljän asiakkaan ryhmällä.

EPÄVARMUUTTA VIRTU-HANKKEEN KEHITTÄMISESSÄ

Rasu

Idea vuorovaikutteisten etäpalvelujen kehittämisestä oli hyvin innovatiivinen idea vuonna 2009, jolloin virolaiset kumppanit päättivät osallistua VIRTU-hankkeeseen. Innovaatioihin liittyy kuitenkin paljon epävarmuutta – innovaatioiden yhteiskunnalle tuomia etuja on helppo kuvitella, mutta uuden palvelun käyttöönoton, tulosten ja oheisvaikutusten yksityiskohtainen ennakointi ei ole helppoa. Tämä on silti olennainen osa innovaatioiden luonnetta.

Artikkeli perustuu Turun ammattikorkeakoulun tutkijan Harri Jalosen innovaatioita ja epävarmuutta käsittelevissä tiedeartikkeleissa esitettyyn innovaatioprosessien epävarmuuden alakohtaiseen luokitteluun. Epävarmuustekijöitä ovat teknologia, markkinat, sääntely-ympäristö, yhteistyö, legitimiteetti, johtaminen sekä ajoitus ja seuraukset. Kukin näistä tekijöistä voi osoittautua innovaation menestystä rajoittavaksi pullonkaulaksi.

Vaikka vuorovaikutteisten etäpalvelujen mallia kehitettiin VIRTU-hankkeessa, tämänkaltaisten hyvinvointiteknologiaratkaisujen innovaatioprosessi on kesken. Innovaatioiden epävarmuudesta johtuvien riskien ja seurausten tiedostaminen on prosessin aikana tärkeä osa yhteiskunnallisen suvaitsevaisuuden kasvattamista.

Artikkeli käsittelee VIRTU-hankkeen virolaisten yhteistyökumppaneiden haasteita ja kokemuksia, joita on tullut vastaan vuorovaikutteisten etäpalvelujen kehitystyön aikana. Artikkelissa tarkastellaan innovaatioprosessin epävarmuudesta johtuvia seurauksia.

YHTEISTYÖTÄ TOIMIALA-RAJOJEN YLI – KUNTALAISTEN MAHDOLLISUUS KOHTAAMISIIN

Lind

Sipoossa VIRTU-projektin osallistujat on valittu eri tavalla ja eri kohderyhmästä kuin muissa kunnissa. Sen sijaan, että kotihoidon työntekijät olisivat kehittäneet kotihoitoon etäpalveluja, projektin painopiste on ollut yksinäisyyden ja eristyneisyyden ehkäisyssä. Sipoon projektia ovat myös leimanneet tietyt haasteet. Projektiin palkattiin osa-aikainen koordinaattori ja Sipoossa kehitetyt etänä annettavat hyvinvointipalvelut osallistivat monia kunnan toimialoja. Artikkelissa esitetään konseptit, joita Sipoossa kokeiltiin kotihoidon, kirjaston, Toimintakeskus Risteyksen sekä yhden esikouluryhmän ja yläasteluokan kanssa. Vanhusten etäpalvelut eivät ainoastaan edistä vanhuksen terveyttä ja ehkäise yksinäisyyttä, vaan se tekee käyttäjästään myös aktiivisen kuntalaisen. Myös asenteet ikäihmisiä kohtaan saattavat muuttua VIRTU-kanavan kaltaisten sosiaalisten medioiden myötä.

JOTAIN VANHAA, JOTAIN UUTTA, JOTAIN LAINATTUA JA JOTAIN SINISTÄ

Arvola

Videoneuvottelutekniikoiden käyttö on arkipäiväistynyt ja yleistynyt erilaisissa yhteyksissä ja uusia käyttökohteita etsitään jatkuvasti. Perinteistä videoneuvottelutekniikka hyödynnetään niin kotioloissa kuin yritysmaailmassa. Viimeisimpinä sovellutuskohteina ovat ikäihmiset. Tietoliikenneyhteyksien yleistyminen, yhteysnopeuksien kasvaminen, toimintavarmuus sekä myös liikkuvan kuvan pakkausmuotojen kehittyminen ovat osaltaan auttaneet leviämistä arkipäiväiseen käyttöön.

Tässä artikkelissa kuvataan VIRTU-projektissa käytettävää videoneuvottelutekniikkaa ja siitä saatuja kokemuksia teknisestä näkökulmasta. Tekstissä edetään itse videoneuvottelun historiasta nykytilanteeseen. Artikkelissa pohdiskellaan teknisestä näkökulmasta nykytilannetta ongelmineen sekä hahmotellaan toimintamuodon tulevaisuuden kuvia.

Artikkelin kirjoittajan kokemukset pohjaavat videoneuvotteluiden ja niihin liittyvien sovellutusten parissa saatuihin kokemuksiin vuodesta 2006 alkaen. Kirjoittaja on osallistunut eriasteisiin videoneuvottelujärjestelmien hankintoihin, käyttänyt ja tutkinut eri valmistajien laitteita sekä sovelluksia. Kirjoittaja on toiminut teknisenä asiantuntijana mm. Kotiin-, Turvallinen koti- ja eMedic-hankkeissa.

VANHUSTEN ETÄPALVELUT TURUNMAALLA IHMISOIKEUKSIEN NÄKÖKULMASTA

Julin & Sjöstrand

Oikeus terveyteen on yksi perusihmisoikeuksista. Tämä artikkeli käsittelee VIRTU-kanavan merkitystä Turunmaan saaristossa kotonaan asuville vanhuksille esteettömyyden, saatavuuden, hyväksyttävyyden ja laadun näkökulmista. Esteettömyys sekä sosiaali- ja terveyspalvelujen saatavuus paranevat, kun etäpalvelut vanhustenhuoltossa otetaan käyttöön. Sosiaali- ja terveyspalvelut tulevat VIRTU-kanavan kautta paremmin iäkkään, keskusalueiden ulkopuolella asuvan väestön ulottuville. Tämä vähentää eriarvoisuutta. Hyväksyttävyys-aspektia tutkitaan artikkelissa geronteknologisesta näkökulmasta. Perinteisesti on oltu sitä mieltä, että läheisyys ja lämmin kosketus ovat paras vaihtoehto, mutta vanhusten halutessa asua kotona ja perinteisten palvelujen puuttuessa vanhukset kuvailevat VIRTU-kanavan olevan tärkeä seuran ja tiedonvälityksen kanava. Palvelun laadun takaa se, että opiskelijat suunnittelevat toiminnan ohjatuissa työpajoissa näyttöön perustuvan kirjallisuuden pohjalta ja kunnan työntekijät tekevät kotikäynnit.

VIRTU-KANAVA, IÄKKÄIDEN KÄYTTÄJIEN ELÄMÄNLAATU JA KOKEMUS OSALLISTUMISESTA

Santamäki Fischer, Häggblom, Julin & Nygård

Sosiaaliset suhteet ovat tärkeitä koetulle elämänlaadulle. Tämä pätee myös iäkkäisiin henkilöihin. Interaktiiviset ohjelmat etäpalvelun kautta voivat antaa vanhuksille mahdollisuuden sosiaalisiin kontakteihin. VIRTU-projektin osallistujiksi valittiin kotona asuvia vanhuksia, mahdollisesti kotipalvelun tarpeessa olevia vanhuksia, iäkkäitä, huonokuntoisia ja ennaltaehkäisevän hoidon tarpeessa olevia ihmisiä sekä omaishoitajia ja heidän omaishoidettaviaan. Kaiken kaikkiaan projektissa oli sen käynnistyessä mukana 98 ikäihmistä, joista 48 pysyi mukana koko projektin ajan. Tämä tuo epävarmuutta pitkän aikavälin vertailuihin. Osallistujien keski-ikä oli 79 vuotta, ja suurin osa heistä oli naisia. Toimintakyky (IADL) ja elämänlaatu (WHOQoL-Bref) arvioitiin projektin alussa ja uudestaan noin vuoden kuluttua. Toisella kyselykerralla vanhukset vastasivat myös lyhyeen kyselytutkimukseen, joka käsitteli projektiin osallistumisesta saatuja kokemuksia. Maiden välillä oli se ero, että nuorimmat osallistujat olivat Sipoossa ja Virossa. IADL oli nuoremmilla osallistujilla hyvä ja parempi. Kyselyssä selvisi, että elämänlaatu oli huonoin virolaisilla osallistujilla, kun taas ahvenanmaalaiset osallistujat asettuivat korkeimmalle sijalle elinympäristön osa-aluetta arvioitaessa. Alustavat tulokset osoittivat, että elämänlaatu laski hieman projektin aikana, mikä selittyy osallistujien ikääntymisellä. Vanhusten kokemukset olivat kuitenkin pääosin positiivisia ja sosiaalista vuorovaikutusta arvostettiin erityisen paljon.

KÄYTTÄJIEN KOKEMUKSIA VUOROVAIKUTTEISEN TEKNOLOGIAN KÄYTÖSTÄ VIRTU -KANAVALLA

Lampo

Artikkelissa selvitetään VIRTU-kanavan naantalilaisille käyttäjille tammi-heinäkuussa 2012 tehtyjen kahden kartoituksen tuloksia. Artikkeli selvittää käyttäjien tyytyväisyyttä VIRTU-kanavan ohjelmatuotantoon ja vuorovaikutteisen viestintäteknologian käyttöön.

Käyttäjät olivat tyytyväisiä laitteen helppokäyttöisyyteen, mutta alussa ilmenneet tekniset ongelmat lisäsivät tyytymättömyyttä. Tekniset ongelmat liittyivät usein riittämättömään ohjaukseen ja tiedonsaantiin. Kuvan laatu oli hyvä, mutta katkot yhteyksissä vaikuttivat ääniominaisuuksiin. Ohjelmat koettiin kiinnostaviksi ja hyödyllisiksi. Käyttäjät kokivat ohjelmalähetyksiin osallistumisen sekä yhteydenpidon ohjelmalähetysten ulkopuolella lisäävän sosiaalisuutta. Käyttäjät olivat suhteellisen tyytyväisiä vuorovaikutteisen teknologia käyttöön ja olivat halukkaita jatkamaan laitteen käyttöä.

Käyttäjät luokiteltiin palvelun peruskäyttäjiksi ja palvelun aktiivi- käyttäjiksi. Peruskäyttäjät olivat mukana ohjelmalähetyksissä, mutta eivät käyttäneet kanavan muuta palvelutarjontaa. Aktiivikäyttäjät olivat aktiivisen ohjelmaseurannan lisäksi käyttäneet myös kuvapuhelinyhteyttä ohjelmalähetysten ulkopuolella. He kertoivat saaneensa uusia ystäviä VIRTU-kanavan kautta. Myös turvallisuuden tunne kotona on lisääntynyt ja yksinäisyyden tunne vähentynyt.

Tulevaisuudessa, kun teknologian käyttö on ikääntyvillekin tuttua ja tekniikka toimivaa, on mahdollista keskittyä myös asiakkaan tarpeita vastaavan palvelun kehittämiseen. Standardipalvelujen lisäksi kannattaa palveluja räätälöidä asiakkaille ja asiakasryhmille heidän tarpeidensa, odotusten, toiveidensa ja vaatimustensa mukaisesti.

SYSTEEMISEN INNOVAATION OMAKSUMINEN EPISTEEMISENÄ HAASTEENA

Jalonen

Artikkelissa tarkastellaan systeemisen innovaation omaksumisen tiedonhallinnallisia haasteita. Systeemisellä innovaatiolla tarkoitetaan uudistusta, jossa useista toimijoista koostuva sosiaalis-tekninen järjestelmä löytää uuden tavan toimia. Systeemisen innovaation konkreettisena ilmentymänä artikkelissa toimii Naantalin kaupungin kotihoidossa vuosien 2010–2012 aikana käyttöönotettu VIRTU-kanava. Innovaation omaksumisella tarkoitetaan artikkelissa tietointensiivistä prosessia, jossa innovaation oletetut käyttäjät punnitsevat innovaation liittyviä hyötyjä ja haittoja sekä tekevät ratkaisunsa hankkimansa tiedon pohjalta. Artikkelin läpikulkevana oletuksena on ajatus siitä, että systeemisen innovaation omaksuminen riippuu paljolti siihen liittyvien tiedollisten haasteiden tunnistamisesta ja ratkaisemisesta.

Kirjallisuuden ja haastattelujen pohjalta artikkelissa esitetään, että systeemisen innovaation omaksumisen tiedolliset haasteet juontuvat epävarmuudesta, monimutkaisuudesta, epäselvyydestä ja monitulkintaisuudesta. Epävarmuus ilmenee tosiasioita koskevan informaation puutteena, kun taas monimutkaisuus tarkoittaa tilannetta, jossa eri toimijoiden väliset riippuvuussuhteet aikaansaavat informaation runsautta. Vastaavasti epäselvyys viittaa asiaintiloja tai ilmiöitä koskeviin tulkintavaikeuksiin, kun taas monitulkintaisuus merkitsee lukuisia erilaisia ja usein ristiriitaisia tulkintoja innovaation mukanaan tuomista hyödyistä ja haitoista. Artikkelissa esitetään myös toimenpide-ehdotuksia tunnistettujen tiedollisten haasteiden kohtaamiseen.

UUSIA MAHDOLLISUUKSIA VIRON SOSIAALIHUOLLOSSA

Lunkova & Roosimaa

Artikkeli on lyhyt katsaus VIRTU-kanavaan uutena mahdollisuutena Viron ikäihmisten ja liikuntarajoitteisten sosiaalihuollossa.

Artikkelin alussa kerrotaan Kuressaare Hoolekanne -säätiön asiakkaiden rekrytoinnista. Artikkeli kuvaa keväällä 2011 hankkeessa käytössä ollutta asiakasprofiilia ja asiakkaiden etsimisessä käytettyjä keinoja sekä asiakasprofiilin myöhempää korjaamista.

Artikkeli esittelee VIRTU-kanavan toimintaa, esimerkiksi ryhmälähetysten järjestelyä. Artikkelissa tarkastellaan myös mm. ohjelmien lähetystiheyden ja teemojen muokkautumista. Ryhmätoiminnan lisäksi Kuressaare Päiväkeskuksen VIRTU-kanavaa on käytetty tuetun asumisen palvelussa sekä yhteydenpidossa sosiaalityöntekijän kanssa.

Artikkelin toinen osa keskittyy projektin aikana tehdyistä haastatteluista (sisällöntuottajat, asiakkaat, sosiaalityöntekijät, kunnanjohtajat, paikallispoliitikot) kerätyn palautteen analyysiin. Tutkimuksessa saatiin selville, mitkä VIRTU-kanavan kautta lähetettävät ohjelmat ovat ikäihmisten suurimmassa suosiossa. Lisäksi tutkittiin, kokeeko ikäihminen VIRTU-kanavan käytön mukavaksi ja onko kanavasta hänelle tukea ja apua. Kysymykset esitettiin myös sosiaalityöntekijöille ja kunnan työntekijöille. Niiden avulla selvitettiin, minkälaisia mahdollisuuksia he näkevät VIRTU-kanavan toiminnassa ja tukeeko VIRTU-kanava vanhusten asumista yksin kotona. Tutkimuksessa pyrittiin selvittämään myös VIRTU-kanavan ohjelmien kustannustehokkuutta ja yhden ohjelman valmisteluprosessin pituutta.

KUIN MUSTEKALA – PROJEKTIKOORDINAATTORIN KOKEMUKSIA KÄYNNISTYKSESTÄ JA TOTEUTUKSESTA

Husell

Olennainen osa projektiassistentin työtä on ihmisten tapaaminen ja erilaiset työtehtävät. Työsuhteeni osa-aikaisena projektiassistenttina Eckerössä muutettiin projektinvetäjän toimeksi Eckerön kunnalla. Olin samanaikaisesti projektiassistenttina Ahvenanmaan ammattikorkeakoululla ja Ahvenanmaan alueen koordinaattori. Minulle on ollut paljon hyötyä hoitoalan koulutuksestani, aikaisemmasta työkokemuksestani sekä henkilökohtaisista kokemuksistani. Projektin eteenpäin vieminen samalla, kun koko ajan kehittää ja pyrkii näkemään uusia mahdollisuuksia, on ollut haastavaa. Ajan kuluessa olen hoitanut projektissa sekä helppoja että aikaa vieviä ja monimutkaisia tehtäviä. Kaikkeen pitää pystyä suhtautumaan positiivisesti ja pitää osata tukea sekä henkilökuntaa että kotona asuvia vanhuksia ja heidän omaisiaan silloinkin, kun ei itse tiedä vastauksia. Koordinaattorin roolia voisi verrata mustekalaan, jonka lonkeroissa on monia erilaisia työtehtäviä ja yhteydenpitoa iäkkäiden osallistujien, henkilökunnan ja muiden osallisten kanssa.

VANHUSPALVELUIDEN TYÖNTEKIJÖIDEN SITOUTTAMINEN ETÄPALVELUIDEN KÄYTTÖÖN

Jokela

Uudenlaisen hyvinvointiteknologian ja sitä myötä uuden työmenetelmän käyttöönotto vaatii panostusta sekä alkuvaiheen käytön opettelussa että toiminnan juurruttamisen varmistamisessa. Pysyvän työkäytännön muutoksen aikaan saaminen edellyttää paljon työtä ja henkilöstön perehdyttämistä. Toiminnan suunnittelu, käyttökohteiden kehittäminen, hyötyjen havainnointi sekä hyvien ja huonojen puolien avoin pohdinta yhdessä loppukäyttäjien kanssa (tässä artikkelissa: ikäihmisten parissa työskentelevä hoitohenkilökunta) edistävät teknologian juurtumista arjen työvälineeksi.

Yleisesti hyvinvointiteknologian käyttöönotossa näyttää korostuvan seuraavat kolme tekijää, jotka kaikki täytyy ottaa huomioon samanaikaisesti: teknologian täytyy olla helppokäyttöistä, selkeästi käyttäjien tarpeeseen suunnattua ja hyödyllistä; johdon, esimiestason ja käyttöönottoa toteuttavien henkilöiden täytyy huolella valmistella organisaatiota lähestyviin muutoksiin; työntekijöillä täytyy olla mahdollisuus kehittää taitojaan, hyödyntää omaa ammattitaitoaan ja olla mukana kehittämässä uutta toimintamallia käyttöönoton edetessä. Artikkelissa kuvaillaan loppukäyttäjien sitoutumis- ja muutosprosessin vaiheita, kerrotaan tapauskohtaisesti Naantalin kokemuksia uuden työvälineen käyttöönotosta, ja lopuksi kootaan käyttöönoton ja henkilökunnan sitouttamisen muistilista lähdekirjallisuuden ja omien kokemusten perusteella.

KOTIHOIDON TOIMINTOJEN KEHITTÄMINEN VIRTU-HANKKEESSA

Pekkonen & Saarikivi

Ikääntyneiden hoitoa ja palvelua koskevan laatusuosituksen (2008) mukaan vanhusten tulee voida asua kotona mahdollisimman pitkään. Hoidon ja palvelujen kehittämisessä on tärkeää asiakaslähtöinen ikäihmisten osallisuus sekä ikäihmisten erilaisuuden ja tarpeiden tunnistaminen. Sipoon vanhuspoliittisen ohjelman (2012) mukaan vanhuspalveluiden painopiste on ennalta ehkäisevässä ja etsivässä tavassa tuottaa vanhuspalveluita. VIRTU-projektin aikana Sipoon kotihoidossa toteutettiin työpajatoimintaa uuden teknologian käyttöönoton tukemisessa ja juurruttamistyön käynnistämiseksi. Työpajatoiminnassa työstettiin kotihoidon arkea ja asiakaslähtöisyyttä. Kotihoidon työntekijät pohtivat työpajoissa VIRTU-kanavan käyttömahdollisuuksia ja tulevaisuutta. Tässä artikkelissa on kuvattu Sipoon kotihoidon työpajatoimintaa kalanruotomallin mukaisesti (kuvio 2).

Jääskeläisen (2004) mukaan teknologisten laitteiden avulla on mahdollista tarjota kotihoidon asiakkaalle hoitoa ja lääkitystä ilman erillistä käyntiä ulkopuolisten palvelujen piirissä. Hyvinvointiteknologian hyödyntäminen osana hoitotyön arkea edellyttää kuitenkin teknologiamyönteistä toimintakulttuuria, laitteiden käytön tuntemusta sekä laitteiden käytöstä seuraavien hyötyjen tuntemista osana hoitotyön vaikuttavuutta. Suhosen ja Siikasen (2007) mukaan teknologian käyttö vaatii henkilöstöresurssien, työolojen ja palvelujärjestelmien kehittämistä sekä muutosta käytänteissä sekä käyttäjän osaamisessa.

VIRTU-HANKE OPPIMISYMPÄRISTÖNÄ

Eskelinen

Laurea-ammattikorkeakoulun pedagogisena lähtökohtana on Kehittämispohjainen oppiminen, joka mahdollistaa opiskelijan osaamisen kehittymisen työelämän kanssa yhteistyössä toteutettavissa kehittämishankkeissa. Tässä artikkelissa tarkastellaan sosionomiopiskelijoiden osaamisen kehittymistä VIRTU-hankkeessa ja kuvataan VIRTU-hanketta oppimisympäristönä Kehittämispohjaisen oppimisen ulottuvuuksien – autenttisuuden, kokemuksellisuuden, kumppanuuden, luovuuden ja tutkimuksellisuuden – kautta.

Keväällä 2012 VIRTU-hankkeeseen osallistui 60 sosionomiopiskelijaa osana Metodisuus asiakastyössä -opintojaksoa. Opiskelijoilta kerättiin palaute hanketyöskentelystä opintojakson päätyttyä. Opiskelijapalautteista kävi ilmi, että hanketyöskentely kehitti opiskelijoiden asiakastyön osaamista yleisesti ohjaamistaitojen kehittymisenä, uudenlaisen tulevaisuuden osaamisen eli vuorovaikutteisen etäohjauksen muodossa sekä menetelmäosaamisen kehittymisenä. Hankkeen kautta opiskelijat tutustuivat vanhustyöhön ja vastanneista opiskelijoista 68% kuvasi VIRTU-hankkeen työskentelyn olleen myönteinen kokemus ja muuttaneen opiskelijan suhtautumista vanhustyötä ja vanhuksia kohtaan positiiviseen suuntaan.

VIRTU-hanke osoittautui opiskelijapalautteiden perusteella erittäin hyväksi oppimisympäristöksi Kehittämispohjaisen oppimisen ulottuvuuksien kautta hanketyöskentelyä tarkasteltaessa. Aito ja välitön vanhusten kohtaaminen sekä oman ammatillisuuden kehittyminen kokemuksellisuuden kautta nousivat esille palautteista.

OPISKELIJAT VIRTU-KANAVALLA – OPISKELIJOIDEN TUOTTAMAN OHJELMASISÄLLÖN SUUNNITTELU, TOTEUTUS JA ARVIOINTI AMMATTI-KORKEAKOULU NOVIASSA

Julin, Gruner, Johansson & Syrjäinen-Lindberg

VIRTU-projektissa ammattikorkeakoulu Novian opiskelijat ja lehtorit kehittävät uutta palvelumallia yhdessä muiden projektiin osallistuvien tahojen kanssa. Palvelumalli toteutetaan etäpalveluna VIRTU-kanavalla ja AMK Novia vastaa ruotsinkielisestä ohjelmasisällöstä Turunmaalla. Opiskelijoiden toiminta on osa palvelumallia. Tämän artikkelin tavoitteena on kuvata, miten opiskelijat suunnittelevat, toteuttavat ja arvioivat VIRTU-kanavan ohjelmasisältöjä yhdessä iäkkäiden osallistujien kanssa.

KOSKETA NÄYTTÖÄ – HOITAJAOPISKELIJOIDEN VÄLINEN VUOROVAIKUTUS IKÄIHMISTEN KANSSA VIRTU-KANAVALLA

Häggblom & Santamäki Fischer

Tämä luku kuvailee Ahvenanmaan Ammattikorkeakoulun opiskelijoiden osallistumista VIRTU-hankkeen ohjelmatuotantoon. Oppimismenetelmäksi valittiin kokemusperäinen oppiminen, jota käytettiin hyväksi opiskelijoiden ja ikäihmisten keskusteluissa VIRTU-kanavalla. Ohjelmissa käsitellyt aiheet liittyivät ikäihmisille tärkeisiin terveysasioihin. Tulokset osoittivat, että kaiken kaikkiaan opiskelijat kokivat vuorovaikutuksen ikäihmisten kanssa interaktiivisen etälaitteen välityksellä hyödylliseksi.

OPISKELIJOIDEN KOKEMUKSET VIRTU- KANAVALLA TYÖSKENTELYSTÄ

Suvivuo, Asteljoki, Kuikkaniemi & Kinos

Artikkelissa käsitellään Turun ammattikorkeakoulun Hyvinvointipalvelujen ja Terveysalan opiskelijoiden kokemuksia VIRTU-kanavalla toteutetuista vuorovaikutteisista lähetyksistä. Lähetykset toteutettiin Naantalin kaupungin omaishoitajista ja yksinasuvista muodostetuille kahdelle ryhmälle. Artikkelin empiirinen aineisto koostui vuorovaikutteisessa TV:ssä lähetyksiä toteuttaneiden opiskelijoiden (N= 80) Webropol-ohjelman avulla tuotetusta kyselystä, jolla selvitettiin opiskelijoiden kokemuksia VIRTU-kanavalla työskentelystä, siellä tapahtuneesta vuorovaikutuksesta ja ohjauksesta, sekä omasta oppimisesta.

Keskeisenä tuloksena opiskelijat kokivat vuorovaikutteisen etäohjauksen melko helpoksi, vaikka ohjaus poikkeaakin kasvokkain tapahtuvasta ohjauksesta. Vuorovaikutuksen haasteellisuutta lisäsi tekniikan käyttö ja sen toimivuus. Myös eettiset kysymykset herättivät opiskelijoissa uudenlaista mielenkiintoa.

ABSTRACTS IN SWEDISH

SAMARBETE I ÖSTERSJÖ-OMRÅDET OCH VIRTU-PROJEKTET

Tuominen

I Östersjöområdet, precis som i övriga Europa, skapar de demografiska förändringarna och tryggandet av kvaliteten av och tillgången till tjänster utmaningar inom social- och hälsovårdssektorn. Speciellt i periferin, såsom skärgården, ställer de långa avstånden och tillgången till utbildad personal press på att förnya tjänsterna. Det är nödvändigt att utveckla nya arbetsmetoder och tjänster inom social- och hälsovården på grund av att resurserna hela tiden minskar. Service som kommer hem till klienterna och stöd för boende i hemmet så länge som möjligt är en väsentlig del av både nationella riktlinjer och Europa 2020-strategin. Projektet VIRTU – Virtual Elderly Care Services on Baltic Islands genomfördes 2010–2013 i Finland, på Åland och i Estland Projektmålet var att utveckla en servicemodell som utnyttjar välfärdsteknologi, vilket stöder äldre skärgårdsbors boende i hemmet och deras sociala växelverkan samt förbättrar deras livskvalitet och ökar deras trygghetskänsla. Inom projektet hade äldre människor möjlighet att hemifrån delta i VIRTU-kanalens interaktiva programsändningar, som huvudsakligen producerades av kommunerna och yrkeshögskolorna som gruppsändningar eller som individuella tjänster. Den användarvänliga datorn med pekskärm gav de äldre en möjlighet att i sitt eget hem hålla kontakt med andra användare av tjänsten och med vårdpersonalen även utanför de egentliga programsändningarna.

ÄLDREOMSORG PÅ DISTANS OCH DEN FÖRÄNDERLIGA VERKSAMHETSMILJÖN I FINLAND

Heikkinen

Artikeln behandlar virtuella tjänster (äldreomsorg på distans) för äldre i den föränderliga verksamhetsmiljön. Först diskuteras samhälleliga förändringar och deras inverkan på social- och hälsovårdens tjänster. Sedan granskas förändringar som skett inom hemvården. Som tredje tema behandlas resultaten från VIRTU-projektets mellanrapporter. I fjärde avsnittet reflekteras framtidsutsikterna för utvecklingen av VIRTU-kanalen och mer omfattande för virtuella tjänster.

Av de virtuella tjänsterna behandlas endast VIRTU-kanalen i artikeln. Veterligen finns det inte någon klar och entydig definition på virtuella tjänster. VIRTU-kanalen kan definieras som interaktiv sändning och mottagning av program. Den möjliggör kontakter mellan antingen två eller flera användare.

Inom projektet har man gjort betydande utvecklingsarbete sedan 2010. I artikeln dryftas VIRTU-kanalens olika möjligheter som en del av förebyggande hemvård och utveckling av hemvårdens arbetsmetoder. VIRTU-kanalen ger de äldre möjligheter att delta i mångsidiga programsändningar och kontakter. Inom projektet strävar man även efter att utveckla arbetsmetoderna tillsammans med hemvårdspersonalen.

Det är viktigt att de erfarenheter man har fått inom projektet utnyttjas och att verksamheten fortsätter i framtiden. Detta skulle kunna bli möjligt genom den servicedesign som lyftes fram för ett par år sedan och som betonar användarorientering. Om den tillämpas flexibelt ökar den klientens delaktighet i utvecklingen av de tjänster som rör honom eller henne. I och med att användningen av teknologi har blivit etablerad kan VIRTU-kanalen göra arbetet mindre belastande och erbjuda nya verktyg för klientarbetet.

VIRTU – TJÄNSTENS KOSTNADSEFFEKTIVITET

Koivumäki & Nygård

Att analysera kostnadseffektivitet innebär att man gör en komplett ekonomisk evaluering där både kostnaderna och konsekvenserna av en tjänst beaktas. Evalueringen görs utgående från de mål som är uppställda för verksamheten och de faktorer som skall mätas finns i hela processen, från värdet av insatser till upplevd kundnytta.

VIRTU tjänstens huvudsakliga verksamhetsområde är förebyggande äldreomsorg. Målen är att stöda de äldre till självständigt boende i eget hem, att motverka social isolering och att öka känslan av trygghet i hemmet. Verksamhetens kundnytta framkommer då bäst som bibehållen eller förbättrad livskvalitet samt som möjlighet att bo hemma längre. VIRTU tjänsten är kostnadseffektiv om till lägre kostnader än alternativen ökar de äldres upplevda livskvalitet och sänker vårdbehovet.

Erfarenheter från projektet indikerar att VIRTU tjänsten är en välfungerande metod i det förebyggande arbetet inom äldreomsorgen. När tjänsten skall införas i en kommun är det dock viktigt att man identifierar vilka de avgörande faktorerna är för att tjänsten skall generera kostnadseffektivitet.

INTERAKTIV REHABILITERING PÅ DISTANS – EN FRAMTIDS-MÖJLIGHET INOM REHABILITERING

Karppi

Att stöda äldre människors fysiska funktionsförmåga via en interaktiv distanstjänst är ett relativt nytt sätt att rehabilitera åldringar som bor hemma. Internationellt har man testat distansrehabilitering med olika patientgrupper och olika metoder, och även i Finland har man redan en del erfarenhet av distansrehabiliteringens effekter på individnivå. Inom VIRTU-projektet testades distansrehabilitering ur perspektivet för förebyggande fysioterapi. Klienten var en ensamboende äldre kvinna som under cirka två månaders tid fick individuell rehabilitering under handledning av en fysioterapeut. Klienten upplevde sig ha haft nytta av distansrehabiliteringen då det är en utmaning att sköta om sin kondition utan handledning och sporrande. Ur yrkesmänniskans perspektiv var distanshandledningen en positiv erfarenhet. Genom att utnyttja detta exempelfall jämförde vi kostnaderna för distansrehabiliteringen jämfört med traditionell rehabilitering som ges på hembesök. Enligt denna kalkyl är det förmånligare för organisationen att producera rehabiliteringstjänster på distans redan då klientgruppen består av fyra personer.

HANTERING AV OSÄKERHET VID UTVECKLING AV VIRTU-PROJEKTET

Rasu

VIRTU – utvecklingen av virtuella vårdtjänster var år 2009, när de estländska partnerna beslutade att delta i projektet, en mycket innovativ idé. Innovation är till sin karaktär nära anknuten till osäkerhet (vaghet, obestämdhet) – i idéstadiet är den nya fördelen och samhällsnyttan som innovationen kan erbjuda väl föreställbar, men det praktiska tillvägagångssättet vid lanseringen av den nya tjänsten, dess resultat och bieffekter kan inte planeras på ett detaljerat sätt. Så är alltid fallet med innovation, annars hade det inte varit någon innovation.

Artikeln baseras på den klassificering av osäkerhet i innovationsprocessen, som en av VIRTU-projektets samarbetspartner, forskaren Harri Jalonen från Åbo Yrkeshögskola beskriver i sina vetenskapliga artiklar om innovation och osäkerhet. Osäkerhetsfaktorer är teknologi; marknad; regleringar och lagstiftning, sociala frågor och politik, godkännande och legitimitet; ledning; timing och konsekvenser. Varje faktor kan innebära en flaskhals som förhindrar innovationens framgång.

Modellen för virtuella vårdtjänster, som ska tas fram inom ramen av VIRTU-projektet, är idag under utveckling och innovationsprocessen pågår. Medvetenhet i innovationsprocessen om de risker och konsekvenser som härrör från osäkerheten spelar en viktig roll för en ökad samhällstolerans.

Föreliggande artikel beskriver de utmaningar och lärdomar som de estländska partnerna i VIRTU-projektet har bemött vid utvecklingen av virtuella vårdtjänster. Fokus ligger på de resultat och konsekvenser som har haft och har sin grund just i osäkerheten.

SAMARBETE ÖVER KOMMUNALA SEKTORGRÄNSER – EN MÖJLIGHET FÖR ÖMSESIDIGT MOTE FÖR INVÅNARNA

Lind

Sibbo har gjort ett annorlunda val av användare och målgrupp i VIRTU-projektet än de andra kommunerna. Istället för att hemvårdens personal utvecklat hemvårdsservice på distans har projektet fokus legat på förebyggande av ensamhet och isolering. Vissa utmaningar har även särpräglat Sibbos projekt. En programkoordinator anställdes på deltid och den välfärdsservice på distans som utvecklades i Sibbo involverade flera sektorer inom kommunen. I artikeln tas upp de koncept som Sibbo provat på tillsammans med hemvården, biblioteket, Verksamhetscentret Vägskälet, en grupp förskolebarn och en högstadieklass. Äldreomsorg på distans främjar inte endast den äldres hälsa och förebygger ensamhet, utan gör även användaren till en aktiv kommuninvånare. Även attityder gentemot äldre personer kan ändras genom den form av sociala media som VIRTU-projektet erbjuder.

NÅGOT GAMMALT, NÅGOT NYTT, NÅGOT LÅNAT, NÅGOT BLÅTT

Arvola

Användningen av videokonferenstekniker har blivit allt vardagligare och vanligare i olika sammanhang och nya användningsobjekt söks hela tiden. Traditionell videokonferensteknik utnyttjas både hemma och i företagsvärlden. Den senaste målgruppen för tillämpningarna är äldre människor. Det faktum att dataförbindelserna har blivit allt vanligare, hastigheterna ökat, funktionssäkerheten och komprimeringen av rörlig bild utvecklats har å sin sida bidragit till att medlen har spridits till människors vardag.

Denna artikel beskriver den videokonferensteknik som används i VIRTU-projektet och de erfarenheter som fåtts ur tekniskt perspektiv. Texten framskrider från videokonferensernas historia till nuläget. I artikeln dryftas nuläget med sina problem ur tekniskt perspektiv och framtidsscenarier för denna verksamhetsform skissas upp.

Artikelförfattarens kunskaper grundar sig på hans/hennes erfarenheter om videokonferenser och tillämpningar i området sedan 2006. Skribenten har varit delaktig i anskaffandet av videokonferenssystem av olika rang samt använt och undersökt olika tillverkares apparater och tillämpningar. Skribenten har varit teknisk expert bland annat i projekten Kotiin, Turvallinen koti och eMedic.

MÄNSKLIGA RÄTTIGHETER SOM PERSPEKTIV PÅ ÄLDREOMSORG PÅ DISTANS I ÅBOLAND, FINLAND

Julin & Sjöstrand

Rätten till hälsa utgör en av de grundläggande mänskliga rättigheterna. I denna artikel diskuteras betydelsen av VIRTU kanalen för äldre hemmaboende äldre i Åbolands skärgård ur ett tillgänglighets-, åtkomlighets-, godtagbarhets- och kvalitetsperspektiv. Tillgänglighet och åtkomlighet av social och hälsovårdstjänster ökar när Virtuell äldreomsorg tas i bruk. Social och hälsovårdstjänster blir mer nåbara via VIRTU kanalen för den äldre befolkningen som bor i periferin vilket minskar diskriminering. Godtagbarhet granskas ur ett geronteknologiskt perspektiv, traditionellt anses att närhet och en varm hand är bäst, men när de äldre vill bo hemma och ingen traditionell service finns tillgänglig beskriver de äldre deltagarna att VIRTU kanalen är ett viktigt sällskap och en informationskanal. Kvaliteten på servicen garanteras genom att studerande planerar aktiviteterna i handledda verkstäder utgående från evidensbaserad litteratur och hembesöken utförs av kommunens personal.

VIRTU-KANALEN, DE ÄLDRE BRUKARNAS LIVSKVALITET OCH ERFARENHET AV DELTAGANDE

Santamäki Fischer, Häggblom, Julin & Nygård

Sociala relationer är viktiga för upplevd livskvalitet, så även för äldre personer. Interaktiva program via äldre omsorg på distans kan vara en möjlighet för social kontakt. Inkluderingskriterierna till Virtuprojektet var homebound elderly, elderly people who may need 24-h support, elderly frail people who need preventive care and family caregivers and the people they care for. Sammanlagt var 98 äldre personer med från start medan endast 48 deltog i hela projektet vilket gör jämförelser över tid osäkra. Deltagarnas medelålder var 79 år och de flesta var kvinnor. Funktionsförmåga (IADL) och livskvalitet (WHOQoL-Bref) skattades vid projektets start och efter ca. ett år. Vid den sista omgången besvarade de äldre även en kortare enkät som rörde erfarenhet av deltagande i projektet. Länderna skilde sig åt så att de yngsta fanns i Sibbo och i Estland. IADL var god och bättre hos de yngre. Livskvalitet i den fysiska domänen var lägst hos estniska deltagare, medan domänen miljö var högst hos de åländska. Preliminära resultat visade att livskvalitet totalt sjönk något under projektets gång, vilket förklaras med det generella åldrandet. De äldres erfarenhetar var dock övervägande positiva där den sociala interaktionen var speciellt uppskattad.

ANVÄNDARNAS ERFARENHETER AV ANVÄNDNINGEN AV INTERAKTIV TEKNOLOGI PÅ VIRTU-KANALEN

Lampo

Artikeln redogör för resultaten från två kartläggningar som gjordes bland VIRTU-kanalens användare i Nådendal i januari-juli 2012. Artikeln beskriver användarnas tillfredsställelse med VIRTU-kanalens programproduktion och användningen av den interaktiva kommunikationsteknologin.

Användarna var nöjda med att apparaten var enkel att använda men de tekniska problem som fanns i början gav upphov till missnöje. De tekniska problemen hade ofta att göra med otillräcklig handledning och tillgång till information. Bildkvaliteten var bra, men avbrott i förbindelserna påverkade ljudkvaliteten. Programmen upplevdes som intressanta och nyttiga. Användarna upplevde att deltagandet i programsändningarna och kontakterna utanför programsändningarna utökar det sociala livet. Användarna var relativt nöjda med användningen av den interaktiva teknologin och villiga att använda apparaten även i fortsättningen.

Användarna kategoriserades som basanvändare och aktivanvändare. Basanvändarna deltog i programsändningarna men använde sig inte av det övriga tjänsteutbudet på kanalen. Aktivanvändarna hade utöver att aktivt följa med programmen även använt bildtelefonförbindelsen utanför sändningarna. De uppgav att de fått nya vänner via VIRTU-kanalen. Också trygghetskänslan i hemmet har ökat och känslan av ensamhet minskat.

I framtiden när även äldre människor är erfarna teknologianvändare och tekniken fungerar kan man även fokusera på att utveckla tjänster som tillgodoser klientens behov. Utöver standardtjänsterna lönar det sig att skräddarsy tjänster för klienter och klientgrupper enligt deras behov, förväntningar, önskemål och krav.

TILLÄGNANDE AV SYSTEMISK INNOVATION SOM EN EPISTEMISK UTMANING

Jalonen

Artikeln granskar de utmaningar som informationshanteringen ställer vid tillägnande av systemisk innovation. Med systemisk innovation avses en förnyelse, där ett sociotekniskt system med flera aktörer hittar ett nytt sätt att fungera. Den konkreta manifestationen av systemisk innovation är i artikeln VIRTU-kanalen som togs i bruk inom hemvården i Nådendal stad under åren 2010–2012. Med tillägnande av innovation avses i artikeln en informationsintensiv process där de förmodade användarna av innovationen väger fördelar och nackdelar med innovationen och kommer fram till ett beslut utifrån de kunskaper som de skaffat sig Antagandet som genomsyrar hela artikeln är en idé om att tillägnande av systemisk innovation i hög grad beror på identifiering och lösning av tillhörande kunskapsmässiga utmaningar.

Artikeln lutar sig mot litteratur och intervjuer i sitt påstående om att de kunskapsmässiga utmaningarna vid tillägnande av systemisk innovation härrör från osäkerhet, komplexitet, oklarhet och mångtydighet. Osäkerheten kommer beror på brist på information om fakta, medan komplexitet avser en situation där beroendeförhållanden mellan olika aktörer leder till informationsöverflöd. På motsvarande sätt hänvisar oklarhet till svårigheter att tolka omständigheter eller fenomen, medan mångtydighet betyder att det finns flera olika och ofta motstridiga tolkningar om de fördelar och nackdelar som innovationen medför. I artikeln framförs även åtgärdsförslag för att möta de kunskapsmässiga utmaningar som man identifierat.

NYA MÖJLIGHETER I DEN ESTLÄNDSKA SOCIALTJÄNSTEN

Lunkova & Roosimaa

Artikeln ger en kortfattad översikt av VIRTU-kanalen som en ny möjlighet inom den estländska socialtjänsten för äldre och funktionshindrade.

Artikelns första del berättar om hur stiftelsen Kuressaare Hoolekande SA hittar sina kunder. Artikeln beskriver kundprofilen som användes i projektet och insatser för uppsökning efter kunder under våren 2011, samt en senare justering av kundprofilen.

Vidare presenteras VIRTU-kanalens verksamhet, bl.a. genomförandet av olika gruppverksamheter (program). Artikeln ger en översikt av programmens frekvens, ämnesområden och annan utveckling. Förutom gruppverksamheten har Kuressaare Dagcenter använt VIRTU-kanalen för stödboendetjänster och för kontakter inom öppenvård.

I artikelns andra del ligger fokus på analysen av den återkoppling som har samlats in genom olika intervjuer (med programledare, kunder, socialarbetare, kommunledningen/-politiker) inom ramen av projektet. Som ett resultat av den genomförda undersökningen fick man veta vilka program av dem som sänds genom VIRTU-kanalen är mest populära och efterfrågade bland de äldre själva. Dessutom undersökte man hur bekvämt det känns för en äldre att använda VIRTU-kanalen och om han/hon upplever den som ett stöd och som hjälp. Några av frågorna var riktade till socialarbetare och kommunpersonalen för att ta reda på vilka möjligheter de ser i VIRTU-kanalens framtid och om VIRTU-kanalen stödjer den äldres hemmaboende på egen hand. Undersökningen försökte även skapa klarhet i VIRTU-programmens kostnadseffektivitet och visa hur lång processen är för färdigställande av ett program.

ATT VARA SOM BLÄCKFISK – EN PROJEKTKOORDINATORS UPPLEVELSER AV ATT STARTA UPP OCH IMPLEMENTERA ÄLDRE OMSORG PÅ DISTANCE

Husell

Att arbeta som projektassistent, innebär många möten med människor och olika arbetsuppgifter. Min anställning som projektassistent i Eckerö (50%) ändrades till projektledare i Eckerö kommun (50%). Jag var samtidigt projektassistent på Högskolan på Åland (50%) och fungerade som koordinator över Åland. Jag har haft stor användning av min utbildning som inom vård och omsorg, tidigare arbetserfarenheter samt mina personliga erfarenheter. Att driva ett projekt framåt och samtidigt utveckla och se nya möjligheter har varit en utmaning. Under tidens gång har jag i projektet stött på inte bara enkla utan också tidskrävande och ibland komplexa uppgifter. Det krävs att kunna se positivt på allt och stötta såväl personal som hemmaboende äldre personer och deras anhöriga, även då man ibland inte ens vet svaret själv. Det är som att vara en bläckfisk med många olika arbetsuppgifter och kontakter med såväl äldre deltagare, personal och andra involverade.

ENGAGEMANG AV MEDARBETARNA I UTVECKLINGSARBETE

Jokela

Ibruktagandet av ny slags välfärdsteknologi och därmed en ny arbetsmetod kräver satsningar både i inledningsskedet när man ska lära sig att använda teknologin och senare när man ska säkerställa att verksamheten rotar sig. Att ändra arbetsrutinerna på ett bestående sätt kräver mycket arbete och inskolning av personalen. Planering av verksamheten, utveckling av användningsobjekten, observation av fördelarna och öppet reflekterande över bra och dåliga sidor tillsammans med slutanvändarna (i denna artikel: vårdpersonalen som arbetar med äldre) bidrar till att teknologin rotar sig som ett vardagligt verktyg.

I allmänhet verkar det som om följande tre faktorer, som alla måste beaktas samtidigt, framhävs vid ibruktagandet av välfärdsteknologi: teknologin måste vara användarvänlig, klart inriktad på användarnas behov och nyttig; ledningen, cheferna och de som genomför ibruktagandet ska omsorgsfullt förbereda organisationen på de förestående förändringarna; medarbetarna måste ha möjlighet att utveckla sina färdigheter, utnyttja sin yrkeskunnighet och medverka i utvecklandet av den nya verksamhetsmodellen allt eftersom ibruktagandet framskrider. Artikeln beskriver olika skeden under processen för att engagera slutanvändarna och förändringsprocessen samt berättar om erfarenheter av ibruktagandet av det nya verktyget i Nådendal. Till slut sammanställs på basis av källitteratur och egna erfarenheter en kom ihåg-lista för personalen gällande ibruktagande och engagemang.

UTVECKLING AV HEMVÅRDENS ÅTGÄRDER INOM VIRTU-PROJEKTET

Pekkonen & Saarikivi

Enligt kvalitetsrekommendationen om vård och tjänster för äldre (2008) ska åldringar kunna bo hemma så länge som möjligt. När vården och tjänsterna utvecklas är det viktigt att delaktiggöra deäldre och få med klientorienteringsperspektivet samt att identifiera olikheter och behov. Enligt Sibbos äldrepolitiska program (2012) prioriteras förebyggande och uppsökande metoder i produktionen av tjänsterna för äldre. Under VIRTU-projektet genomfördes inom hemvården i Sibbo verkstäder för att stöda ibruktagandet av den nya teknologin och få igång arbetet för att rota verksamheten. I verkstadsverksamheten bearbetades hemvårdens vardag och klientorienteringen. Hemvårdens medarbetare dryftade i verkstäderna VIRTU-kanalens användningsmöjligheter och framtid. Denna artikel beskriver verkstadsverksamheten inom hemvården i Sibbo enligt fiskbensmodellen (figur 2).

Enligt Jääskeläinen (2004) kan man med hjälp av teknologi erbjuda hemvårdsklienter vård och medicinering utan separata besök till externa tjänster. Utnyttjandet av välfärdsteknologi som en del av det vardagliga vårdarbetet kräver dock att verksamhetskulturen är positivt inställd till teknologi, kunskaper om hur utrustningen används samt att man känner till de fördelar för vårdens effekt som användningen av utrustningen ger. Enligt Suhonen och Siikanen (2007) kräver användningen av teknologi att personalresurserna, arbetsförhållandena och tjänstesystemen utvecklas och att rutiner och användarens kompetens ändras.

VIRTU-PROJEKTET SOM INLÄRNINGSMILJÖ

Eskelinen

Den pedagogiska utgångspunkten för yrkeshögskolan Laurea är utvecklings-baserat lärande, vilket gör det möjligt för studerandena att utveckla sitt kunnande inom ramen för utvecklingsprojekt som genomförs i samarbete med arbetslivet. Denna artikel granskar hur socionomstuderandenas kompetens utvecklades inom VIRTU-projektet och beskriver VIRTU-projektet som inlärningsmiljö. Som referensram används olika dimensioner som hör till utvecklingsbaserat lärande – autenticitet, erfarenhetsanknytning, partnerskap, kreativitet och forskningsorientering.

Våren 2012 deltog sammanlagt 60 socionomstuderande i VIRTU-projektet som en del av studieavsnittet Metodiskhet i klientarbete. Studerandena lämnade in feedback om projektarbetet i slutet av studieavsnittet. Feedbacken från studerandena visade att projektarbetet utvecklade deras kompetens inom klientarbete såväl generellt, i form av utveckling av handledningsfärdigheterna, ny slags framtidskompetens, det vill säga interaktiv handledning på distans, som i form av metodisk kompetens. Via projektet fick studerande bekanta sig med arbetet med äldre och 68 procent av studerandena som gav feedback angav att arbetet inom VIRTU-projektet hade varit en positiv upplevelse som hade ändrat studerandenas inställning både till arbete med äldre och till äldre människor i en positiv riktning.

På basis av studerandenas feedback visade sig VIRTU-projektet vara en mycket god inlärningsmiljö då projektarbetet granskades via dimensionerna för utvecklingsbaserat lärande. Äkta och öppenhjärtiga möten med de äldre och utvecklingen av den egna yrkeskompetensen via erfarenheter var några av de aspekter som lyftes fram i feedbacken.

STUDERANDE PÅ VIRTU KANALEN – PLANERING, FÖRVERKLIGANDE OCH UTVÄRDERING AV STUDERANDES AKTIVITETER MED ÄLDRE DELTAGARE VID YRKESHÖGSKOLAN NOVIA

Julin, Gruner, Johansson & Syrjäinen-Lindberg

Vid Yrkeshögskolan Novia är studerande och lektorer involverade i att utveckla en ny servicemodell i samarbete med andra partner i VIRTU projektet. Servicemodellen förverkligas på distans på VIRTU kanalen och YH Novia ansvarar för den svenskspråkiga verksamheten i Åboland. I servicemodellen ingår som en del studerandes aktiviteter. Syftet med denna artikel är att beskriva hur studerande planerar, genomför och utvärderar aktiviteter med de äldre deltagarna på VIRTU kanalen.

VIRTU-KANALEN, DE ÄLDRE BRUKARNAS LIVSKVALITET OCH ERFARENHET AV DELTAGANDE

Santamäki Fischer, Häggblom, Julin & Nygård

Sociala relationer är viktiga för upplevd livskvalitet, så även för äldre personer. Interaktiva program via äldre omsorg på distans kan vara en möjlighet för social kontakt. Inkluderingskriterierna till Virtuprojektet var homebound elderly, elderly people who may need 24-h support, elderly frail people who need preventive care and family caregivers and the people they care for. Sammanlagt var 98 äldre personer med från start medan endast 48 deltog i hela projektet vilket gör jämförelser över tid osäkra. Deltagarnas medelålder var 79 år och de flesta var kvinnor. Funktionsförmåga (IADL) och livskvalitet (WHOQoL-Bref) skattades vid projektets start och efter ca. ett år. Vid den sista omgången besvarade de äldre även en kortare enkät som rörde erfarenhet av deltagande i projektet. Länderna skilde sig åt så att de yngsta fanns i Sibbo och i Estland. IADL var god och bättre hos de yngre. Livskvalitet i den fysiska domänen var lägst hos estniska deltagare, medan domänen miljö var högst hos de åländska. Preliminära resultat visade att livskvalitet totalt sjönk något under projektets gång, vilket förklaras med det generella åldrandet. De äldres erfarenhetar var dock övervägande positiva där den sociala interaktionen var speciellt uppskattad.

RÖRA VID SKÄRMEN – SJUKSKÖTARSTUDERANDES DELTAGANDE I KOMMUNIKATIONEN MED ÄLDRE PÅ VIRTU-KANALEN

Häggblom & Santamäki Fischer

I detta kapitel beskrivs hur studerande från Ålands yrkeshögskola har varit involverade och delaktiga i ett projekt med namnet VIRTU-kanal. Den valda metoden var erfarenhetsbaserat lärande, i interaktiva samtal med de äldre klienter som deltog i VIRTU-projektet. Kommunikationen fokuserade på hälsorelaterade teman som var viktiga för de äldre. Resultaten visade att studerandena i allmänhet ansåg att växelverkan med de äldre via interaktiv TV var stimulerande och givande.

STUDERANDENAS ERFARENHETER AV ARBETET PÅ VIRTU-KANALEN

Suvivuo, Asteljoki, Kuikkaniemi & Kinos

Artikeln behandlar de erfarenheter som de studerande inom området för hälso- och välfärdstjänster vid Åbo yrkeshögskola har av de interaktiva sändningarna på VIRTU-kanalen. Sändningarna genomfördes för två grupper som bestod av närståendevårdare och ensamboende från Nådendal. Artikelns empiriska material består av en enkät som genomfördes med studerande som arbetade med sändningarna på den interaktiva TV-kanalen (N= 80). I enkäten, som genomfördes med Webropol-programmet, utreddes studerandenas erfarenheter av arbetet på VIRTU-kanalen, den växelverkan och handledning som skedde på kanalen och den egna inlärningen

Ett centralt resultat var studerandenas erfarenhet av att interaktiv handledning på distans var tämligen enkel även om den skiljer sig från den handledning som ges i direkt kontakt. Användningen av tekniken och dess fungerande utgjorde en ytterligare utmaning för växelverkan. Också ett nytt intresse för etiska frågor väcktes.

ABSTRACTS IN ESTONIAN

LÄÄNEMERE PIIRKONNA KOOSTÖÖ JA VIRTU PROJEKT

Tuominen

Läänemere piirkonnas, nagu ka mujal Euroopas, tekitavad sotsiaal- ja tervishoiusektoris probleeme demograafilised muutused ning teenuste kvaliteedi ja kättesaadavuse tagamine. Eriti äärealadel, nagu näiteks saartel, tingivad pikad vahemaad ja koolitatud töötajate kättesaadavus tõsise vajaduse teenuste uuendamise järele. Uute sotsiaal- ja tervishoiuala töömeetodite ja teenuste väljatöötamine on vähenevate ressursside tõttu vältimatu. Kodus osutatavad teenused ja võimalikult pikaajalise kodus elamise toetamine moodustavad nii Soome tulevikukavade kui ka Euroopa 2020. aasta strateegia olulise osa. Projekt VIRTU ehk Virtual Elderly Care Services on Baltic Islands viidi aastatel 2010–2013 ellu Soomes, Ahvenamaal ja Eestis. Projekti eesmärk oli arendada heaolutehnoloogiat kasutav teenusemudel, mis abistaks saartel asuvate eakate inimeste kodus elamist ja sotsiaalset suhtlemist, parandaks elukvaliteeti ja suurendaks nende turvatunnet. Projekti käigus oli eakatel inimestel võimalus osaleda oma kodus VIRTU-kanali interaktiivse programmi vaatamisel, mis loodi peamiselt omavalitsuste ja kutsekõrgkoolide rühmaseansside või individuaalsete teenustena. Lihtsalt kasutatav puuteekraaniga arvuti andis eakatele inimestele võimaluse pidada oma kodus ühendust teiste teenusekasutajate ja hoolduspersonaliga ka väljaspool konkreetseid saateseansse.

EAKATE INIMESTE VIRTUAALTEENUSED MUUTUVAS TEGEVUSKESKKONNAS SOOMES

Heikkinen

Artiklis käsitletakse eakate virtuaalteenuseid muutuvas tegevuskeskkonnas. Esmalt uuritakse ühiskondlikke muutusi ning nende mõju sotsiaal- ja tervishoiuteenustele. Teiseks vaadeldakse koduses hooldamises toimunud muutusi. Kolmandaks tutvustatakse VIRTU projekti kohta tehtud vahehindamiste tulemusi. Neljandaks analüüsitakse VIRTU-kanali ja laiemalt virtuaalsete teenuste arendamise tulevikuväljavaateid.

Virtuaalsete teenuste käsitlemine piirdub artiklis VIRTU-kanaliga. Virtuaalsetele teenustele ei ole ilmselt olemas selget ühemõttelist määratlust. VIRTU-kanal on interaktiivne vahend saateseansside edastamiseks ja vastuvõtmiseks. See võimaldab kasutajatel suhelda nii ühe kui ka mitme inimesega korraga.

Projektis on alates 2010. aastast tehtud olulist arendustööd. Artiklis analüüsitakse VIRTU-kanali võimalusi ennetava koduse hoolduse ja koduse hoolduse töömeetodite arendamise ühe osana. VIRTU-kanal pakub eakatele osalemisvõimalusi mitmekülgsetes saateseanssides ja mitmesuguses suhtlemises. Projektis üritatakse ka koos koduse hoolduse töötajatega arendada vajalikke töömeetodeid.

Oluline on projekti kaudu saadud kogemuste kasutamine ja tegevuse jätkumine tulevikus. Seda võiks võimaldada paar aastat tagasi esile tõusnud kasutajakesksust rõhutav teenusekujundus. Paindlikult rakendatuna suurendab see kliendi osalust teda puudutavate teenuste arendustöös. Tehnoloogia kasutamise väljakujunemise kaudu saab VIRTU-kanal vähendada töökoormust ning pakkuda uusi vahendeid klienditööks.

VIRTU PROJEKTI KULUTÕHUSUS

Koivumäki & Nygård

Kulutõhususe analüüs tähendab seda, et koostatakse kõikehõlmav majanduslik arvestus, mille puhul võetakse arvesse nii teenuse kulusid kui ka tagajärgi. Hindamise alus on tegevusele seatud eesmärgid ning mõõdetavad tegurid jagunevad kõigile protsessi valdkondadele, alates panustamise väärtusest kuni kogetud kasuni.

Virtu projekti peamine tegevusvaldkond on eakate inimeste ennetav hooldus. Eesmärk on abistada eakate iseseisvat elamist oma kodus, vältida sotsiaalset isoleeritust ja suurendada kodust turvatunnet. Tegevusest saadav kasu klientidele tuleb kõige paremini esile elukvaliteedi säilimise või paranemisena ning võimalusena elada kauem aega kodus. VIRTU projekt on kulutõhus, kui eakate kogetud elukvaliteet paraneb ja hooldusvajadus väheneb, samal ajal on ka kulud madalamad kui muude mudelite puhul.

VIRTU projektist saadud kogemused viitavad sellele, et see on eakate hooldust puudutava ennetustöö hästi toimiv abivahend. Kui teenus võetakse omavalitsuses kasutusele, on siiski oluline kindlaks teha, millised tegurid on kulutõhususe saavutamisel peamised.

INTERAKTIIVNE KAUGREHABILITATSIOON: REHABILITATSIOONI TULEVIKUVÕIMALUS

Karppi

Eakate füüsilise teovõime toetamine interaktiivse kaugteenuse vahendusel on üsna uus võimalus pakkuda kodus elavale eakale inimesele taastusravi. Rahvusvaheliselt on kaugrehabilitatsiooni katsetatud erinevatel patsiendirühmadel ning erineval moel teostatuna. Ka Soomes on mõningal määral kogemusi kaugrehabilitatsiooni üksikisiku tasandi mõjude kohta. VIRTU projektis katsetati kaugrehabilitatsiooni ennetava füsioteraapia vaatenurgast. Klient oli eakas üksi elav naine, kes sai umbes kahe kuu jooksul füsioterapeudi juhendatavat individuaalset taastusravi. Kliendile tundus, et kaugrehabilitatsioon oli kasulik, sest ilma juhendamise ja motiveerimiseta on oma seisundi eest hoolitsemine keerukas. Ka spetsialisti vaatenurgast oli kaugjuhendamine positiivne kogemus. Sellise näidisjuhtumi alusel võrdlesime kaugrehabilitatsiooni kulusid traditsioonilise koduvisiitidena teostatava taastusraviga. Saadud tulemuste põhjal on organisatsioonil soodsam pakkuda kaugrehabilitatsiooni teenuseid juba nelja kliendiga rühma puhul.

MÄÄRATAMTUSEGA SILMITSI VIRTU PROJEKTI ARENDAMISEL

Rasu

VIRTU – virtuaalsete hooldusteenuste arendamine oli 2009. aastal, kui Eesti partnerid otsustasid projektis osaleda, väga innovaatiline idee. Innovatsioon on aga oma olemuselt seotud määramatusega (ebakindlusega) – ideena on uus hüve ning kasu mida innovatsioon ühiskonnale võiks tuua, hästi kujutletav, kuid uue teenuse praktilist juurutamise käiku, tulemusi ning kõrvalmõjusid ei ole detailideni võimalik planeerida. Nii on see innovatsiooni puhul alati, vastasel juhul ei oleks tegemist innovatsiooniga.

Artikli aluseks on VIRTU projekti raames koostööd tegeva Turu Rakenduskõrgkooli teadlase Harri Jaloneni innovatsiooni ja määramatust käsitlevates teadusartiklites välja toodud määramatuse valdkondlik klassifikatsioon innovatsiooni protsessis. Määramatuse faktorid on tehnoloogia; turg; regulatsioonid ja seadusandlus; sotsiaalia ja poliitika, heaksiit ja õigusjärgsus; juhtimine; ajastus ning tagajärjed. Igas faktoris võib peituda innovatsiooni edukusele takistuseks saav pudelikael.

VIRTU projekti käigus loodav virtuaalsete hooldusteenuste mudel on täna arendusjärgus, innovatsiooniprotsess kestab. Määramatusest tulenevate ohtude ja tagajärgede teadvustamine innovatsiooniprotsessis on ühiskondliku tolerantsuse kasvatamisel oluline osa.

Käesolev artikkel kirjeldab VIRTU projekti Eesti partnerite väljakutseid ja õppetunde, mida oleme virtuaalsete hooldusteenuste arendamise käigus kohanud. Vaadeldakse tulemusi ja tagajärgi, mis tulenesid ja tulenevad määramatusest.

KOOSTÖÖ ÜLE TEGEVUSALA PIIRIDE: OMAVALITSUSÜKSUSTE VÕIMALUS KOOSTÖÖKS

Lind

Sipoos on VIRTU projektis osalejad valitud võrreldes teiste omavalitsustega erineval moel ja eri sihtrühmadest. Selle asemel, et koduteenuste töötajad arendaksid vastavaid kaugteenuseid, on projekti raskuspunkt olnud üksinduse ja isoleerituse vältimisel. Sipoo projektis on tulnud ette ka mõningaid raskusi. Projektile palgati osalise tööajaga sisukoordinaator ning Sipoos arendatud kaugelt edastatavate heaoluteenuste osutamisse oli kaasatud mitmeid omavalitsuse üksusi. Artiklis tutvustatakse kontseptsioone, mida Sipoos katsetati koduse hoolduse, raamatukogu, tegevuskeskuse Risteys ning ühe eelkoolirühma ja põhikooli ülaastme klassiga (7.-9. klass). Eakate kaughooldus mitte ainult ei paranda eakate tervist ega väldi üksindust, vaid see muudab eakad ka aktiivseteks kogukonna liikmeteks. Ka suhtumine eakatesse võib sedalaadi sotsiaalse meedia projekti kaudu muutuda.

MISKIT VANA, MISKIT UUT, MISKIT LAENATUT, MISKIT SINIST

Arvola

Videokonverentsitehnika kasutamine on muutunud argipäevaseks ja saanud tavaliseks erinevates olukordades. Pidevalt otsitakse uusi kasutusvaldkondi. Traditsioonilist videokonverentsitehnikat kasutatakse nii kodustes oludes kui ka ärimaailmas. Viimasel ajal on üha enam mõeldud selles vallas ka eakatele inimestele sobivatele toodetele. Andmesideühenduste levimine, edastuskiiruste kasv, töökindlus ning liikuva pildi pakkimisvõimaluste areng on aidanud kaasa nimetatud tehnika levimisele argikeskkonda.

Selles artiklis kirjeldatakse VIRTU projektis kasutatavat videokonverentsitehnikat ning selle kaudu saadud kogemusi tehnilisest vaatenurgast. Tekstis käsitletakse videokonverentside ajalugu kuni hetkeolukorrani välja. Artiklis vaadeldakse praegust olukorda ja selle probleeme tehnilisest vaatenurgast ning visandatakse tegevusala tulevikukujutlusi.

Artikli autori kogemused põhinevad videokonverentside ja nendega seotud rakenduste kaudu saadud kogemustel alates 2006. aastast. Autor on osalenud erinevates videokonverentside süsteeme puudutavates projektides ning kasutanud ja uurinud erinevate tootjate seadmeid ja rakendusi. Ta on olnud tehniline ekspert ka näiteks sellistes projektides nagu Kotiin-hanke, Turvallinen koti ja eMedic.

EAKATE KAUGHOOLDUS TURU PIIRKONNAS INIMÕIGUSTE VAATENURGAST

Julin & Sjöstrand

Õigus tervisele on üks peamisi inimõigusi. Käesolev artikkel käsitleb VIRTU-kanali tähendust Turu saarestikus kodus elavatele eakatele inimestele kättesaadavuse, kasutatavuse ja kvaliteedi vaatenurgast. Sotsiaal- ja tervishoiuteenuste kättesaadavus eakate inimeste virtuaalse hoolduse kasutuselevõtmisel paranevad. Hoolekande- ja tervishoiuteenused on Virtu-kanali kaudu keskustest väljaspool elavatele eakatele inimestele paremini kättesaadavad. See vähendab ebavõrdsust. Kasutatavuse aspekti vaadeldakse eakatele suunatud tehnoloogia vaatenurgast. Traditsiooniliselt on oldud arvamusel, et kõige paremat mõju avaldavad lähedus ja soe puudutus, aga kui eakad soovivad elada kodus ja traditsioonilised teenused puuduvad, peavad eakad VIRTU-kanalit oluliseks seltsiliseks ja teabevahetuskanaliks. Teenuse kvaliteedi tagab ka see, et üliõpilased planeerivad tegevust juhendatud õpikodades erialakirjanduse alusel ning omavalitsuse töötajad teevad koduvisiite.

VIRTU-KANAL, EAKATE KASUTAJATE ELUKVALITEET JA OSALEMISKOGEMUS

Santamäki Fischer, Häggblom, Julin & Nygård

Sotsiaalsed suhted on kogetava elukvaliteedi jaoks väga tähtsad. See kehtib ka eakate inimeste puhul. Interaktiivsed programmid võivad eakate kaughoolduse puhul anda võimaluse sotsiaalseteks kontaktideks. VIRTU projekti osalisteks valiti kodus elavad eakad, võimalikult kogu ööpäeva abi vajavad eakad, vanemad halva tervise ja ennetava hoolduse vajadusega inimesed ning oma lähedaste hooldajad ja nende hooldatavad. Kokku osales projektis 98 eakat inimest, kellest 48 olid kaasatud kogu projekti vältel. See tekitab pisut ebakindlust pikema perioodi võrdluste tegemisel. Osalejate keskmine vanus oli 79 aastat ja suurem osa neist olid naised. Teovõimet (IADL) ja elukvaliteeti (WHOQoL-Bref) hinnati projekti alguses ja uuesti umbes aasta möödumisel. Viimasel korral vastasid eakad ka lühikesele küsitlusele, mis käsitles projektis osalemise kaudu saadud kogemusi. Riikide vahel oli peamine erinevus, et kõige nooremad osalejad olid Sipoos ja Eestis. IADL oli noorematel osalejatel hea ja parem. Füüsilises valdkonnas oli elukvaliteet kõige kehvem eestlastest osalejatel, elukeskkonna hindamisel paigutusid kõige kõrgemale Ahvenamaa osalejad. Esialgsed tulemused näitasid, et elukvaliteet projekti käigus tervikuna pisut langes, mis on seletatav osalejate vananemisega. Eakate kogemused olid projekti suhtes siiski peamiselt positiivsed ja eriti palju hinnati sotsiaalse suhtlemise võimalust.

KASUTAJATE KOGEMUSI INTERAKTIIVSE TEHNOLOOGIA KASUTAMISE KOHTA VIRTU-KANALIS

Lampo

Artiklis selgitatakse VIRTU-kanali Naantalist pärit kasutajate hulgas 2012. aasta jaanuaris ja veebruaris tehtud kahe uuringu tulemusi. Artiklis uuritakse kasutajate rahulolu VIRTU-kanali programmitootmise ja interaktiivse kommunikatsioonitehnoloogia kasutamise suhtes.

Kasutajad on rahul seadme lihtsa kasutatavusega, kuid alguses ilmnenud tehnilised probleemid suurendasid rahulolematust. Tehnilised probleemid tulenesid tihti ebapiisavast juhendamisest ja teavitamisest. Pildi kvaliteet oli hea, aga ühenduse katkemised mõjutasid heli kvaliteeti. Programme peeti huvitavaks ja kasulikuks. Kasutajad pidasid programmides osalemist ja suhtlemist väljaspool programmide edastamist sotsiaalsust suurendavaks. Kasutajad olid suhteliselt rahulolevad interaktiivse tehnoloogia kasutamisega ja soovisid jätkata seadme kasutamist.

Kasutajad liigitati teenuse üldkasutajateks ja aktiivseteks kasutajateks. Üldkasutajad osalesid programmide vaatamises, aga ei kasutanud kanali muud teenusevalikut. Aktiivsed kasutajad kasutasid lisaks aktiivsele programmide vaatamisele ka videotelefoni ühendust väljaspool programme. Nad rääkisid, et said VIRTU-kanali kaudu uusi sõpru. Ka koduse turvalisuse tunne on suurenenud ja üksindustunne vähenenud.

Tulevikus, kui tehnika kasutamine on eakatele tuttav ja tehnika töötab, saab keskenduda kliendi vajadustele vastavate teenuste arendamisele. Peale standardteenuste tasub luua eraldi teenuseid klientidele ja kliendirühmadele vastavalt nende vajadustele, ootustele, soovidele ja nõudmistele.

SÜSTEEMSE INNOVATSIOO-NI OMAKSVÕTT EPISTEEMILISE PROOVIKIVINA

Jalonen

Artiklis vaadeldakse süsteemse innovatsiooni omaksvõtu andmehalduslikke probleeme. Süsteemse innovatsiooni all mõistetakse uuendust, mille puhul mitmest osalisest koosnev sotsiaal-tehniline süsteem leiab toimimiseks uudse viisi. Süsteemse innovatsiooni üks konkreetseid ilminguid on Naantali linna koduses hoolduses aastatel 2010–2012 kasutusele võetud VIRTU-kanal. Innovatsiooni omaksvõtmise all mõistetakse artiklis teabega seotud intensiivset protsessi, mille käigus innovatsiooni oletatavad kasutajad kaaluvad sellega seotud plusse ja miinuseid ning teevad otsuse hangitud teabe alusel. Artikli läbivaks hüpoteesiks on mõte, et süsteemse innovatsiooni omaksvõtt sõltub paljuski sellega seotud teadmistesse puutuvate probleemide kindlakstegemisest ja lahendamisest.

Kirjanduse ja intervjuude põhjal väidetakse artiklis, et süsteemse innovatsiooni omaksvõtuga seotud teadmistesse puutuvad probleemid tulenevad ebakindlusest, keerukusest, ebaselgusest ja mitmetitõlgendatavusest. Ebakindlus ilmneb selle kaudu, et puudub teave faktide kohta. Keerukus omakorda tähendab olukorda, mille puhul erinevate osaliste vahelised sõltuvussuhted tekitavad informatsiooni ülekülluse. Ebaselgus viitab asjaolusid või nähtusi puudutavatele tõlgendamisraskustele. Mitmetitõlgendatavus tähendab mitut erinevat ja tihti vastuolulist tõlgendust innovatsiooniga kaasnevate plusside ja miinuste kohta. Artiklis esitatakse ka konkreetseid ettepanekuid kindlaks tehtud teadmistega seotud probleemide lahendamiseks.

UUED VÕIMALUSED EESTI SOTSIAALHOODUSES

Lunkova & Roosimaa

Artikkel annab põgusa ülevaate VIRTU kanalist kui uuest võimalusest Eesti eakate ja liikumispuudega inimeste sotsiaalhoolekande tegevuses.

Artikli esimene osa tutvustab Kuressaare Hoolekande SA klientide leidmist. Kirjeldatakse projektis kasutusel olnud kliendiprofiili ja tegevusi klientide otsimisel 2011. aasta kevadel, samuti hilisemat kliendiprofiili korrigeerimist.

Tutvustatakse VIRTU kanali tegevusi, sealhulgas rühmategevuste (saadete) läbiviimise korraldust. Artiklis antakse ülevaade saadete sageduse, teemade jmt. kujunemisest. Lisaks rühmategevustele on Kuressaare Päevakeskus VIRTU kanalit kasutanud toetatud elamise teenuse juures ja avahooldajaga suhtlemisel.

Artikli teine osa keskendub projekti käigus läbi viidud erinevaid küsitluste (saatejuhid, kliendid, sotsiaaltöötajad, omavalitsuste juhid/poliitikud, saatejuhid) tagasiside analüüsile. Uuringu tulemusena saadi teada, milliseid VIRTU kanali kaudu edastatavad saated on enim külastatavad ja nõutud eakate endi hulgas. Samuti uuriti, kui mugavalt eakas inimene tunneb end VIRTU kanalit kasutades ja kas see on ka talle kuidagi toeks ja abiks. Küsimused olid suunatud ka sotsiaaltöötajatele ja omavalitsustöötajatele, et välja selgitada, kuidas näevad nemad edasisi võimalusi VIRTU kanali toimimiseks ja kas VIRTU kanal toetab vanainimese üksi kodus elamist. Uuringu käigus püüti välja selgitada ka VIRTU saadete kulutasuvust ning seda, kui pikk on protsess ühe saate ettevalmistamiseks.

NAGU KAHEKSAJALG PROJEKTI SISUKOORDINAATORI KOGEMUSI PROJEKTI ALGATAMISE JA ELLUVIIMISE KOHTA

Husell

Olulise osa projekti assistendi tööst moodustab inimestega kohtumine ja erinevate tööülesannete täitmine. Minu töö projekti assistendina Eckerös (poole kohaga) muudeti projektijuhi tööks Eckerö vallas (poole kohaga). Olin samal ajal Ahvenamaa rakenduskõrgkoolis projekti assistent (poole kohaga) ja Ahvenamaa piirkonna sisukoordinaator. Minu töös oli mul palju kasu hoolekandekoolitusest, varasemast töökogemusest ning isiklikest kogemustest. Projekti elluviimine, seda pidevalt arendades ja uusi võimalusi leides, on olnud katsumusi pakkuv. Aja jooksul olen projektis täitnud nii lihtsamaid kui ka aeganõudvamaid ja keerukamaid ülesandeid. Kõigesse peab suutma suhtuda positiivselt ning tuleb osata toetada nii töötajaid kui ka kodus elavaid eakaid ja nende lähedasi ka siis, kui ise kõigile küsimustele vastuseid ei tea. Koordinaatori rolli võiks võrrelda kaheksajalaga, kelle kombitsad täidavad erinevaid tööülesandeid ning kes on ühenduses eakate inimeste, personali ja muude osalistega.

TÖÖTAJATE KAASAMINE ARENDUSTÖÖSSE

Jokela

Uudse heaolutehnoloogia ja selle kaudu uue töömeetodi kasutuselevõtt nõuab jõupingutusi nii algfaasis kasutamise õpetamisel kui ka kasutamise kinnistamise tagamisel. Püsiva tööpraktika muutuse loomine eeldab palju tööd ja töötajate instrueerimist. Tegevuse planeerimine, kasutuskohtade arendamine, kasu tuvastamine ning heade ja halbade poolte avatud analüüs koos lõppkasutajatega (selles artiklis: eakate inimestega töötav hoolduspersonal) aitavad kaasa tehnoloogia kinnistumisele igapäevaseks töövahendiks.

Üldiselt paistab heaolutehnoloogia kasutuselevõtus tõusvat esile kolm tegurit, mille kõigiga tuleb ühel ajal arvestada. Tehnika peab olema kergesti kasutatav, selgelt kasutajate vajadustele suunatud ja kasulik. Juhtkond, madalama astme juhid ja kasutuselevõttu elluviivad isikud peavad organisatsiooni hoolikalt eesseisvateks muutusteks ette valmistama. Töötajatel peab olema võimalus arendada oma võimeid, kasutada kutseoskusi ning osaleda tegevusmudeli kasutuselevõtu käigus ka vajaliku arendustöö tegemisel. Artiklis kirjeldatakse lõppkasutajate pühendumis- ja muudatusprotsessi etappe, tutvustatakse juhtumipõhiselt Naantali kogemusi uue töövahendi kasutuselevõtmisel ning lõpetuseks koostatakse kasutuselevõtu ja personali pühendumise meelespea erialakirjanduse ja oma kogemuste põhjal.

AVAHOOLDUSE VARAJASE SEKKUMISE ARENDAMINE VIRTU PROJEKTIS

Pekkonen & Saarikivi

Eakate hooldamist ja teenuseid puudutava soovituse põhjal (2008) peaks nad saama võimalikult kaua kodus elada. Hoolduse ja teenuste arendamisel on tähtis kliendipõhine eakate inimeste osalemine ning nende erilisuse ja vajaduste kindlaks tegemine. Sipoo eakate inimeste programmi (2012) kohaselt on neile suunatud teenuste raskuspunkt ennetaval ja otsival viisil pakkuda eakatele suunatud teenuseid. VIRTU projekti käigus korraldati Sipoo koduse hooldamise alal õpikodasid uue tehnoloogia kasutuselevõtu toetamiseks ja kasutamise kinnistamise käivitamiseks. Õpikodades käsitleti koduse hoolduse argipäeva ja kliendikesksust. Koduse hoolduse alal töötajad arutasid õpikodades VIRTU-kanali kasutamise võimalusi ja tulevikku. Selles artiklis on kirjeldatud Sipoo koduse hoolduse õpikodade tegevust hargneva skeemi alusel (joonis 2).

Jääskeläineni (2004) sõnul on tehnoloogiliste seadmete abil võimalik pakkuda koduse hoolduse kliendile hooldust ja ravi ilma eraldi visiidita väliteenuste raames. Heaolutehnoloogia kasutamine hooldustöö argipäeva ühe osana eeldab siiski tehnoloogia suhtes positiivselt meelestatud töökultuuri, seadmete kasutamise tundmist ning seadmete kasutamisest tuleneva kasu mõistmist ühe osana hooldustöö mõjuvusest. Suhoneni ja Siikaneni (2007) sõnul nõuab tehnoloogia kasutamine personaliressursside, töötingimuste ja teenusesüsteemide arendamist ning muutust tavades ja kasutajate oskustes.

VIRTU PROJEKT ÕPPEKESKKONNANA

Eskelinen

Kutsekõrgkooli Laurea pedagoogilise tegevuse lähtekoht on arenemispõhine õppimine, mis võimaldab õpilase oskuste arenemist koos ettevõtetega teostatavates arendusprojektides. Artiklis vaadeldakse sotsiaalhalduse üliõpilaste oskuste arenemist projekti VIRTU elluviimisel ja kirjeldatakse VIRTU projekti õppekeskkonnana arenemispõhise õppimise põhimõtete, s.o autentsuse, kogemuspõhisuse, partnerluse, loovuse ja teaduslikkuse kaudu.

2012. aasta kevadel osales VIRTU projektis 60 sotsiaalhalduse üliõpilast ühe osana õppetsüklist „Metoodilisus klienditöös". Üliõpilastelt koguti pärast õppeperioodi lõppu projektitöö kohta tagasisidet. Üliõpilaste tagasiside kaudu ilmnes, et projektitöö arendas üliõpilaste klienditöö oskusi üldisel tasandil juhendamisoskuste arenemise, uudsete tulevikus vaja minevate oskuste ehk vastastikusel suhtlemisel põhineva kaugjuhendamise ning tegutsemisoskuste paranemise näol. Projekti kaudu tutvusid üliõpilased vanuritega toimuva tööga ning 68% vastanud üliõpilastest ütles, et VIRTU projekt oli positiivne kogemus, mis muutis nende suhtumist vanuritega tehtava töö ja vanurite enda suhtes positiivses suunas.

Vaadeldes projektitööd arenemispõhise õppimise põhimõtete kohaselt, osutus VIRTU projekt üliõpilaste tagasiside järgi väga heaks õppekeskkonnaks. Tagasiside põhjal tõsteti esile ehedat ja vahetut vanuritega suhtlemist ning enda kutsealast arengut kogemuste saamise kaudu.

ÜLIÕPILASED VIRTU-KANALIS. EAKATEGA TEHTAVA TÖÖ PLANEERIMINE, TEOSTAMINE JA HINDAMINE NOVIA RAKENDUSKÕRGKOOLIS

Julin, Gruner, Johansson & Syrjäinen-Lindberg

VIRTU projekti kaudu arendavad Novia rakenduskõrgkooli üliõpilased ja lektorid uut teenusemudelit koos teiste projektis osalevate pooltega. Teenuseid osutatakse kaugteenustena VIRTU-kanali kaudu ja kool vastutab rootsikeelse tegevuse eest Turu piirkonnas. Üliõpilaste tegevus on teenusemudeli üks osa. Käesoleva artikli eesmärk on kirjeldada, kuidas üliõpilased planeerivad, teostavad ja hindavad koos eakate osalejatega VIRTU-kanalis arendatavat tegevust.

PUUDUTA EKRAANI. ÕENDUSALA TUDENGID OSALESID EAKATE INIMESTEGA SUHTLEMISEKS LOODUD VIRTU-KANALI KASUTAMISES

Häggblom & Santamäki Fischer

Selles peatükis kirjeldatakse Ahvenamaa Rakenduskõrgkooli tudengite kaasamist VIRTU-kanali nimelise programmi töösse. Valitud meetod oli kogemusliku õppe metoodika rakendamine suhtlusvahendina videodialoogide pidamiseks projektiga VIRTU liitunud eakate klientidega. Suhtlusteemadeks olid eakatele inimestele olulised terviseprobleemid. Tulemused näitasid, et kõigi osalenud tudengite arvates on eakate inimestega suhtlemine interaktiivse televisiooni kaudu väga praktiline.

ÜLIÕPILASTE KOGEMUSI VIRTU-KANALIGA TÖÖTAMISEL

Suvivuo, Asteljoki, Kuikkaniemi & Kinos

Artiklis käsitletakse Turu kutsekõrgkooli heaoluteenuste ja tervishoiuala üliõpilaste VIRTU-kanali jaoks loodud interaktiivsete saadete tegemise kogemusi. Saated loodi Naantali linna lähedaste inimeste hooldajatest ja üksi elavatest vanuritest moodustatud kahele rühmale. Artikli empiiriline materjal koosnes interaktiivses televisioonis saateid teinud üliõpilaste (N = 80) Webropoli programmi abil korraldatud küsitlusest, milles selgitati üliõpilaste kogemusi Virtu-kanalis töötamise, seal toimunud suhtlemise ja juhendamise ning enda õpitu kohta.

Peamine tulemus oli, et üliõpilased nimetasid interaktiivset kaugjuhendamist üsna lihtsaks, kuigi see erineb tavapärasest näost näkku toimuvast juhendamisest. Suhtlemise tegi keerukamaks tehnika kasutamine ja selle töökindlus. Ka eetilised küsimused tekitasid üliõpilastes uudset mõtteainet.