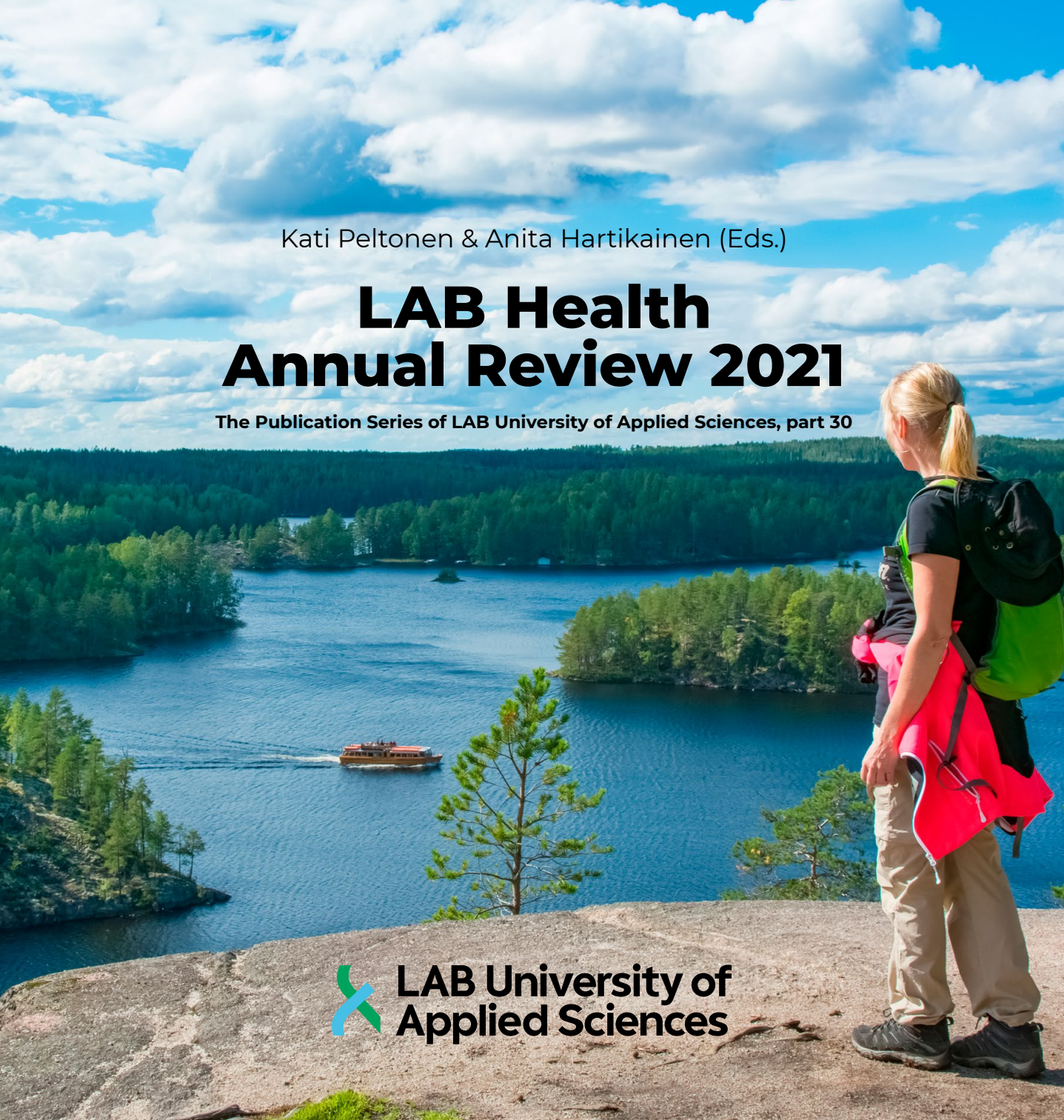
Kati Peltonen & Anita Hartikainen (Eds.)

LAB Health Annual Review 2021

The Publication Series of LAB University of Applied Sciences, part 30



LAB University of Applied Sciences

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LAB Health
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About the Authors

Ahola, **Marja**, MA, works as a Research, Development & Innovation (RDI) Specialist at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary interests are interaction and accessibility in online solutions, creative and anticipatory problem solving, social inclusion and enterpreneurial thinking. She has considerable experience with integration education, language teaching online, team leading, pedagogy, learning methodology and developing new products.

Anttila, **Maisa**, M.Soc.Sc, works as a Research, Development & Innovation (RDI) Specialist and as a project manager at the Faculty of Social and Health Care at the LAB University of Applied Sciences. Maisa is specialized in social psychology.

Eerola, **Maija**, MH (NGO and youth work), works as a Research, Development & Innovation (RDI) Specialist at the faculty of Health Care and Social Services at LAB University of Applied Sciences. Her primary interests are participation, communality, diversity, supporting agency and tutoring.

Heininen-Reimi, **Taina**, M.Soc.Sc., works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include welfare policy, welfare services and mental health care and sub-stance abuse work.

Hämäläinen, **Tuula**, works as a Senior Lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences, and is the project manager of the International Workplaces and Experts in South Karelia and Kymenlaakso project.

Id-Korhonen, **Annamaija**, Msc Health, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of expertise are health promotion, digital services of social and health, accessibility and services of elderly people.

Irjala, **Johanna**, M.H.Sc., works as a Research, Development & Innovation (RDI) Specialist in the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary interests are specially health promotion and development of well-being at work.

Ivanoff-Lahtela, **Päivi**, M.N.Sc, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include child and adolescent nursing care and she works as a clinical practice coordinator.

Kaartinen, **Olga**, student in University of Edinburgh (MSc Health in Social Sciences). She worked as a project assistant in MESH – Employing immigrants via networks and mentoring project at the LAB University of Applied Sciences during summer 2021.

Kangassalo, **Tiia**, Master of Health Care (Development and Management of Social and Health Care), works as a Project Specialist in Lahden Diakonialaitos. Her primary areas of expertise and interest are Health and well-being, nursing, social inclusion, advicing and tutoring.

Kari, **Tapio**, MSc. Econ, works as a senior lecturer at the Faculty of Business and Hospitality Management at the LAB University of Applied Sciences. His areas of specialty include workplace skills, diversity leadership and entrepreneurship.

Karjalainen, **Jukka**, RN, EUSIM simulation instructor worked as simulation instructor and a RDI specialist in machine vision project in the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. His main interests are acute healthcare education and healthcare technology.

Kempe-Hakkarainen, **Tarja**, works as a lecturer in the Faculty of Health Care and Social Services at the LAB University of Applied Sciences and as a project expert in the Participation Block project.

Kesti, **Marko**, is research director at Lapland University of Faculty of Social Sciences. Dr. Kesti has the title of docent in human resource management with a specialization in human capital management.

Kiijärvi-Pihkala, Marja, MA (Educ.), works as a Research & Development & Innovation (RDI) Specialist in the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary interests are social inclusion and multicultural work. Her core competences are project planning, project evaluation and stakeholder relationships.

Kiiskinen, **Kirsi**, M.H.Sc., works as a RDI Specialist and Project Manager at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her interests are especially promoting an active lifestyle, development of well-being at work and strategic work.

Knuuttila, **Pirjo**, M.H.Sc., works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include neurological physiotherapy. She works as a clinical practice coordinator and ICF & GAS educator.

Kokkonen, **Mari** Lic.Sc (Social Sciences), works as a principal lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of expertise are social and health care leadership, coaching and team leadership and social work competencies. Her special interest is also competence-based pedagogy in higher education.

Kokkonen, **Sari**, M.H.Sc., works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include gerontology and home care.

Korpela, **Tarja**, DSc (Admin), works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include welfare services and customer experience management.

Kröneck, **Mia**, MA, works as a RDI Specialist at the faculty of Health Care and Social Services at LAB University of Applied Sciences. Her primary areas of expertise and interest include mental health and cultural diversity. She is also experienced in mind-set coaching.

Kuparinen, **Onni**, works as a Project Worker at the Faculty of Health Care and Social Services at LAB University of Applied Sciences. He studies BBA last year at LAB and is interested about sustainable growth and creating new ways to involve students as part of Universities RDI work.

Kuvajainen, **Minna** M.A. (Educ.), works as a lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary areas of specialty include trauma-informed approach, self-knowledge, counselling skills, drama pedagogy and mindfulness.

Lahti, **Anna**, Master of healthcare, works as a RDI Specialist at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her interest is in the development of technology in the social and well-being service.

Lahtinen, **Päivikki**, PhD (Educ), MSc (Health) works as a senior lecturer at the Faculty of Social and Health Care at the LAB University of Applied Sciences. Her areas of specialty include thesis, research and development methods.

Leinonen, **Pinja**, BSc. A 2021 social services graduate from LAB, who loves the nature and forests of Finland. Exercise and well-being are important aspects in her daily life, and there is not one day when she does not enjoy nature with her dogs.

Lerssi-Uskelin, **Jaana**, (MHSc) is an RDI Specialist at LAB University of Applied Sciences' Faculty of Business and Hospitality Management and she is the project manager of the SafeInLog – Work safety based productivity and wellbeing in inhouse logistics project.

Loipponen, **Jaana**, MA, PhD (soc.) works as a senior lecturer and project manager at the Faculty of Business and Hospitality Management at the LAB University of Applied Sciences. Her areas of specialty include leadership, strategic and influence communication, diversity and inclusion matters, as well as international project management.

Makkula, **Sami**, BA, IDBMpro. Works as a RDI specialist at the Faculty of Health Care and Social Services providing expertise in user centered design across different faculties at the LAB University of Applied Sciences. His primary interests are multidisciplinary development, service design and user experience.

Mirola, **Tuuli**, D.Sc. (Tech.), works as a principal lecturer at the Faculty of Business and Hospitality Management at LAB University of Applied Sciences. She is the project manager in the Kurenniemi – Cultural value of Russia and Finland through M. Agricola trail project. Her primary areas of expertise are quantitative research methods and marketing research.

Murto, **Pipsa**, M.Soc.Services, works as a lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary areas of specialty include early childhood education and care, participation and well-being of children and families.

Mälkki, **Katja**, M.Sc. (Econ.) is a doctoral candidate in social sciences. She works as a project coordinator at the University of Lapland in programs related to the quality of working life, well-being at work and its relation to the sustainable competitiveness of the organization.

Nöjd, **Taija**, M.Soc.Sc, works as a senior lecturer at the Faculty of Social and Health Care in the LAB University of Applied Sciences. Taija is specialized in social work and social services.

Pakarinen, **Katariina**, M.A. (Design), works as a RDI specialist at the LAB University of Applied Sciences. Katariina's primary interests and core competences are design thinking and service design.

Peltonen, **Kati**, PhD (Econ.), M.Sc. (Educ.), works as a Research, Development & Innovation (RDI) Director for Service Innovations for Health and Well-being focus area at the LAB University of Applied Sciences. Her primary areas of research and expertise are entrepreneurship and entrepreneurship education. Her current research interests focus on the development of entrepreneurial university, innovation activity in ecosystems and universities' social responsibility.

Pirttikoski, **Virve**, M.Ed., works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary interests are social participation, diversity, intercultural work and work-based learning.

Rask, **Mari**, M.Sc.Services, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. She also works as a project manager for the ESR project Mainstreaming Gender in Social and Health Care Training. Her primary interests are social participation and well-being.

Roslakka, **Juha**, PhD Soc.Sciences, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. His main interests are research, developing and future foresight methods.

Sara-aho, **Arja**, M.Sc. in Nursing, RN works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her pedagogical interests include patient and client safety, perioperative nursing, acute care, first aid and disaster training. She has special training for conducting simulations.

Seppälä, **Maina**, M. Soc. Sc. works as an RDI specialist at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences and is currently an expert in projects related to equality.

Silaste, **Sirpa**, MSc, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include adapted sports, physiotherapy with children and family welfare.

Shchipova, **Marina**, BBA, works as a project assistant in the Lahti OSKE LAB project at the LAB University of Applied Sciences. OSKE LAB strengthens the viability and competence recurrence of the region by supporting the employment of highly educated immigrants.

Sirviö, **Jonna**, Bachelor of healthcare, student of Master of healthcare, works as a RDI Specialist and project manager at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her interest is in the development of technology and artificial intelligence ethics in the social, health and well-being service.

Stellberg, **Tuulia**, M.Soc.Sciences, doctoral candidate, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary areas of expertise are social welfare services, structural social work, adult social work and documentation.

Suikkanen, **Anne** M.Sc., (Health Sciences), works as a senior lecturer and a project manager at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. She is also a PhD candidate at LUT University. Her primary interests are social and health care development and management, study counselling and continuous learning.

Suokas, **Marjut**, is a service designer who works as a RDI specialist at LAB University of Applied Sciences, Institute of Design and Fine Arts. Her true passion lies in service and business development using service design tools, coaching, leadership and co-working.

Takaluoma, **Matleena**, M.N.Sc., works as a lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include gerontological and palliative nursing.

Tiittanen, **Hannele**, (Lic.NSc., M.Sc.Ed.) works as a principal lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her key competence is the development of health care education. For the last six years, she has worked in particular for the education export tasks in Kazakhstan, where she has developed numerous functions within nursing education and healthcare organisations.

Timonen, **Anne** works as a RDI specialist at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her areas of specialty include welfare business development in EU-funded projects and project management.

Tolonen, **Tarja**, M.Soc.Services, works as a senior lecturer at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her primary areas of expertise are participation, adult, e-counselling, project coordination, health and human service informatics and digital social services.

Tommola, **Päivi**, M.Soc.Sc., works as a RDI Specialist at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Her special interests are nature-based tourism, human-nature relationship and entrepreneurship. She is experienced also in project management and planning.

Tuusjärvi, **Pirjo**, M.Sc. (Econ.), works as a RDI Specialist and Project Manager at the LAB University of Applied Sciences at the Faculty of Social and Health Care. Her primary areas of expertise and interest are promotion of business ecosystems and innovativeness in the information society, regional development as well as promotion of well-being, health and social inclusion of residents.

Vahtokari, **Tarja** works as a RDI Specialist at the Faculty of Health Care and Social Services at the LAB University of Applied Sciences, and works as an expert in the International Workplaces and Experts in South Karelia and Kymenlaakso project.

Visuri, **Pekka** works as a job coach at Kiipula Vocational College Kiipula Vocational College.

Väänänen, **Ilkka**, PhD, adjunct professor, works as Senior Researcher in the Faculty of Health Care and Social Services at the LAB University of Applied Sciences. Among other things, he works as a project manager of the Go Green: Resilient Optimal Urban natural, Technological and Environmental Solutions Horizon2020 project, and as a specialist in the Päijät-Häme Road Map project. During his leisure time, Ilkka is an avid outdoor enthusiast and does orienteering, among other physical activities.

Kati Peltonen

Preface: Sustainable well-being through effective RDI operations

Sustainable well-being refers to the level of well-being that secures the essentials of life for people today, the future generations and other species. With this definition, the primary objective is to secure and increase the well-being of all people in an ecologically sustainable manner (Helne & Hirvilammi 2017). Hence, sustainable well-being is closely linked to the idea of planetary health, which underlines the inextricable relationship between human health and the health of our planet.

However, sustainable well-being is a complex concept since it is considered to consist of several different elements. It has been proposed that the foundation of sustainable well-being is a healthy, educated, and well-off population (Vaarama 2017). On the other hand, health and thus also well-being are viewed as a state that is constantly changing, which does not just mean the absence of illnesses (WHO, 2021). The broader meaning of sustainable well-being can also be considered to encompass a reasonable standard of living, purposeful and rewarding activities, meaningful relationships and being truly present in one's life (Hirvilammi 2015). In this broader meaning, a parallel concept to sustainable well-being is social sustainability, which, among other things, refers to the promotion of employment and equality, prevention of poverty and marginalisation, improvement of the health, habitability, and social functionality of the work, residential and living environments, as well as support for the health and functioning of the population (Alila et al. 2011).

Due to it being so multidimensional, sustainable well-being appears to be a state that is difficult to achieve. So far, no country in the world has achieved a high level of well-being sustainably (Furman et al. 2018). The UN's 2030 Agenda for Sustainable Development sets binding goals for nations to promote sustainable well-being (United Nations 2015).

The LAB University of Applied Sciences also wants to contribute to advancing sustainable development. Our RDI activities promote the well-being of people and the environment and the premises of sustainable operations of towns, cities, and companies. Our operations are steered by the Ministry of Education and Culture's sustainable development policy and the joint programme of the universities of applied sciences for sustainable development and responsibility, prepared by the Rectors' Conference of Finnish Universities of Applied Sciences (Arene), both of which encourage stricter sustainability goals in all education and stakeholder activities.

LAB Health is one of the strategic focus areas of LAB University of Applied Sciences, directing both the research, development, and innovation activities as well as education. The key themes of research and development in LAB Health include: 1) well-being from physical activity and the living environment; 2) social inclusion and safety in everyday life; 3) health promotion and smart self-care; and 4) efficient service chains. Each of these themes approaches the issues of health and well-being from a different angle, but they all aim to generate different service innovations that promote health and well-being in cooperation with various stakeholders.

Thus, we pursue sustainable well-being through several development and research projects, which promote people's health, activity, experiences of inclusion, employment, well-being at work, competence, and other prerequisites of well-being, taking into account the opportunities offered by technology and digitalisation as well. This publication consists of 23 articles that are categorised under the key RDI themes. Together these articles provide insights on how our RDI projects and activities carried out in these projects maintain sustainable well-being and provide results that have an impact in practice.

The authors of the articles are well-being experts from the different faculties and Institute of Design and Fine Arts at LAB University of Applied Sciences and from our partner organisations. I would like to extend my warm thanks to all the authors for their valuable contribution to this publication. With this publication, we seek to inspire and challenge us all to continue working towards sustainable well-being. I hope you enjoy reading the articles!

In Lahti, 12 September 2021.

Kati Peltonen, Research, Development and Innovation Director, LAB Health

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Part 1

Well-being from physical activity and living environment

Tuuli Mirola, Katariina Pakarinen

Developing a nature and culture trail in the Kyrönniemi Vyborg Region

Introduction

In recent decades, tourism has experienced continued expansion and diversification. It has become one of the largest and fastest-growing economic sectors in the world (UNWTO 2020, 5). However, this growth trend has been severely affected in the last years and a half by the global COVID-19 pandemic. The pandemic has forced nations to close their borders to international travellers in attempt to prevent the spread of the virus. In many cases, popular sites, indoor destinations, and restaurants have been closed to the public for the first time in decades. The sudden decline in international travel in particular has driven millions of people to virtual cultural experiences for comfort and inspiration. The pandemic has truly highlighted the relevance and importance of both tourism and culture (UNWTO 2021).

At the same time, domestic tourism and local nature destinations and outdoor activities have become increasingly popular. For example, in Finland, record-breaking figures were achieved in 2020. The number of visits to national parks increased by 23% compared to the previous year (Metsähallitus 2020, 7).

In the future, the popularity of small destinations will continue to grow. Even more people will prefer to travel within the borders of their home country instead of travelling abroad (Business Finland 2021). Competent solutions are therefore needed to develop nature destinations and organise the tourist flow in a way that preserves nature and follows the principles of sustainable tourism.

The Kurenniemi – Cultural value of Russia and Finland through the M. Agricola trail project respond to the need to develop locally as well as internationally attractive informational and well-organised nature destinations.

Kurenniemi cross-border project

The aim of the Kyrönniemi/Kurenniemi – Cultural value of Russia and Finland through the M. Agricola trail project is to establish a nature reserve status in the Kyrönniemi area and create a basis for developing sustainable eco-tourism and related business. In addition to tourism, the project also supports and strengthens other areas of the economy and business activity in the municipality and increases the attractiveness of the region.

The Cape Kyrönniemi (the Finnish spelling of the name will be use throughout this article) area is located near the Finnish-Russian border in the Leningrad Oblast in Russia. The growing role of ecological tourism in the Leningrad Oblast requires the construction of tourism infrastructure in specially protected nature areas for their sustainable development. This contributes to the preservation of the natural complexes of Cape Kyrönniemi and its adjacent protected areas for future generations.

The creation and development of historical, cultural, and ecological tourism in special natural areas subject

Figure 1. Cape Kyrönniemi on the map. (Picture: Google Maps 2021)

to anthropogenic stress is needed to organise tourist flows and preserve the natural territory. The project also provides several educational and awareness-raising activities that aim to improve citizens' level of knowledge and awareness, preserving the shared cultural and historical heritage of the Russian and Finnish people, and preserving the natural environment.

The lead partner in the project is the All-Russian Society of Nature Protection, Leningrad Region office. The other partners are the Directorate of Protected Areas of the Leningrad Oblast, the Pushkin Leningrad State University, and LAB University of Applied Sciences.

The two-year project (1.2.2021–31.12.2022) is funded within the framework of the South-East Finland – Russia CBC Programme 2014–2020, priority 3: Attractive lean environment and region.

Environmental component of the project

Forests cover two-thirds of the Vyborg district. They are mainly coniferous forests. The region's water resources are huge and diverse: in the south, are the coasts of the Gulf of Finland and Vyborg Bay, and lakes cover 7% of the territory (Kalyagina 2021).

The district's permanent population is 200,000. It is tripled by seasonal residents during the summer. Visitors rent summer cottages and occupy guesthouse, but most choose to camp on the seaside. An especially attractive place to stay is the strip of the Gulf of Finland, formerly known as the Swedish Royal Road (Kalyagina 2021).

The Royal Road connected medieval Sweden with the cities and castles of its eastern provinces. The origins of the name refer to the road's maintenance by the royal treasury. Starting from Stockholm, it reached as far as Nienschanz at one time. It is currently a tourist route from St Petersburg to the Swedish capital. It has been decided to develop the infrastructure of the Royal Road in the Vyborg district as much as possible. There are not only historical sites along the way, but also unique natural complexes (Kalyagina 2021).

The area is known as a bird migration site and a home for several rare species of animals, birds, and plants, many of which are listed in the Red Data Book of the Russian Federation (RDBRF). Many of the listed species in the RDBRF have also been assessed for the International Union for Conservation of Nature's Red List of Threatened Species (IUCN red list) (Popov et al. 2017). The preservation and conservation of the area is therefore of the utmost importance.

Several other state nature reserves are already established in the Vyborg district. State bodies and the Directorate of Protected Areas of the Leningrad

Region have repeatedly travelled to assess the state of the environment in the Kyrönniemi area and nearby natural territories.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection, and preservation of cultural and natural heritage around the world considered of outstanding value to humanity. This is embodied in an international treaty called the Convention Concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972 (WHC 2021). Both Finland and Russia have ratified the convention, in 1987 and 1988 respectively. Although Kyrönniemi is not among the properties inscribed in the World Heritage list, it is important to consider the common principles for sustainable tourism in all actions and co-operation with tourism entrepreneurs. For example, in Finland, Metsähallitus' nature services and UNESCO World Heritage Sites in Finland have adopted such principles (Metsähallitus 2016), which could be used as guidelines for the development of the Kyrönniemi nature reserve.

The main objective of the project is to create a culture-related ecological tourist route/trail in the Kyrönniemi area. The route should ensure a safe and harmonious state between people and nature. The project workplan for **the construction of the tourist route** (ecological trail) includes a **feasibility study** of the tourist route, which will act as the master plan or "roadmap" for tourism development in the protected area.

Figure 2. Example of nature trail. (Photo: Katariina Pakarinen 2018)

Expertise in developing eco-tourism and nature trails in Russia and Finland will be collected and exchanged during the project. The LAB University of Applied Sciences will provide expertise in developing sustainable and eco-friendly tourism routes and services based on the region's ecological

and culture-historical values. Based on the Finnish experience of creating nature parks and hiking trails, LAB will participate in the project, by gathering information on ecological tourist routes existing in Finland, for example. **A benchmarking report** will be written on this data, sharing the lessons learned in Finland. The report will present best practices in creating customer friendly routes, destinations, and services and share insights on customer understanding and storytelling.

Information will also be exchanged by **organising joint visits to nature park(s) and nature and educational centres** to see and experience ecological tourist routes/hiking tracks based on Finland's regional history and cultural heritage. LAB will also co-organise meetings with nature and culture experts, local authorities, and companies to share this Finnish expertise in the Kyrönniemi project.

Before the actual trail is constructed, a **campaign to clean the territory** will be organised. This will be based on the participation of international volunteer groups and a wide range of local organisations and citizens. The assets of the project lead partner, the All-Russian Society of Nature Protection, include both partners ready for such cooperation and more than 300 volunteers, as well as experience in organising events of more than 500 participants. In 2019, the organisation became the best volunteer team in Russia.

The construction of the trail will include **installing route signs and information stands** containing information about the historical and cultural heritage common to Russia and Finland on the trail.

A mobile application for the visitors about the ecological trail and area will be created, with information about the features of the routes (tourist, environmental and historical-cultural), and an exchange of experience and materials.

Cultural component of the project

In addition to the environmental component, special attention will be paid in the project to the long cultural and historical connection between Finland and Russia due to the age-old territorial, economic, and socio-political relationships between the two countries, among other things.

As Natalia Kalyagina, Chairman of the Leningrad Branch of the All-Russian Society of Nature Protection states: "*The creation of the nature reserve in Kyrönniemi will include not only measures for the protection of nature, but also the preservation of the historical memory of the fate of these places, inseparable from their landscape*" (Kalyagina 2021).

A significant part of the project will be devoted to the promotion of the political and cultural heritage of the father of the Finnish written language, Mikael Agricola. Agricola was a member of the Swedish diplomatic delegation that travelled to the peace negotiations after the Russo-Swedish War (1554–1557). The war ended when the parties agreed on a truce in the Treaty of Novgorod (1557). A delegation of one hundred people presented their credentials in Moscow on 24 February. The negotiations were interrupted, so an agreement was reached only at the end of March. On the way back, the peace was strengthened by a religious ceremony in Novgorod on 2 April. The trip was difficult, and when the delegation crossed the border, *"Master Mikael became ill; his health had not been too strong before. An unexpected death caught him on the way, and he went to the Lord in the Kyrönniemi village in the parish of Uusikirkko (now Polyani). He was buried in Vyborg on the first Monday after Palm Sunday in the presence of the archbishop and many others,"* as a contemporary reported (Heininen 1997). A monument was erected to Agricola in Kyrönniemi in July 1900. It went missing during the war and was later stored in Vyborg castle. A hundred years later, in 2000, the monument was rediscovered. There is also currently a small cottage museum dedicated to Agricola in Kyrönniemi.

The project will also include the production of a **documentary film** about the territory of Kyrönniemi and its connection with the fate of Mikael Agricola. The film will connect the history with the present by featuring the character of Agricola, played by an actor.

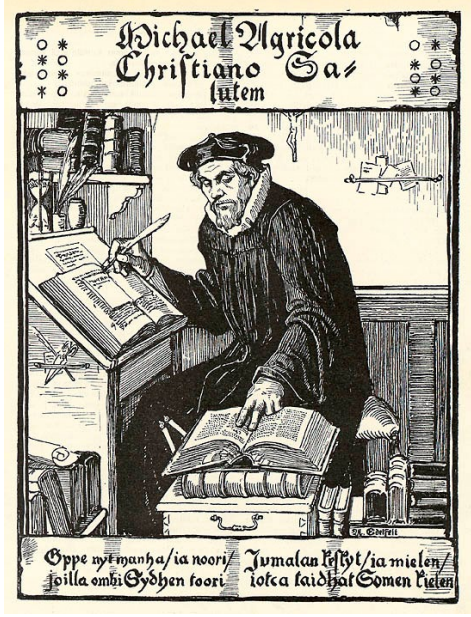

Figure 3. Portrait of Mikael Agricola. (Picture: Albert Edelfelt 1907)

Planned outcomes of the project and their future impact

In the future, according to Natalia Kalyagina, Kyrönniemi Park will become a permanent venue for conferences, meetings, seminars, festivals, and other events, with the participation of experts from Russia and Finland. A visitor centre for the development of international eco-tourism and a school for training volunteer guides will also be opened there. As a result, the reserve will become a historical and natural park, connected by the Royal Road with other similar cultural sites along the coast of the Gulf of Finland (Kalyagina 2021).

The local authorities, municipalities, and museums will be informed about the new opportunities to increase the number of tourists in their region. They will be invited to promote the area through their communication channels and public events. The collected historical, cultural, and environmental data will be published for all interested individuals and organisations, increasing interest in the special natural territories of Finland and Russia.

The project's target groups and beneficiaries will of course include tourists and visitors, but also the local population of the surrounding area, as well as volunteers, who will create their own groups to support the conservation of nature. The creation and development of a tourist destination will provide people with additional opportunities to relax, enjoy nature, and gain new experiences. They will also receive additional cultural and historical knowledge, and responses to the questions arising along the trail from the information boards located on the route, as well as on the project's website.

The local population will benefit from the growing flow of tourists. They will get new opportunities for the creation and sustainable development of existing business and self-employment. In addition, this will benefit the region through growing tax receipts from the tourist sector, job opportunities, and created businesses.

Travel companies and other organisations and enterprises in the tourism business will benefit from the promotion of their tourist products and services in both Russia and Finland, as the flow of tourists to such special nature territories is expected to increase in the near future in both countries.

The project encompasses the UNESCO's World Heritage mission to *"Encourage participation of the local population in the preservation of their cultural and natural heritage"* and to *"Encourage international cooperation in the conservation of our world's cultural and natural heritage"* (WHC 2021). In addition, the project promotes United Nations sustainable

development goals by instructing travellers, business owners, locals, and other parties about nature's sustainable use while planning new routes and services. Measures taken during the project will also restore and protect ecosystems in the area from pollution and biodiversity loss. The project will also contribute to the realisation of LAB University of Applied Sciences' own strategic goals by distributing information about and knowledge of the protection of nature, the renewal and evolution of entrepreneurship, designing behaviour change and sustainable solutions, services, and environments.

For further information about the project, see the project website: https://kurenniemi.com/

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Pictures

Picture 1. Google Maps. 2021. Map of Cape Kyrönniemi.

Picture 2. Pakarinen, K. 2018. Example of nature trail.

Picture 3. Edelfelt, A. 1907. Mikael Agricola. Available at: https://www.finna.fi/Record/doria.10024_33206

Pinja Lehtonen, Ilkka Väänänen

Impacts of nature based physical activity on well-being and health

In my dream, the forest was walking
and every tree was stepping towards me,
and each of them had eyes, and a mouth
that quietly spoke to me.

In my dream, I was one of them –
and one with the sounds of great nature.

L. Onerva (Translation by the authors)

Introduction

This article is based on the commissioned bachelor thesis (Leivo & Leinonen 2021) by Go Green Routes project (see https://cordis.europa.eu/project/id/869764) of LAB University of Applied Sciences. The purpose of the literature review of the thesis was to scan the welfare and health benefits of green physical activity based on previous studies. The studies were analysed qualitatively and clustered into four subcategories. The nature-based information obtained from this article can be utilised in the social field and may work particularly well with mental health rehabilitators.

Go Green Routes is a joint European project (see https://cordis.europa.eu/project/id/869764) aiming to develop the accessibility of recreational areas and promote nature-based enterprise. The project focuses on nature-based enterprise and sustainable physical activity, as well as the related digital, cultural and knowledge innovation. The purpose is to promote the mental health and well-being of people by seeking the best alternatives to make the human-nature relationship available to everyone within the framework of sustainable development and the strategic objectives of the LAB University of Applied Sciences. The GGR project is best aligned with the UN's Sustainable Development Goals (United Nations 2016).

3. Good health
12. Sustainable cities and communities
15. Life on land, and
17. Partnerships for the goals

In the GGR project, sustainable physical activity refers to ways of experiencing nature that are favourable with regard to the environment and society, affordable, convenient and safe, as well as promoting the health of the person making use of them. The GGR aligns with LAB's strategic objectives by promoting nature-based enterprise and the resulting new jobs, as well as the increase of the number of employees with higher education in nature-related companies and the public sector.

The definition of nature is ambiguous. According to the Finnish dictionary (2020) by the Institute for the Languages of Finland, at a general level, nature refers to the soil, as well as the hydrosphere and atmosphere and their flora and fauna, and only minimally, or not at all, to the environment modified by people. The Finnish National Agency for Education (2020) defines nature as that which people can perceive in the landscape around them, which includes both the built and unbuilt environment. The concept may also refer only to the natural landscape or a combination of a natural and built environment (Opetushallitus 2020). In different contexts, the meaning and concepts of nature therefore differ. The variety of interpretations and terms indicates that nature is defined, appreciated and valued on various grounds. In a way, the definition of nature is every individual's subjective experience of what nature or the natural environment means to them. It is impossible to find a definition that covers all the perspectives, matters, phenomena and attitudes related to nature (Simula 2012, 19).

Figure 1. The logo of the GO GREEN: Resilient Optimal Urban natural, Technological and Environmental Solutions Horizon2020-EU.3.5.2. project. (Picture: GO GREEN ROUTES project)

In addition to nature, well-being is a vast concept that can be understood in a variety of ways. Well-being is a personal experience for all individuals, and it is defined by several factors – well-being is also a sign of the quality of life. The Finnish institute for Health and Welfare defines well-being by dividing it into three dimensions: health, material well-being and perceived well-being. Well-being can refer to both the well-being of an individual and of a community (Terveyden ja hyvinvoinnin laitos 2020). Well-being can also be

viewed as a sort of weighing scale: on one side are a person's psychological, physical and social resources; on the other, the psychological, physical and social challenges they encounter. The person's well-being is in the middle, between these two sides. When the scales are balanced, the person feels well – they are not encountering too many challenges, but their life is neither "stagnant" nor completely without challenges (Dodge et al. 2012, 230).

Studies on the impact of nature on well-being have aimed to identify the impact mechanisms that make up one's psychological and physical well-being. The calming effects of the natural environment have been of special interest to researchers (Yli-Viikari & Lilja 2016). Spending time and physical activity in nature increase one's holistic well-being. They offer numerous favourable impacts on physical, psychological and social health. Nature's revitalising effect is manifested in reduced stress levels, the dissipation of daily worries and an elevated mood resulting from time spent in nature. The physiological impacts include a lower blood pressure and heart rate. The revitalising effect of nature is achieved when, viewed on a yearly scale, the time spent in green spaces in one's neighbourhood is more than five hours per month, or when nature destinations outside the urban environment are visited a few times per month. The more one frequents green spaces and nature destinations, the more well-being improves and increased revitalising experiences are gained (Natural Resource Institute Finland 2020). The vicinity of nature in people's living environment increases happiness and reduces sickness rates. Nature's revitalising effect is fast; the positive impacts of nature on well-being are provided by just a short exposure and last for a long time. (Mielenterveystalo 2020).

The impact of nature on psychological well-being is considerable. Spending time in nature or even just looking at a nature photo reduces anger, fear and stress. At the same time, time spent in nature brings enjoyment, which increases well-being. Spending time in nature decreases stress hormone levels and improves psychological well-being (University of Minnesota 2021). After spending time in nature, one's mood remains calm for an extended period, and thoughts are clearer – nature helps the brain to relax as well (Bergström & Tronvik 2012, 26). The comprehensive stimulation offered by nature, which combines imagination, emotions and physical activity, increases opportunities to gain personal insights and make personal observations, and this contributes to psychological well-being. The visual impressiveness of nature, the scents and physical sensations also

generate special good feelings which linger long after one returns from nature (Luontoon.fi 2021). Humans are genetically programmed to find peace in trees, plants, water and various elements of nature. Experiencing and seeing these elements help alleviate pain and uncomfortable conditions. Spending time in nature may even have a reducing impact on mortality thanks to its myriad beneficial impacts on health (University of Minnesota 2021.) Physical activity or spending time in nature has also been shown to have a positive impact on learning, and applying and processing information. Nature also produces positive experiences, which in turn affects one's cognitive abilities and functions such as reducing mental fatigue and confusion and improving perception (Luonnon hyvinvointi- ja terveysvaikutuksista 2016).

Nature also affects physical well-being and health. Going outdoors and spending time in nature are physical activities per se, and often the time spent in nature is longer than a workout indoors. Nature may indirectly reduce illnesses caused by a sedentary lifestyle. Obesity, Type 2 diabetes, vascular diseases and various mental health disorders may be alleviated with increased physical activity in nature. Becoming alienated from nature means that the affected individual's opportunities to maintain their physical and psychological health and social well-being are compromised (Luontoon.fi 2021). Nature is good for one's physical condition, since it may motivate one to exercise more, and no accessories are required in the same way as is the case in certain sports. The elderly can add years to their lives if they transform their sedentary lifestyles into more active ones. Indeed, physical activity in nature considerably helps in achieving this, providing up to 8–10 additional years. Nature also has a significant positive impact on one's balance, coordination and mobility (Bergström & Tronvik 2012, 24–25).

Social well-being is also improved through time spent in nature. The natural environment has proven positive impacts on human interaction. Nature helps people relax, and with the help of nature, people are more likely to see their relationships with others in a positive light. Interaction between different groups is facilitated in nature and the threshold of interacting becomes lower. The outlines of nature are familiar even in a previously unknown environment, so nature also helps adjust to a new environment (Mielenterveystalo 2020). The social aspect of physical activity in nature is extremely important. Physical activity and spending time in nature are shared experiences, which offer people a sense of belonging, increasing social well-being. Nature in itself offers an opportunity to be silent,

Figure 2. The construction of the accessibility nature path on the shore of pond Likolammi, Lahti. (Photo: Ilkka Väänänen)

which may help avoid situations which in other settings would be considered awkward. Nature is also a good conversation starter, and during a workout in nature, chatting about the surrounding view and elements of nature may be easier. In nature, one's attitudes towards other people are more positive than average. Physical activity in nature also strengthens one's positive self-image, which makes social interaction easier (Bergström & Tronvik 2012, 29).

In other words, nature has a positive impact on social interaction between people, but at the same time, it helps individuals break free from social pressures and the strains of life. Social relationships and networks may sometimes feel burdensome and restrictive. Society sets expectations on an individual, and they may feel they have become part of structures that are not necessarily meaningful in their own life, but that the individual feels are compulsory due to social pressure. They may feel like there is no alone time, no time for one's

own thoughts, creativity and reflection; instead, they are busy navigating social networks and trying to meet different expectations in these networks. Daily life is easily consumed by rushing, busy schedules, things to remember, and managing one's time. In the midst of all this, it may feel difficult to distinguish what is truly important, and organising one's thoughts may become complicated due to busy schedules and internal and external pressure. Nature is a way out of all this and a way of finding peace. Nature gives an opportunity to break away from daily routines and social networks. It enables one to vent one's feelings without social pressure and without worrying about others' reactions. Nature is an excellent place to process negative feelings. Sometimes, the presence of others may interfere with the nature experience and in terms of social well-being, most benefits are gained by enjoying nature in solitude (Simula 2012, 128–130).

The literature review

The literature review was began by formulating the research topic or research question. The data was collected from a variety of books and websites using the database search provided by the LUT Academic Library, Research Gate and Google Scholar. To collect data as extensively as possible, we used keywords in both Finnish and English. The keywords used included *nature, well-being, health, benefit, mental health, physical, social, environment, restorative, qualities, effects.*

The selection of materials was based on the inclusion and exclusion criteria presented in Figure 3. First, around twenty studies and scientific articles based on their titles and abstracts were selected. Then the materials in greater detail, rejecting several articles based on the inclusion and exclusion criteria were examined. Outside the criteria, two studies that were more than 10 years old were included. The validation resulted in ten studies that were included in the review.

Findings and discussion

The studies were divided into the subcategories of physical, mental, and social health effects, as well as the type of the natural environment. Based on this literature review, the positive effects of nature on welfare and health are extensive, and spending time in nature has beneficial effects on various aspects of well-being. In addition, the kind of nature that produces most of these effects certainly varies by individual. Being in nature elevates one's mood and revitalises and relaxes. Even a short visit to the forest or to a favourite natural environment produces health and well-being effects. The review also revealed that sometimes the urban

INCLUSION CRITERION	EXCLUSION CRITERION
As new as possible	More than 10 years old
In Finnish or English	Other languages
Fully accessible via one's own device	Not accessible via one's own device
Free materials	Materials subject to a fee
A primary source	A secondary source
Scientific study	Non-scientific study
Answers the research question	Does not answer the research question

Figure 3. Material's inclusion and exclusion criteria.

environment can also be the optimal place to relax, and the juxtaposition between the traditional evil city and revitalising nature is in part, useless. A person may have the best experience of relaxation and revitalisation in the city, which makes the city the optimal natural environment for the individual in question. For some people, aspects of nature such as animals and weather conditions can be disturbing, and nature therefore does not provide actual revitalising effects, because the individual's stress level increases due to the things and phenomena in nature.

In the long run, weekly walks in nature can elevate one's mood and have a positive effect on physical, mental and social relationships. Nature offers significant well-being improvements, and the health benefits it provides are indisputable and in part measurable. Nature has been shown to have both preventive and rehabilitative impacts. Physical activity in nature reduces stress levels and has other physiological effects through lowered cortisol levels and blood pressure (Natural Resource Institute Finland 2020; Li et al. 2011, 2847; Roe at al. 2013, 4093). Among the comprehensive well-being impacts provided by nature, the impacts on physical well-being are the clearest and easiest to measure, because positive changes in blood pressure and cortisol levels are easily detectable benefits. The physical well-being impacts are often based on regular physical activity in nature.

It brings joy, and one can enjoy nature in the company of other people or alone. Each person can personally define the best natural environment,

the one that provides the most well-being impacts for them. It may be a city park or a dense untouched area deep in the forest far away from the city. One should also not define too strictly what constitutes nature. If a person living in the city centre in Helsinki considers the urban environment with a few trees and parks here and there to be the best kind of nature for them, can that experience be denied them based on a definition? It is undeniable that for the majority of the Finnish respondents in each study included in this literature review, nature means dense forests far away from human settlements, but an urban environment provided relaxation and revitalisation for some.

Nature truly has a holistic effect on human well-being. The type of natural environment also affects the well-being and health impacts obtained. The greener and richer in terms of biodiversity nature is, the greater the average benefits a person obtains. Natural environments rich in forests and located farther away from population centres and traffic are often considered the most pleasant. In an environment like this, the air is fresh, and one can enjoy the sounds and scents of nature, which improve psychological well-being in particular. Certain features of the natural environment may also reduce or weaken the benefits gained such as the proximity of or noise from traffic, areas shaped by human beings such as gravel pits, poor weather conditions or disturbing insects (Vattulainen et al. 2011, 26-28). Not all people are, or ever will be, real nature enthusiasts, and for them, the experiences provided by nature may be mainly negative. The sounds of nature, insects and varying weather conditions may generate negative, rather than positive, experiences for some. On the other hand, there are those who enjoy challenging conditions and feel revitalised by new experiences (Salonen & Kirves 2016, 145–146; Raatikainen 2018, 31; Vattulainen et al. 2011, 17–19).

Although nature areas located outside urban environments have a greater impact on well-being, city parks may also offer refreshing experiences and positive impacts on well-being and health (Natural Resource Institute Finland 2020). The right kind of natural environment improves psychological well-being through its revitalising and empowering impact. Physical activity in nature has a positive impact on mental health, because it provides feelings of enjoyment and evokes positive thoughts. The psychological well-being effects provided by nature are directly connected to the length of time spent in nature. (Natural Resource Institute Finland 2020; Jäppinen et al. 2014, 18). Physical activity and spending time in nature affect the physical, psychological

and social aspects of well-being, which is why nature activities can be said to be of the utmost importance for a person's well-being.

The best health impacts are provided by frequent visits to natural environments between daily routines (Ojala & Tyrväinen 2015). The beauty of physical activity and spending time in nature lies in the fact that the threshold of enjoying nature is very low for everyone, regardless of one's socioeconomic status. Physical activity and spending time in nature cost nothing. Not everyone has the same opportunities to access nature, because some people live in densely populated areas where a car or a bus is required to get to it and this may not always be feasible because of schedules and finances. Nevertheless, taking this aspect into consideration, it can still be said that nature is almost the same for everyone. You do not need access cards to get there, and going there costs nothing. Nature does not discriminate, and everyone can enjoy the well-being impacts of nature in the same way; nature does not require a customer account or membership fees. Nature experiences increase one's

Figure 4. Hiking in a Finnish forest. (Photo: Ville Väänänen)

satisfaction with life. Without us even noticing it, nature guides us away from negative thoughts and feelings, and spending time in nature often also helps us put things into the proper perspective.

Summary

In 2020–2024, the Go Green Routes project focuses on developing nature-based solutions to promote well-being in cooperation with the city that developed the project (Burgas, Lahti, Limerick, Tallinn, Umeå, Versailles). Sustainability and well-being are the themes of the 2021 European Green Capital Lahti, and the project measures seek innovative solutions for them. In the Go Green Routes project, the City of Lahti, with the LAB University of Applied Sciences, the Päijät-Häme Joint Authority for Health and Well-being and other stakeholders, will develop the Kintterö Health Forest concept to serve all Lahti residents as an environment for nature activities. Brainstorming, including swinging and yoga platforms and virtual nature experiences, has already begun, and these ideas will also be tested in practice during the project. In addition, a twelve-week research intervention will be implemented in the spring of 2022, with the aim of engaging 300 fairly sedentary participants in Lahti. All the results will also be accessible to other regions and to those interested in the topic, which will promote the realisation of global sustainability. In this way, Lahti will set an example as a promoter or nature-based solutions for green exercise in Europe (Suomela & Väänänen 2021).

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Kirsi Kiiskinen, Ilkka Väänänen

Päijät-Häme – an attractive and internationally interesting competence hub and innovator of exercise, experiences and well-being

Smart specialisation (S3) is the European Union's research and innovation strategy for the development of regions. It is based on the idea that all regions have their own strengths, and that by drawing on those strengths, various operators in the region can increase the region's competitiveness through collaboration. The three key priorities selected for S3 in Päijät-Häme, Finland, are the circular economy, design, and sports and experiences. The development has been found to require a regional cooperation model (Kivelä 2021, 8) so that the need for different operators' roles can be identified, and the cooperation intensified. The assets in sports and experiences on which Päijät-Häme has decided to rely include high-level competence in exercise and sport, strong expertise and experience in organising large-scale sporting and cultural events, and the region's clean and accessible nature and waterways. The most important engines driving the key priority`s RDI activities are its growth-oriented sports institutes, education and development organisations, and associations and clubs (Kivelä 2021).

An individual S3 roadmap has been drawn up for each key priority. The roadmaps provide guidelines and milestones for long-term joint strategic development work in Päijät-Häme until 2030. Those aim to increase cooperation between regions and to make the regional operators part of international value networks (Kivelä 2021). The roadmaps bring together the previously fragmented development themes and needs to better consider the existing regional strategies and national and international policies behind the development efforts in the future, and to find synergy benefits between different development themes. This

article provides an overview of how the roadmap for the Sports and Experiences S3 key priority was constructed. We will also consider the impact of Päijät-Häme Roadmap for Exercise, Experiences and Well-Being project.

Roadmap 2030 construction

The preparation for the Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030 began in February 2020 as a project coordinated by LAB University of Applied Sciences, and Päijät-Häme Sports and Physical Activity Association was acting as project partner. From the outset, the project was to be carried out as a multi-phase, user-driven and collaborative strategy work process in which various stakeholders participated on the basis of their needs and interest.

The Roadmap 2030 process is depicted in Figure 1. The preparation began with an analysis of the background strategies. Local strategies that were studied included the tourism and event strategy *Tahtoa ja tekemistä! Päijät-Hämeen matkailu- ja tapahtumastrategia 2035* (FCG and Lahti Region 2016) and the health-promoting exercise strategy *Päijät-Hämeen terveysliikuntastrategia 2020* (Liikuntaa.fi 2016). National strategies referred to include the government's report on sport policy (Finnish Government 2018) and the joint plan for success of Finnish exercise and sport *Suomalaisen liikunnan ja urheilun yhteinen menestyssuunnitelma* (2017). In addition, perspectives on the content of the Roadmap 2030 were also provided through the benchmarking of three Finnish (Jyväskylä, Kainuu-Kajaani-Vuokatti and Lapland-Rovaniem) and two Nordic (Åre-Östersund and Trondheim) regions of comparison. These were supported by two large-scale online surveys, which served as a basis for themes. A further five themed interviews were carried out in five groups of experts (nature tourism/exercise/well-being, event organising, the third sector, business life, and educational organisations) in the summer of 2020. Based on these actions the final themes to the of the Roadmap 2030 were determined.

The goals and measures for the four themes were set up in cooperation and with the help of the Padlet application during two workshops held in the autumn. The outputs of the workshops were openly available for comments, based on which the contents were modified. In addition, a tour of municipalities and a meeting with special groups were carried out. Interviews held with the residents of four municipalities and representatives of the special groups yielded confirmation for the selected themes, as well as wishes regarding supplementations

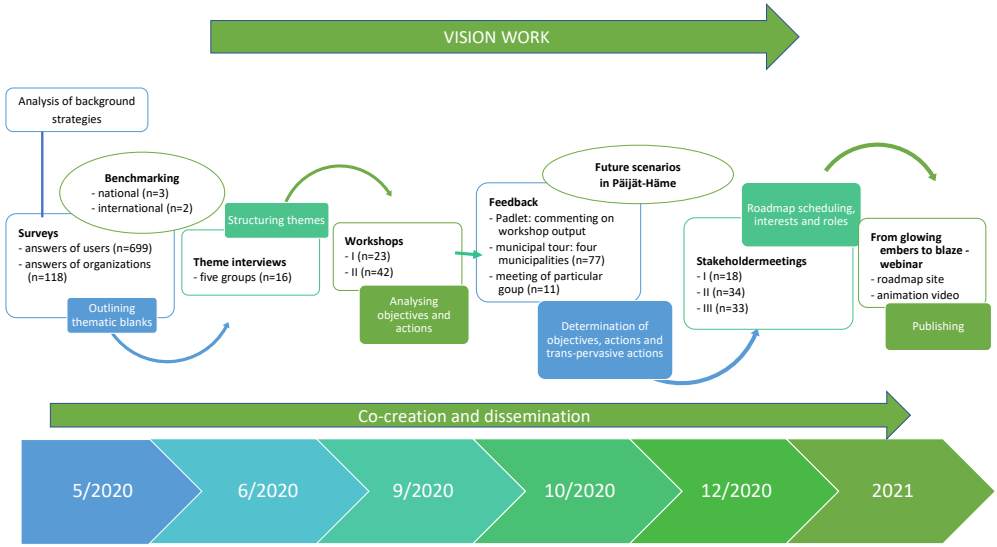

Figure 1. The preparation process for the Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030. (Picture: Kirsi Kiiskinen and Ilkka Väänänen)

and specifications. Towards the end of the year 2020, visions of the future for exercise, experiences and well-being in Päijät-Häme were commissioned from scenario experts. The aim of the scenarios was to include different visions of the future in the Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030. The scenario settled on was a collaborative and efficiently developing Päijät-Häme of established practices and uncertainty.

The Roadmap 2030

Based on the preparation, the four themes determined for the Exercise, Experiences and Well-being Roadmap 2030 were as follows:

- Develop conditions and infrastructure to create diverse and accessible activities
- Use digitalisation to enhance accessibility
- Adopt a shared brand message to make the customer experience excellent
- Leverage strong competence for seamless cooperation

Theme	Develop conditions and infrastructure to create diverse and accessible activities	Use digitalisation to enhance accessibility	Adopt a shared brand message to make the customer experience excellent	Leverage strong competence for seamless cooperation
Objective	The sustainable development of conditions and infrastructure while considering different user groups enables the comprehensive improvement of well-being and support of business across municipal borders.	User-oriented digital operating models that serve residents and organisations, and enable the development of new innovations and business.	Building and launching a shared brand message and a bold brand identity.	Reinforcing multi-sector cooperation Ð exploiting education, competence, networks, innovation potential and business potential through ecosystem thinking.
Actions	Reviewing facilities and places and enabling their usability	Reviewing and utilising digital environments	Creating a vision by utilising attraction factors and trends	Reviewing the know-how and operations of organisations
	Reviewing and developing natural attractions	Creating a shared digital platform	Reviewing customer needs and recognising growth potential	Building cooperation networks
	Utilising water areas	Improving the availability of information and digital competence	Building a shared brand message	Deepening the cooperation between different educational levels
	Identifying user and customer groups	Developing the prerequisites for innovations and their commercialisation	Visibility of marketing communications at different levels	Utilising networks in project and research operations
	Creating a communication channel	Data collection and knowledge management	Developing service packages	Networks as promoters of business
	Supporting business			Utilising and supporting student potential

Figure 2. The themes, goals and measures of the Päijät-Häme Exercise, Experiences and Well-Being Roadmap. (Table: Kirsi Kiiskinen & Ilkka Väänänen)

Each theme is intersected by perspectives on internationalization, sustainable solutions, communication, and business promotion. The theme-specific goals and measures are shown in Table 1. The vision sums up the themes and the related measures selected for the Roadmap 2030.

Vision of the Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030:

'Päijät-Häme is an attractive and internationally interesting competence hub and innovator of exercise, experiences and well-being'.

Three meetings with stakeholders were held during the project's final third. In the first meeting, held at the end of 2020, the parties which took part in the project were heard in terms of their ongoing measures, projects and plans. The meeting also yielded a preliminary understanding of these parties' interest in the Roadmap's measures and therefore confirmation of the necessity of the selected measures. The second stakeholder meeting, for those involved in various aspects of the project and all those interested, was held from the beginning of the year 2021. The discussion proceeded by theme, with a focus on deployment and the parties which should participate in the advancement of each theme.

Attendees of the third meeting signed up for it advance, based on the theme that most interested the party itself, or the organisation they represented. The attendees formed small groups in which they decided on the scheduling of the measures of their respective themes and the relevant operators. Following this meeting, the Roadmap 2030 could also be finalised in terms of scheduling and the operators involved.

The Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030 was published in a webinar held in May 2021. Its name (*Hiilloksesta roihuun* = from embers to a blaze) was inspired by a comment given during the theme interview, in which the interviewee hoped that the Roadmap 2030 would set cooperation ablaze. The webinar included a presentation of the Roadmap's content and a website with further information on it. In the panel discussion, the panelists – Rinna Ikola-Norrbacka (mayor; Liikkuva Asikkala), Satu Rinkinen (PhD, LUT University), Sipe Santapukki (drummer/managing director of Apulanta Oy) and Teemu Virtanen (sporting personality/managing director of Triple TV Productions Oy) – discussed how to achieve the vision, 'Päijät-Häme is an attractive and internationally interesting competence hub and innovator of exercise, experiences and well-being' with the aid of the roadmap. They also discussed the intersecting themes and, fittingly in terms of Lahti's European Green Capital theme,

sustainable solutions and responsibility. At the end of the webinar, futurist Ilkka Halava provided an overview of the future of Päijät-Häme's exercise and experiences operations.

Impact

While the modelling and assessment of impact is important in project activities, it is also ambiguous. The concepts 'result', 'outcome' and 'impact' can be understood in many different ways. Impact reviews often focus on the subsequent assessment of projects, although their modelling as early as during a project's planning phase and implementation is extremely useful. Verifying the impact of an individual project is not easy, especially when examining a societal, rather than an individual, level. The purpose of this chapter is to assess the impact of the Päijät-Häme Exercise, Experiences and Well-Being Roadmap project in accordance with the Input – Output – Outcome – Impact (IOOI) logic chain (e.g. Mishra 2017) (Figure 3). 'Input' refers to the resources used to implement the project. 'Output' describes the concrete end results of the project. 'Outcome', on the other hand, refers to higher-level effects and 'Impact' to indirect effects over a longer period which can be visible at both an individual level and larger scale.

The Roadmap project had four long-term change objectives related to sports and experiences (including well-being). The first objective was to create strategic guidelines (a visual roadmap) for the development of RDI and business operations. The second objective was to promote the RDI activities of institutes of higher education and businesses,

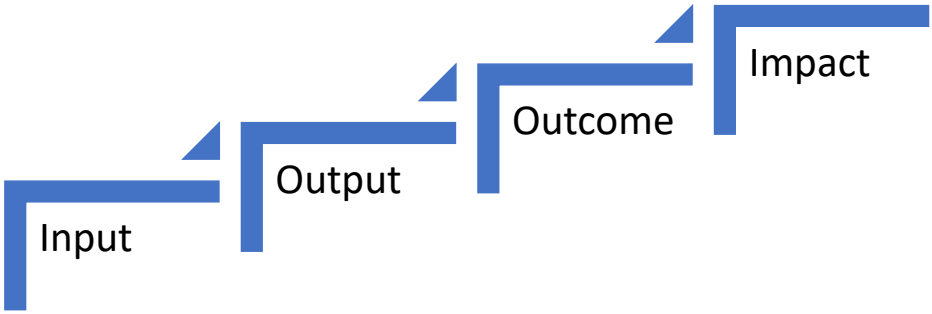

Figure 3. The logic chain. (Picture: Ilkka Väänänen)

support the use of the added business value of the region's companies, and look for new practical solutions that would accelerate the product and service development of SMEs. The project's third objective was to strengthen competence related to exercise and experiences (including well-being) in Päijät-Häme to enable innovations. The fourth and final objective was to strengthen and increase the visibility of the region's competence in exercise and experiences (including well-being) outside Päijät-Häme, on a both national and international scale.

The project lasted for 16 months. Working hours for its implementation had been allocated to a part-time (roughly 30%) project manager and four part-time (13–32%) RDI experts. The resources can be considered fairly small in relation to the project's extensive objectives. Indeed, the actual working hours surpassed the planned working hours reservation. The project's concrete result was the production of a roadmap extending to 2030 for one key project under the smart specialisation of Päijät-Häme. The value added by the project can be said to encompass the compilation of a roadmap that outlines the development activities of one of the regional key smart specialisation projects and the determination of the related themes, measures, operators and scheduling in cooperation with the region's key operators. For its part, this ensures long-term development collaboratively and in line with the Roadmap's vision for 2030. The Roadmap's preparation work involved the close cooperation of the key operators, thereby intensifying the common objectives and increasing an appreciation of the focal points of development related to each theme. The project's outcome strengthened the regional culture of joint development and co-creation in relation to the exercise and experiences key project. All in all, nearly a thousand operators from every municipality in Päijät-Häme took part in the project. The project had extensive reach among operators in business life and the public sector, but the participation of associations could have been more extensive. The resident survey reached nearly 700 Päijät-Häme residents, while the survey aimed at organisations yielded 118 responses. The themed interviews covered 16 people from five different groups (nature tourism/exercise/well-being, event organising, the third sector, business life and education organisations). A total of 65 people took part in two workshops. A tour of the municipality was also carried out in Asikkala, Sysmä, Orimattila and Lahti, and a meeting was held with special groups. The project's final phase also included three stakeholder meetings, which were attended by 18, 34 and 26

people. Parties which took part in the workshops and stakeholder meetings:

- Education and development organisations: Lahti Region Ltd., LADEC Lahti Region Development, Lahti Events Ltd., University of Helsinki, LUT University, LAB University of Applied Sciences, Haaga-Helia University of Applied Sciences, The Sport Institute of Finland, and Pajulahti Olympic Training Center.
- Business life: Kalastus ja majoitus Rysä, Triple TV Production, Best Lake Nature Adventures, JoKaDo Finland, Kehräämö Spa, Cooperative for Cultural and Experience Travels in Lahti Region, KymiRing, and Spatium Real Estate.
- Associations: Päijät-Hämeen Liikunta ja Urheilu, Federation of Päijät-Häme Enterprises, Päijät-Häme Tourism and Restaurant Entrepreneurs, Tiirismaan Latu, Social and Health Security in Päijät-Häme, Päijät-Häme Visually Impaired Association, and Harjula Setlementti.
- Municipalities, towns/cities and joint municipal authorities: the municipalities of Asikkala, Hartola and Hollola, the towns/cities of Lahti and Orimattila, and Päijät-Hämeen hyvinvointikuntayhtymä (PHHYKY).
- Private individuals: Representatives of special groups included partially sighted people.

The project's operations covered nine municipalities in Päijät-Häme (Asikkala, Hartola, Heinola, Hollola, Kärkölä, Lahti, Orimattila, Padasjoki and Sysmä), in which officials across different divisions (including culture, exercise/recreation, technical administration, the environment) were informed of the project's operations and activities.

In connection with the benchmarking, the project actors moved closer to the regional operators in Lapland in particular, as a result of which the Regional Council of Päijät-Häme joined the international ClusSport and EPSI networks. LAB University of Applies Sciences is active in both these networks as the party responsible for increasing awareness of the Päijät Häme sportsand experiences S3 key priority and the related competence. In future, the networks will provide the region with expanding opportunities to participate in international RDI projects in the sport and travel sectors.

The Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030 is available on the smart specialisation website of the Regional Council of Päijät-Häme, Finland. The Roadmap provides an outline for the strategic promotion of exercise, experiences and well-being in Päijät-Häme in 2021–2030. It is a multi-phase and participatory user-driven cooperation process which accounts for regional and national strategies and

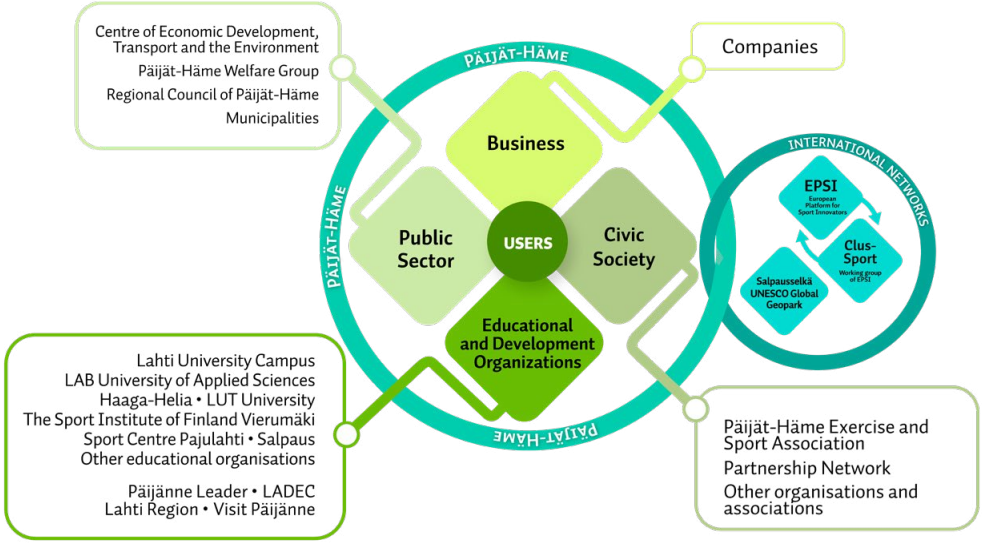

Figure 4. Stakeholders of the Exercise, Experiences and Well-being Roadmap 2030. (Picture: Oona Rouhiainen)

policies, and the stakeholders are shown in Figure 4.

The webinar in which the Roadmap 2030 was published was followed by 130 viewers online, including dozens of viewers outside the region.

The indirect output yielded during different phases of the project included the results of the online questionnaires, themed interviews, benchmarking and the survey aimed at stakeholders. The project's impact will be visible at both an individual level and a larger scale over the long term. The actual impact will be the result of the combined effect of a variety of factors. Although readiness and the conditions for closer cooperation were created during the project, the gathering of theme networks did not get underway in respect of all these themes. The idea was for the theme networks to function according to a low threshold, and that they could be participated in based on one's own or an organisation's interest. The theme networks would serve as a forum for discussing the measures of the particular theme, as well as any projects and activities affecting the theme's advancement. While the theme

networks as such have not taken off, some genuine momentum was nevertheless achieved, particularly at the first stakeholder meeting. The project also supported the realisation of LAB University of Applied Sciences' strategic goals (the growth of joint ventures, new jobs and RDI activities focusing on growth and internationality).

The internationalisation of the key smart specialisation projects was one of the Roadmap's basic assumptions, but the perspective on this in the field, based on the results of the online survey, for example, was divided. While some participants were eager for even rapid internationalisation, others did not consider it in any way necessary.

Further measures

During the preparation of the Päijät-Häme Exercise, Experiences and Well-Being Roadmap 2030, the objectives of the operators' common innovation activities were specified to steer efforts to the special skills and strengths of the key smart specialisation projects with potential for the regional growth and internationalisation related to the key project. The operations continue and following the project's conclusion, the results and experiences will be put to use under the leadership of the exercise and experiences key team convened by the Regional Council of Päijät-Häme twice a year. The objective of the key team is to monitor the progress of the Roadmap 2030 measures and to keep the core operators up-to-date about ongoing and planned activities and operations. For the Roadmap 2030 to take root and for the long-term regional strategic development efforts to be successful, it will be very important to initiate the theme networks that the second stakeholder meeting came up with and ensure their active operation. After all, the purpose of smart specialisation is to increase regional competitiveness by enhancing interaction between different operators and industries.

The key team will also steer the updating of the Roadmap's content when necessary. In future, the key project of exercise and experiences will be coordinated by a representative of the Regional Council of Päijät-Häme. The Council creates the capacity for joint development and cooperation, mainly with the help of development funding for the key project. The material collected during this project is at the Council's disposal. An RDI project managed by LAB University of Applied Sciences has also been set up to promote international cooperation on innovation activities related to exercise, experiences and well-being in Päijät-Häme. The project is mapping the strategic focal points of the coming EU programming period for 2021–2027 and

the themes of international funding programmes to promote smart specialisation in exercise and experiences within the exercise and experiences key project. The mapping will also include existing European innovation hubs, platforms, networks and other parties related to exercise, experiences and well-being, in addition to which the project will present the Exercise, Experiences and Well-being Roadmap 2030 in industry events like the Smart Cities in Smart Regions Conference, and the European Week of Regions and Cities event.

Future goals include the monitoring of the development of all three keys smart specialisation (S3) priorities of Päijät-Häme in accordance with the policies of the European Union. The indicators determined for the monitoring include the RDI investments of companies, success in securing project funding for the region, cooperation between education institutions and businesses, the number of students enrolled in institutes of higher education, the businesses located in the region and sustainable development. In addition, the qualitative implementation of the Roadmap's objectives and measures will be monitored with the aid of questionnaires and surveys (Kivelä 2021).

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Päivi Tommola

Visibility for Salpausselkä Geopark – Developing geotourism in an aspiring UNESCO Global Geopark

UNESCO Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed according to a holistic concept of protection, education and sustainable development (UNESCO 2021). Salpausselkä Geopark, which is situated in Päijät-Häme in southern Finland, is an aspiring UNESCO Global Geopark that is applying for the official UNESCO designation. The region, which consists of six municipalities (Asikkala, Heinola, Hollola, Lahti, Padasjoki, and Sysmä) gets its name from its unique ice-marginal formations, Salpausselkä I and II, laid down by the last Ice Age some 12,000 years ago. These formations extend across the entirety of southern Finland but are at their most spectacular in the area of the Salpausselkä Geopark, where they are joined to feeder eskers of international value (Komulainen 2019).

The value of its geological heritage has been identified in the area for some years, and a strong common will to achieve the UNESCO site designation has been fostered in development projects coordinated by LAB University of Applied Sciences. At the beginning of the 2020, a new regional administration unit was established for the area within the regional tourism company, Lahti Region. The new unit guides the UNESCO Global Geopark application process and the development of sustainable geotourism in the area. As the visibility of the area as a geopark needs a strong workload especially in the early stages of its existence, a development project by LAB University of Applied Science and the Geological Survey of Finland (Geologian tutkimuskeskus), Visibility for Salpausselkä Geopark, is helping the unit strengthen the visibility of the area to meet the strict UNESCO Global Geopark criteria. The project is funded by the European Agricultural Fund for Rural Development.

Identity and expertise as fundaments of geotourism development

Impressive geopark-activity is based on strong networks, demanding the interaction of a wide number of actors with slightly different focuses. Building a common will to achieve the UNESCO site designation takes a lot of time, demanding familiarization with the theme in all sectors of the regional geopark network.

In Salpausselkä Geopark, entrepreneurs were already involved in

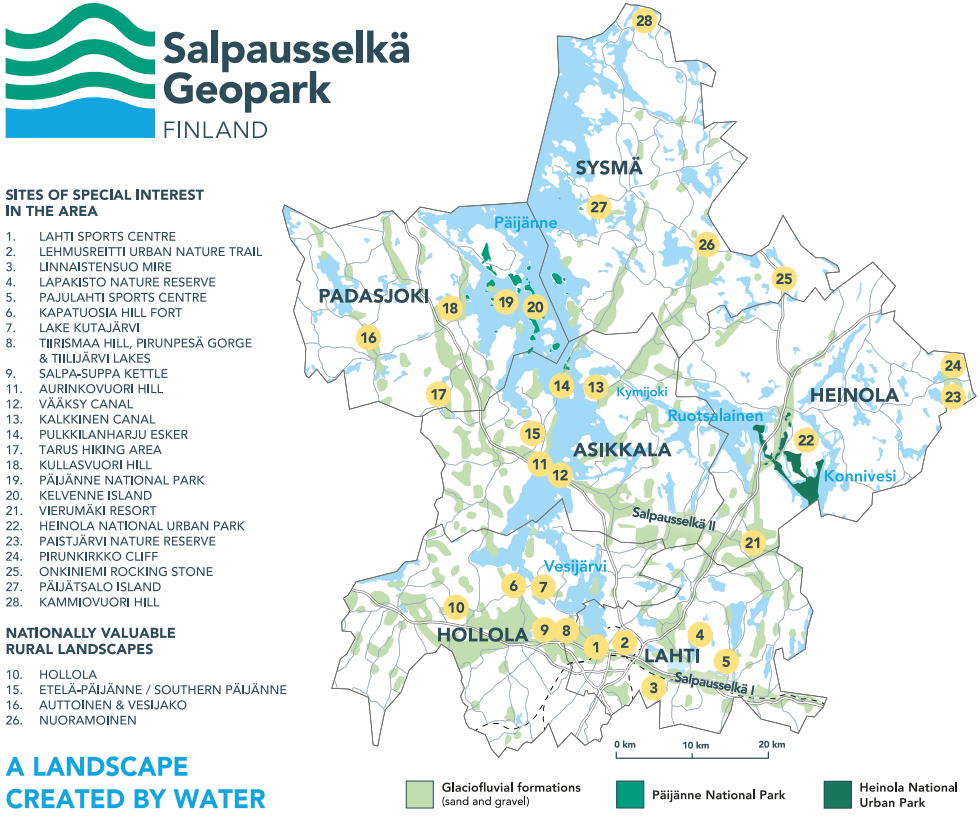

Figure 1. Salpausselkä Geopark covers the area of six municipalities in the Päijät-Häme region in southern Finland. The backbone of the area is formed by ice-marginal formations and eskers. Map: LAB University of Applied Sciences. (Picture: National Land Survey of Finland, Geological Survey of Finland, Metsähallitus, Finnish Environmental Institute and municipalities)

the process of building the geopark at the early stages. Over the years, through various development projects, the network of entrepreneurs interested in the geopark activity in Salpausselkä has grown, and the expertise of all actors involved in the activity has increased. In February 2020, in a Webropol survey carried out by one of the earlier development projects of LAB among the entrepreneurs interested in Salpausselkä Geopark activity, the participants' median level of geotourism expertise, based on their own evaluation, improved from "quite bad" to "quite good", and clearly positive effects were detected in all measured aspects of the expertise (expertise in the geology of the area, expertise in the activity of UNESCO, general expertise in nature-based tourism, expertise in geotourism destinations in the area, networks and readiness for cooperation) (LAB 2020a).

In 2021, an official Salpausselkä Geopark partnership was introduced by the new Salpausselkä Geopark unit (Lahti Region 2021). It is hoped that the new partnership status will help the entrepreneurs develop their activity and products in a way that is compatible with the principles of sustainable geotourism, as well as gain positive visibility from the official partnership status. At the early stages of the new unit the official partnership logo has been made available and adopted by entrepreneurs active in the fields of recreation and entertainment, and food and beverages. These pioneering entrepreneurs have recognised the possibilities of geopark activity in networking and in the international tourism sector (Lahti Region 2021). Quite similar reactions and expectations were also reported in Finland's first official UNESCO Global Geopark, Rokua, in 2019. As Saastamoinen (2019) reported, networks and opportunities for international tourism were regarded by local entrepreneurs as the most important effects of the geopark activity.

Furthermore, Saastamoinen (2019) found that the transformation of the effects into financial profit demands strong regional brand building and active development work. This is exactly what is currently happening in Salpausselkä Geopark under the guidance of the new administrative unit. One of the milestones of the brand building has been the selection of the main theme of the area, which is also essential for the UNESCO Global Geopark application process (UNESCO 2021). Since 2020, the main theme of the new Salpausselkä Geopark has been **"A landscape created by water"**. The theme, which is also the premise and inspiration for developing geotourism in the area, is explained by Visit Lahti (2021) as follows:

Geopark-themed events as tourism opportunities

One of the themes ton which the Visibility for Salpausselkä Geopark project has focused is developing geopark-themed activity. In the context of geoparks, events are an excellent way of boosting the region's visibility and sharing knowledge about the important themes of the geopark activity. In Salpausselkä Geopark, activity and events have been developed in coordination with local entrepreneurs and other local actors.

From the tourism perspective, a main target group of the geopark events in Salpausselkä Geopark has thus far been local people and summer residents, the number of whom in Salpausselkä Geopark is actually very high. In four of the municipalities of the area (Asikkala, Hartola, Padasjoki, Sysmä), the number of summer homes is actually higher than permanently occupied residences (Tilastokeskus 2020).

One of the event models developed in the project to increase the area's visibility is Salpausselkä Geopark orienteering. The model's main concept is to combine the ideas of a traditional Finnish outdoor sport, orienteering, and an excursion carried out to observe geological information. The first model event of Salpausselkä Geopark orienteering was organised in the vicinity of the geologically valuable Harmiokallio in Hollola in October 2021. In the event, all control points were situated at geologically interesting points, and geological information on the area was also introduced at the event centre in several other forms.

The Salpausselkä ridges and eskers were mainly formed of sand and gravel transported, sorted, and deposited by glacial meltwaters at the end of the last Ice Age. The continental ice sheet and its meltwaters have also shaped our rocky geosites into their form today. Our rocks are ancient – they were formed between 1,600 and 1,900 million years ago, and in the course of time, they have been moulded by a host of ice ages.

The Salpausselkä ridges got their name from the Finnish word for to block, because they block in the waters of Finnish Lakeland. To the north of Salpausselkä, hundreds of lakes, ranging from small kettle ponds to Finland's second largest lake, Päijänne, offer stunningly beautiful views and excellent opportunities for recreation for local residents and visitors alike.

The Salpausselkä ridges and eskers hold massive reserves of high-quality groundwater filtered by thick layers of gravel and sand. The groundwater is mostly hidden underground, but becomes visible in the area's natural springs and groundwater-fed lakes and brooks. Around a quarter of Finns get their drinking water from this region: the locals in the form of groundwater, and residents in the Helsinki area via the world's second longest tunnel from southern Lake Päijänne.

Figure 2. The concept of Geopark orienteering combines outdoor sports and learning geological information. (Photo: Kimmo Hirvonen)

During the orienteering event, the participants were involved in sharing their experiences in a photo point of stunning geologically interesting settings and enjoying locally produced drinks to refresh them along the way. At the finish, they were able to enjoy local flavours, trying the newly introduced Salpausselkä Geopark-themed "Geobites" and familiarising themselves with geological information about the area at the Salpausselkä Geopark's pop-up Information Point. Finally, they also had the opportunity to enjoy a traditional Finnish smoke sauna in a lovely countryside setting. Overall, the experience served to combine elements of physical exercise, nature-based tourism, learning expertise and well-being (Tommola 2020).

In addition to outdoor sports, food and beverages have been another important focus of the development work carried out by the project in the field of geopark-themed events. As a result of an interview-based research

and development project carried out by the students of LAB University of Applied Science (Hentunen et al. 2020), ideas were collected from the entrepreneurs involved in the Salpausselkä Geopark activity for the area's event-based marketing. The many interesting ideas included a Stone Age workshop, a family Olympics, a senses week, and several types of guided tours of Salpausselkä Geopark nature. Of the other interesting ideas, the most interesting was the prototype for geo-food courses specialising in the local flavours of the Salpausselkä Geopark, which was developed by the students. These courses would be an interesting option for those beginning their interest in nature to gain better skills for preparing and enjoying their meals in natural settings. They may also offer an information package about herbs and other ingredients for developing distinctive local flavours. They may also be an enjoyable and memorable experience for the participants, and a possible future source of income for some of the area's entrepreneurs.

Regional marketing materials for common use

As the UNESCO Global Geopark designation process continues, it will be important to increase the area's visibility to meet the strict UNESCO Global Geopark criteria. UNESCO requires each Global Geopark to be sufficiently visible for a random visitor walking in the area to become aware of its special status. Information about the area's geology, as well as that of its nature and cultural value, should thus be easily available online and in brochures, as well as at Information Points in nature locations (UNESCO 2021).

In recent years, a strong material bank has been built in previous development projects connected with Salpausselkä Geopark. This includes inventories of nature types and indicator species at a few sites, as well as geological mapping materials, and inventory materials from about a hundred potential geosites around the project area. The present challenge is to make the core message of the scientific materials suitable for a wider public. For this purpose, the Visibility for Salpausselkä Geopark project has produced an extensive range of introduction material for Information Points in nature locations and online publication. The online material includes a Guide to Geosites (Salpausselkä Geopark -kohdeopas) (LAB 2020b) and some videos. In addition, a regional introduction video was published in May 2021. The video was produced with the assistance of local people and will use real visitor experiences as its background material. The same idea has previously been used by the project in coordination with social

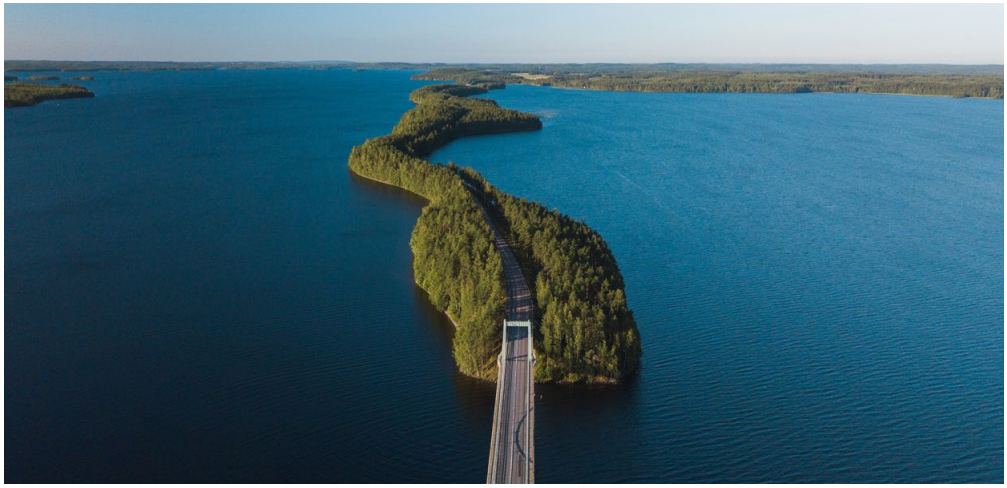

Figure 3. Visibility for the Salpauselkä Geopark project has gained positive experiences from coordination with social media influencers. In addition to visibility, this has given the region an excellent databank of visual material. (Photo: Marinella Himari)

media influencers, which has gained the region a good amount of visibility. The main result of this work is a road trip that was carried out during the summer of 2020 in the Kaukokaipuu -matkablogi blog and linked social media channels.

Furthermore, on-site materials will continuously be improved in cooperation with municipalities and other local actors. In the summer of 2020, the municipality of Asikkala was the first in Salpausselkä Geopark to organise a wide-scale on-site exhibition based on the Salpausselkä Geopark theme. This took place in Päijänne House near the area's only National Park, Päijänne, and received 4,800 visitors in less than two months in the summer of 2020. Currently, the municipality of Asikkala is planning a new, longer-lasting exhibition to attract visitors, with Salpausselkä Geopark as one of its main themes. Following the example of Asikkala, the municipality of Hollola is also preparing to build the common visibility of the Salpausselkä Geopark with a fixed indoor Information Point of its own. In addition, several new on-site Information Points are being planned in the area that will be placed in natural settings.

Impacts of Visibility for the Salpausselkä Geopark project

UNESCO has defined four fundamental features each Global Geopark should have. These guidelines include strict criteria for the area's geological heritage, management, networking, and visibility (UNESC0 2021). The project's main impact is to assist the regional administration unit to prepare the area to meet the UNESCO Global Geopark criteria, focusing especially on visibility. The project has also adapted the core content of the available scientific material to make it suitable for a wider public, and has thus made the message better understood. Because organising public events has been widely banned due to the COVID-19 pandemic, much of the fieldwork has been carried out online.

In addition to materials and events connected with visibility, the project has strengthened and expanded the formerly established network of actors interested in geopark activity. Especially among entrepreneurs, networking also opens doors to new cooperation with other themes, which increases the vitality of local entrepreneurial activity. Apart from this, the project has increased the visibility of sustainable development via UNESCO principles, which also increases its social impact on a wider scale. The main SDGs (Sustainable Development Goals) the project promotes are responsible consumption and production, and good health and well-being.

As the project is ending soon, the number of actors involved in geopark activity is larger than ever, and Salpausselkä Geopark is getting one step closer every day to being ready to meet the strict UNESCO Global Geopark criteria. If the designation process goes as planned, the area will gain the UNESCO Global Geopark status at the earliest in the spring of 2022. Subsequently, the local tourism sector will be able to use and develop its newly adopted geotourism expertise. A new UGG region will need specialised thematic guides, and Geo Products will also probably gain new market share.

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Part 2

Social Inclusion and Safety in everyday life

Johanna Irjala, Kirsi Kiiskinen

AJATUKSILLE VIRTAA – Boosting knowledge workers' productivity and well-being at work

"We are building a better world of work" is one of the central themes of LAB University of Applied Sciences' 2030 strategy. It includes the improvement of well-being at work. Of the goals specified in the UN's 2030 Agenda for Sustainable Development, supporting good health and well-being, as well as fostering innovation, align well with the promotion of well-being at work.

Well-being at work can be defined in various ways. It is a multidimensional concept, entailing a whole host of factors which impact one another. The Finnish Institute of Occupational Health, for instance, defines well-being at work as meaningful work in a safe and career-supporting working environment and workplace community that promotes health (Finnish Institute of Occupational Health 2019). An employee's own attitudes, psychological capital, state of health and physical fitness, as well as various aspects of the organisation, workplace community and leadership, influence the employee's well-being. The work should be versatile, and the employee should have the possibility to influence the contents of their work. In addition, every individual views and interprets workplace matters on the basis of their own attitudes (Manka 2015). Many other definitions also construe well-being at work as meaning safe, healthy and productive work. Good leadership and employees' perception of doing meaningful and rewarding work are also raised. The opportunity to develop and learn at work are important factors in maintaining motivation (Kehusmaa 2011).

Why invest in well-being at work? Well-being at work has a material impact on productivity. The price of neglecting well-being at work has been estimated to amount to at least EUR 24 billion a year. The price is therefore

high. It includes sick leaves, healthcare costs, occupational diseases and early retirement. Uncertainty about work, poor leadership and bullying result in malaise and stress. Intense stress caused by work also leads to a variety of consequences. Workplace community skills play a particularly important role in avoiding this. They have an effect on atmosphere, motivation and health. Poor motivation erodes enthusiasm for work, thereby also affecting productivity. The better the employees are in terms of well-being, the greater the company's output will be. In other words, there is a clear link between the two (Manka and Manka 2016).

'Productivity' refers to the ratio of input and output. Measures that promote well-being at work produce both direct and indirect financial impacts. Savings are accumulated with the reduction of sick leaves, occupational diseases and disability pension costs. The other half of the profit can be derived from an investment in well-being at work which boosts the productivity. According to studies, a company's financial success and the well-being of its personnel are linked to each other. Sustainable financial performance is created precisely with well-being at work. Productivity should be examined from a long-term perspective. Coping, performance and renewal improve over the long term (Kehusmaa 2011). According to a study by Sinclair (2019), employees who were often engaged by their work were more productive than those less engaged by it. Employees who often felt tired, on the other hand, were less productive.

A capacity for innovation and creativity are key characteristics in the job descriptions of knowledge workers. 'Innovation' refers to the meaningful production of new thoughts and ideas. Innovation aims to give rise to thoughts that can promote or implement matters in an assignment or the organisation. The difference between creativity and a capacity for innovation lies precisely in the fact that innovation is the meaningful production of ideas and thoughts that promote or implement something. Creativity, by contrast, is situation-specific and does not necessarily concern itself with profit. The capacity for innovation and creativity are materially connected to well-being at work. Knowledge workers are characterised by busyness and a lack of time management, which may impair their capacity for making innovations. This may reduce motivation and increase stress. Interpersonal relationships, trust, and feelings of self-actualisation in an organisation also affect the capacity for innovation. The subject matter has also been studied at an individual level, with a focus on internal motivation, cognitive abilities, openness and creativity. All this relates to well-being at work

among knowledge workers (Parzefall & Huhtala 2006).

Working life is changing. Current and future work highlights information processing requirements. Work is being carried out in conditions which increase the cognitive load: the flood of information, disruptions, interruptions and time pressures diminish a person's ability to cope in the tasks of knowledge work (Finnish Institute of Occupational Health 2021). Technology, globalisation, changes in work culture and the structural change of the workforce have a material impact on work and well-being. The change in work culture is already visible in many workplaces. Work should be independent of time and place, it is real-time, leadership is becoming low-structured and shared, and there is a continuously increasing demand for workplace community skills. Competence has become a coping mechanism for everyone. One should continuously develop one's skills to keep up with the furious pace of working life. These changes have a material impact on how to develop well-being at work, and how it should be incorporated in the strategy of an entire organisation. These changes challenge work culture in its entirety (Manka 2011). The disappearance of boundaries between work and free time is also one of the common challenges that working knowledge workers face. Work is often taken care of during free time, overtime working increases, breaks may be skipped, and the continuous need to keep up-to-date may impair well-being at work. Many workers are available at all times. The constant focus on work often leads to difficulties in recovering from work (Parzefall & Huhtala 2006).

Tackling challenges related to knowledge workers' well-being at work

The objective of the Boosting Knowledge Workers' Productivity and Well-being at Work project (hereinafter the "productivity and well-being project") was to develop an operating model for engaging the employees of knowledge worker organisations and test the model in the form of a pilot project. The model aimed to improve a company's productivity and well-being at work by supporting and strengthening:

1. knowledge workers' work management, capacity for innovation and organisational self-management skills
2. knowledge workers' skills in ensuring their physical condition and to recover from work.

The project pursued new solutions for improving the well-being at work and productivity of experts engaged in knowledge work. The operating

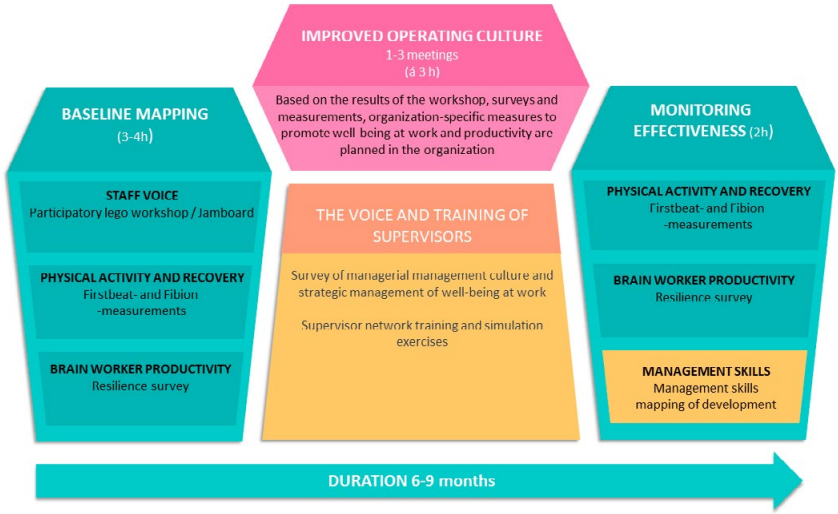

Figure 1. Process description of measures carried out in the productivity and well-being project. (Figure: Milla Lähdeniemi)

methods developed in the project focused on supporting physical and psychological well-being, and strengthening workers' capacity for innovation, ability to renew themselves and adapt resilience.

The productivity and well-being project was carried out between 1 April 2019 and 30 September 2021 by LAB University of Applied Sciences (lead partner), Haaga-Helia University of Applied Sciences and Suomen Urheiluopiston Kannatusosakeyhtiö. The project developed an operating model engaging the employees of knowledge-worker organisations. A model built at the beginning of the project was tested in the form of a pilot project involving the employees of two knowledge worker organisations in the autumn of 2019. Following the pilot project, the operating model was adjusted slightly, after which 10 of the actual target organisations were recruited for the project. These organisations joined the project measures in three groups, with the first joining in in the spring of 2020, the next in the autumn of 2020 and the final one at the beginning of 2021. These organisations were mostly occupied by experts engaged in knowledge work. Three of the organisations were educational organisations, while three were marketing industry companies, and the rest were housing management and engineering companies and pharmacies.

In some cases, the project involved the entire workplace community, while in others, only a single team, for example.

Figure 1 depicts the progress of measures related to the productivity and well-being project within a target organisation. The **baseline mapping** consisted of the arrangement of organisation-specific workshops aiming to highlight the current situation and the employees' needs. The workshops relied on the process model of creative problem solving with the help of the LEGO SERIOUS PLAY method. LEGO® Serious Play is a registered method developed by LEGO Group. In the method, participants build LEGO models that depict their thoughts and ideas. The LEGO method was selected partly because many are familiar with LEGO elements, and the method does not require technical skills, and partly because the methodology's own studies have shown that a combination of activity and discussion leads to a more valuable, meaningful and open result than mere discussion (LEGO® Serious Play 2021). Some of the organisations carried out the workshop via a remote connection and the Jamboard service. Jamboard is a digital interactive whiteboard which allows remotely working team members to sketch ideas together and store them in a cloud, from where they are retrievable on any device (Jamboard 2021). The workshop discussions focused on both good measures and measures in need of development. The outputs were collated, after which the organisation selected a maximum of three measures for testing. After the workshops, the employees of the organisations were also asked to respond to a survey of resilience and participate in two well-being measurements: the Firstbeat measurement, which describes the adequacy of recovery and helps employees identify stress-inducing factors in their work and free time, and the Fibion measurement, which allows the amount of time a person is sedentary during their working day as well as free time to be measured. Each employee received personal feedback on the measurements and an opportunity to set their own goals for improving either their physical activity or recovery. The measurements were also used to prepare organisation-specific group reports, which gave each organisation the possibility to consider development measures related to physical activity or recovery on an organisational level as well.

In the **improved operating culture** segment, a feedback event on the workshop and measurements, in which any measurement results which could still affect the development measures were taken into account, was held for each organisation. In this feedback event,

each organisation drew up a plan on how to forward the development measures discussed in the workshop and any issues revealed by the measurements within each organisation. These measures varied between organizations. At the end of the process, the measurements and the survey were repeated, and the results were compared. Finally, the development measures and those carried out, the changes that had occurred in well-being measurements, and the future plans were summarised with each organisation.

The segment concerned with **the voice and training of supervisors** involved an analysis of each organisation's current situation, with a focus on the organisational culture and supervisory work. This was executed in the form of a questionnaire aimed at supervisors. Supervisory work was also supported by organising three simulation training events for the supervisors of all the organisations. The simulation allows technical skills, dexterity, three-dimensional visualisation, encountering people, communication and leadership to be studied. A successful simulation draws the participant into another reality, evokes emotions and at its best leaves a permanent memory (Blomgren 2015). The topics of the simulations organised by the productivity and well-being project were remote working (management, breaks and ergonomics, and community spirit), as well as activity and recovery during a working day.

Project results

The project plan set three indicators at different levels to verify the effects of the project measures.

The first indicator: the physical activity of employees has improved in at least 75 per cent of the participants. At an individual level, the goal of improving physical activity was pursued with the help of individual well-being measurements (Firstbeat and Fibion) carried out when the project measures began and ended in each target organisation. The individual oral (approximately 45 minutes per participant and measuring occasion) and written feedback provided during the well-being measurements helped the participants become aware of their respective amounts of physical activity and sitting, as well as the current situation in terms of their recovery. Pausing to reflect on their own measurement data in the feedback discussions made the participants think about their own daily choices in terms of physical activity and sitting, as well as their significance. Awareness of their own recovery and the factors that influenced it also steered the participants to think about their own activities and motivated them to plan changes to their

own daily activities that would better support well-being. Future personal goals were set during the feedback discussions to strengthen physical activity and to promote recovery from work. At an individual level, many did indeed change their modes of action by increasing or diversifying their physical activity, both at work and during their free time, but this was not necessarily directly apparent in the comparisons of the well-being measurements' organisation-specific group feedbacks.

The concrete goal defined in the project plan – boosting physical activity in 75 per cent of the participants – proved challenging to assess on the basis of the well-being measurements. The measurement results did not allow a reliable analysis of behavioural changes at an individual level. A possible increase in physical activity was not always revealed, because the measurement period could coincide with an exceptional period in the daily life of the individual being measured, or because exceptional situations at work or the individual's private life affected the result, particularly in the Firstbeat measurement, which had a shorter measurement period (three days). The physical activity of some of the participants was already at a good health-promoting level, meaning there was no need to increase it. Furthermore, the measurement results may have been affected by the timing of the measurements in relation to seasons; for example, the initial measurement could occur immediately after a holiday season, and the final measurement during the most hectic time at work, before a holiday season.

Based on preliminary results, the amount of measured physical activity at a group level within organisations varied when comparing the initial and final measurements. Initially, four organisations were at a good level (sufficient amount of exercise in terms of health), but only three were able to retain the good level between the measurements. The amount of measured physical activity was initially at a fairly good level in four organisations. In two, the situation remained unchanged; in the other two, the situation improved, but not to the next level. The initial level in two organisations was weak, and their results improved to a fairly good level between the measurements.

Second indicator: an organisation has implemented new or changed operating models that support knowledge workers' long-term well-being at work and productivity. At a community level, the goal was to implement entirely new or changed operating models that supported knowledge workers' long-term well-being at work and productivity. According to the Working Life Barometer, more new working methods

than before were adopted at workplaces in 2020 (Working Life Barometer 2020). In the productivity and well-being project, the participants in the initial workshop for project measures had jointly decided on three development themes, of which they first selected one or two development targets to work on. The development targets and measures varied from one organisation to the next, and they were also affected by an organisation's possible previous strategic choices related to well-being at work, and the activeness with which such measures were implemented. The project relied on Rauramo's model on the steps of well-being at work (Figure 2), which provided the framework for categorising the development targets selected in each organisation. Rauramo's model is based on Maslow's most well-known motivational theory, the hierarchy of needs. According to the theory, humans have five basic needs: physiological, safety, love and belonging, esteem, and self-actualisation.

The following presents examples, according to the themes of Rauramo's steps of well-being, of the new or modified operating methods tested in the productivity and well-being project's target organisations in efforts to develop well-being at work and productivity.

1. Health

- Reduce sitting, electric height adjustable tables for those who want them and for active use
- Increase the number of breaks, tryout of a break exercise app
- Make a stronger distinction between work and free time
- HR training on the basics of mental well-being
- Tools from well-being measurements and themed coffee breaks with different themes for experiments in self-management

2. Safety

- A quiet space and noise-cancelling headphones

3. Sense of community

- Diversifying workplace health promotion activities into something else than exercise
- Things to do together, building an active break space
- Common guided breaks for remote working

4. Appreciation

- Agree a common etiquette for the sharing of data and materials

5. Competence

- Suitable workloads
- The use of working hours on what is significant and insignificant

Figure 2. The steps of well-being at work according to Rauramo's model (2012). (Picture: Oona Rouhiainen)

The experiences of those who participated in the project measures were investigated with an electronic questionnaire after a period of approximately 6–9 months, when the project measures of the target organisations were drawing to a close. When the project measures were still underway, a total of 35 participants in nine out of the ten organisations had responded to the questionnaire. This corresponds to around half of those who participated in the project measures. According to the responses given in

the feedback questionnaire, the organisations had implemented the new or changed operating methods brought up in the workshops and interviews as described above. The project also aimed to advance the target organisations' operating culture by inviting supervisors and knowledge workers to workshops to consider how to develop well-being at work in workplace communities. A healthy workplace community is open and trusting, and also has the courage to discuss problems (Finnish Institute of Occupational Health 2021). The workshops' operating method of bringing together supervisors and workers also revealed the different opinions among workers responding to the questionnaire.

"I nevertheless responded to this neutrally, since one cannot be open in our company when the managers are present. If this had been carried out solely among the workers, the task would have been more rewarding."

"The mix of supervisors and workers presented its own challenges, given that you're always slightly reserved in being totally open about your thoughts and opinions when working with supervisors."

Third indicator: the skill in managing knowledge workers' physical activity and recovery, as well as their capacity for innovation, has improved. At an organisational level, the objective was to support supervisors in managing well-being at work, because it is precisely they who are in a key position to enable and support well-being at work at both the organisational and individual level, particularly in smaller organisations. Supervisors' skills in managing well-being at work were supported by organising training for them in which a simulation method was used as a tool of community-based learning. The themes and case examples of the simulation training were devised on the basis of feedback collected from the target organisations' supervisors so that they would focus on topical themes and issues concerning the supervisors. The simulation training was organised under two different themes: supervisors as supporters of well-being at work (with a focus on remote working) and supporting the workplace community's diversity. A total of three training sessions under the aforementioned themes were held, and the implementation method was virtual due to the restrictions on gatherings associated with the coronavirus situation. The content of the sessions was discussed on the basis of thoughts raised during the simulation, as well as

the participants' own experiences and perspectives, with the aim of exploring the topic from various aspects and finding alternative solutions for and ways to promote an issue. The sessions had a total of 26 participants, and their satisfaction in the training modules ranged between 4 and 4.3 (on a scale of 1–5). The supervisors felt that the case examples corresponded with daily reality, and the working method was considered generally good and novel. The differences between the supervisors were both a challenge and a richness. They were a challenge because the supervisors came from different knowledge work organisations, so not everyone could form connections between the themes and their own work if their organisation did not engage in remote working, for example. However, they also proved to be a richness, because few supervisors get the chance to follow the work of a supervisor colleague working in another field. Surprisingly, different workplaces presented very similar supervisory work challenges. Although there are no simple solutions to these problems, the workshop provided the supervisors with a little time for dealing with a situation and deepening their understanding.

They were also provided with tools for the personal management of their own work, and skills for taking care of physical abilities and recovering from work. The group feedback of the well-being measurements provided the supervisors with important data on the current state of physical activity in workplace communities, such as the amount of sitting and recovery from work, in support of their managerial duties. By participating in the workshops of their own organisations, the supervisors gained practical experience of working to improve well-being at work. It is important for supervisors to know how to listen to the ideas voiced by knowledge workers and to operate in favour of them. Measuring a component of a workplace community's capacity for innovation – the capacity for change – on the EmpRes scale provided the supervisors with information on employees' capacity for change and in the shape of the relevant form, with a tool for its follow-up. Studies show that well-being at work has a significant positive connection with companies' result indicators, including productivity, as well as reduced employee turnover and sick leaves (Finnish Institute of Occupational Health 2021). The project also investigated supervisor's activities in supporting well-being at work and on a larger scale, an organisation's operating mode from the perspective of managing the capacity for innovation. Both were evaluated with the help of questionnaires aimed at the supervisors in the target organisations when

the project measures began and ended. Given that the project measures are still underway, a summary of the results of the supervisor questionnaire is not yet available.

Project outcomes and impact assessment

As explained by Aistrich (2014), 'Impact thinking is based on a logic chain that is known by the abbreviation IOOI: Input, Output, Outcome, Impact'. In our context, 'input' can be understood as the resources used in the project, while the results in the output phase are the direct consequences of the inputs: how many organisations and participants are involved in the project or the report produced on the project's measures. 'Outcome' is understood as the change achieved within the target group, the number of participants whose physical activity improved, and how many new or changed operating methods were implemented in the target organisations. As the final link in the chain, 'impact' is the change in well-being achieved as a result of certain measures: for example, an increase in the well-being of knowledge workers and the productivity of organisations. As Aistrich points out (2014), the difference between outcome and impact is sometimes unclear, and the impact may not become apparent until years later.

In the productivity and well-being project, direct outcomes at the individual level include the improved skills in self-management, physical abilities and recovery from work of the experts engaged in knowledge work in the target organisations. At the level of workplace communities, outcomes include new or changed operating methods, and at the level of supervisors, improved skills in managing knowledge workers' physical activity and recovery, as well as their capacity for innovation. The indirect outcomes can be verified partly through the results of the project indicators and the feedback provided by the participants. The project's functioning in the target organisations has been in line with and supportive of LAB's strategy on working life and sustainable development goals. By developing well-being at work, the project has also aimed to influence the target organisations' productivity and knowledge workers' capacity for innovation in the long term.

The project is also expected to have indirect outcomes by providing other knowledge worker organisations with the guide on well-being at work to be published in connection with the final event, which will be held when the project comes to an end. However, the scope of the indirect outcomes depends on reaching the right target group (i.e. similar knowledge worker organisations) in terms of the concluding event,

and of the awareness and availability of the guide to be published. The project's societal outcomes cannot be assessed or measured during the project's operating period over the short term. According to Heliskoski et al. (2018), societal impact usually emerges over a medium term (3–5 years) or long term (more than six years) period.

The productivity and well-being project is a development project, due to which it has involved, in addition to the pre-determined indicators, interviews with the operators in the target group and the collection of feedback on the workshops throughout the project. These interviews and feedback have been used to develop the project's workshops and support measures so that they respond to the needs of knowledge worker organisations in increasingly better ways. The feedback collected from the participants is also used as part of the project's impact assessment. Well-being at work is made up of a variety of factors, all of which are important to be considered and to be developed according to the investigated need. These many factors must be influenced at both on an individual level and on the level of the workplace community, not forgetting leadership, to achieve even better well-being at work and thereby improved productivity.

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Sirpa Silaste, Pirjo Knuuttila, Tapio Kari, Jaana Loipponen, Anne Timonen, Pekka Visuri

All the same – Peer learning and encounters with different learners

Vocational education and preparatory education, as well as the working life skills they provide, play an important role in the promotion of the transitioning to the labour market and employment of the young who require special support. The reforms in vocational education and training and preparatory education aim to speed up education paths and the transition to working life. The reforms related to vocational education and training have helped strengthen the personal and flexible education paths of students who need special support. In spite of this, new kinds of practices are required in the field of vocational education and training and at the pivot points of education. In accordance with the inclusion policy, these practices dispel stereotypical views related to the need for special support and increasingly take into consideration the inclusion of young people in the development of education (Pelkonen, 2015).

According to the principle of inclusion, nobody is considered a "different" individual who should adapt to the surrounding community. The progress of inclusion has been faster internationally than in Finland. Successful inclusion may, for example, promote social skills and respect for differences between students (Kaunisvaara & Pikkuvirta, 2020). When developing more equal education and employment solutions for young people who need special support, the prevailing view of disability in the political and vocational culture should be challenged. Regional cooperation benefits students in vocational special education from several perspectives. Securing the inclusion of students who need special support in both working life and the operations of society is key (Äikäs, 2012).

The measures taken in the "All the Same" project addressed these challenges of inclusion and updating vocational education and training by

seeking new kinds of solutions based on peer activities for the development of the working life skills of young people who need special support. The "All the Same" project, implemented jointly by the LAB University of Applied Sciences and the Kiipula Vocational College, was based on the need to develop a regional model of cooperation and a learning environment that promotes students' working life skills and in which students and teachers involved in instruction and guidance from both educational organisations meet each other and learn and work together.

The cooperation methods for education and training and work placement and the learning environment including two different educational organisations and businesses in the region, created through the project measures, are a way of supporting and increasing inclusion in the vocational special education institution and dispelling attitudes and prejudices related to it. The continuous and established model of peer group activities has been a significant addition to the pedagogical toolbox of both educational organisations.

Different forms of information and communication were used efficiently in the "All the Same" project. The project produced several YouTube videos on work ergonomics and on the enterprises and activities of Kiipula's JA Company groups of young people requiring special support Several blog entries and articles were written about the project on LAB's publishing platform and in external media, such as newspapers and publications. The nationwide *Sosiaali- ja kuntatalous* publication, which focuses on social and municipal policies, included an extensive article covering the content and activities of the project (Sosiaali- ja kuntatalous, 2021).

The theme of the podcast in the project was an equal learning environment. The objective of the panel discussion was to highlight equal learning environments for different learners and students struggling with learning difficulties as well as to cover accessibility from the perspective of working life. The panel participants – teachers of the educational institutions and the project's workplace partners – deliberated how learning difficulties and accessibility are considered in working life and how organisations have organised psychological and social accessibility, in addition to physical accessibility.

One of the main objectives of the project was to produce a guide for learning in the workplace that both educational organisations and working life can apply. The supervisory competence of the work placement supervisors working with Kiipula's students was supported in the project by preparing an e-book for the orientation and

training of work placement supervisors and a guide for supporting supervision of students who need special support. Instead of publishing a hardcopy, the guide was prepared in a radio play format. The purpose of the guide was to influence attitudes in employment, help understand differences between people, and promote accessibility in working life. The radio play offers tips for daily supervision and encounters. The three-part radio play series follows three young people in their search for employment, their challenges, encounters in school and working life, as well as their future dreams. An important aspect of the implementation of the "All the Same" radio play was to include students in the preparation of the play.

Good practices of cognitive control to support learning

The areas of cognitive control include inhibition of unwanted behaviour, switching behaviour, planning and initiative, organisation skills, self-regulation, emotional regulation, and the working memory. These are abilities which a young person applies to adapt their actions to the requirements of any given situation. It may be difficult to interpret social situations and understand social norms. Acting with initiative and in a controlled manner is challenging in unexpected situations which call for changing one's learned ways of operating, learning new things, organisation skills, multitasking, decision-making or planning one's activities. (Terveyskylä, 2020; Verneri.net, 2020).

During their studies, LAB's physiotherapist students familiarised themselves with Kiipula's studies leading to a vocational qualification in cleaning and property maintenance and the ergonomics issues in these fields. This cooperation generated the practice-oriented instruction videos on good work ergonomics for Kiipula's cleaning and property maintenance students.

Well-being, accessibility, and adapted physical activity

The physiotherapist students' vocational work placement during the project as part of their studies included working together with students of the Kiipula Vocational College. The cooperation included several workshops on adapted physical activity, instruction events (Figure 1) and accessibility surveys (Figure 2).

In the project, nursing and physiotherapy students mapped factors that affect the well-being of young people who need special support and, jointly with Kiipula's students, organised and instructed physical activity events promoting well-being.

Physical activity workshops were organised at the LAB sports facility, outdoors in the Fellmann Park and

via a remote connection. The goal of the workshops was to strengthen the social skills of all students. The workshop activities also aimed at motivating Kiipula's students to be physically active and act. Based on the feedback, the physical activity workshops added variety to the physical education classes at Kiipula and provided an opportunity to gain new physical activity experiences. Learning together brought joy and excitement to the students of both educational institutions.

Accessibility means safety and high quality. It conveys a philosophy, the right attitudes and taking differences into account. Accessibility means taking the diversity of people into consideration in the design and implementation of the built environment. An accessible environment is necessary for many groups of people, but it also significantly benefits other users of the facilities. For example, transporting goods, cleaning and facility maintenance are easier without thresholds, stairs or steep ramps. An accessible environment does not differentiate people based on their ability to function. (Invalidiliitto, 2020).

The LAB physiotherapist students conducted accessibility surveys in the learning environments and work placement locations of Kiipula's students in the Prisma shopping centre being built for the Osuuskauppa Hämeenmaa cooperative. In addition to covering physical accessibility of the facilities, the students focused on the promotion of social and psychological accessibility and the accessibility of services. The students prepared reports on the surveys, which included proposals in developing accessibility, among other things, and were submitted to the Osuuskauppa Hämeenmaa cooperative to be applied in the construction of the shopping centre. The accessibility surveys were also presented in accessibility seminars organised by the physiotherapist students. In addition to the Kiipula students, the working life partners of both educational institutions were invited attendees in the seminars.

The Sport Space mobile application was developed for Kiipula students to boost their daily physical activity. The application runs on Android smart phones and can be downloaded for free. The application design was a joint effort between LAB's physiotherapy and technology students and Kiipula students as well as teachers. The wishes of end users who need special support were considered in the development of the application. The technology students and teachers oversaw the technical implementation of the application. Sport Space includes a pedometer, a GPS game, which motivates students to be physically active around the city

of Lahti, and exercise videos featuring both physiotherapy students and Kiipula students.

The project included the implementation of the Vocational Professional's Work Capacity Certificate. The Vocational Professional's Work Capacity Certificate is a tool that helps students studying for a vocation to strengthen their work capacity and well-being skills. The objective of completing the certificate was to increase the students' knowledge, skills, and motivation to take care of their health and well-being during and after their vocational studies so that maintaining well-being at work becomes an integrated part of their lifestyles. The components of the Work Capacity Certificate are work capacity-promoting exercise, health competence, hobbies and cooperation skills. (Ammattiosaajan työkykypassi, 2021). Completing the Work Capacity Certificate and applying the materials of the Vocational Professional's Work Capacity Certificate will be included in the studies of LAB students after the end of the project.

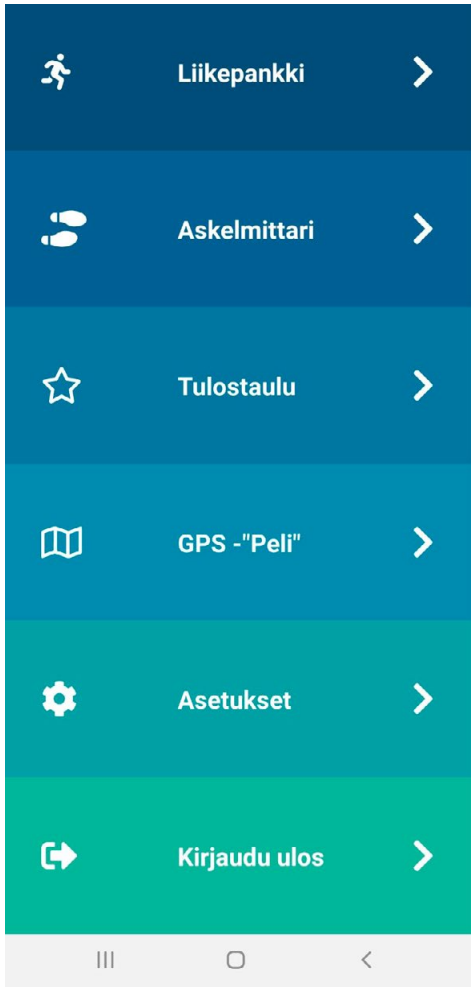

Figure 1. The Sport Space mobile application menu (Activity bank, Pedometer, Scoreboard, GPS game, Settings, Logout). (Photo: Sirpa Silaste)

Experiences of physiotherapist students on the development of knowledge and skills in the "All the Same" project

According to the survey performed among the physiotherapist students who conducted accessibility surveys and participated in the adapted physical activity workshops, all respondents found that they increased their knowledge of young people who need special support and their skills in instructing these students. More than half of the students felt that their knowledge and skills improved considerably.

The students felt they had received more courage and professional competence for encounters as well as justifications and tools for instruction. They found they had accumulated experience in different communication methods and had increased their understanding of the easy language important. The students realised that there are a number of things that affect an individual's ability to function. The students also offered good examples of how they themselves could increase the inclusion of young people who need special support in society.

They highlighted the insights they themselves had gained on the importance of taking accessibility into account. The matters of young people who need special support should be included in the public discussion more. There are still prejudices that need dispelling in society. According to the physiotherapist students, the inclusion of young people who need special support can be increased by encouraging them to communicate, directing them to take up hobbies, and motivating them on a personal level. Nearly all the students were absolutely or probably prepared to work with young people who need special support in the future.

Enterprising and entrepreneurial activities as part of the studies

The project planned and piloted Junior Achievement Finland's JA Company model. In the model, students formed company groups, developed business ideas and, just like real-life entrepreneurs, performed customer acquisition, sales work, and provided ordered services to their customers. The students who need special support in Kiipula's business and administration and property management programmes had the opportunity to come up with ideas regarding and implement entrepreneurship from their own starting points while learning enterprising and entrepreneurial activities in an authentic learning environment. LAB University of Applied Sciences was Kiipula Vocational College's mentor, and the JA Company workshops included a social services student from LAB. For the student, the experience was also new and

educational about both matters related to entrepreneurship and encounters with people who need special support. Kiipula's students require very different levels of support. Some have physical musculo-skeletal issues while the issues of others may be related to learning difficulties. There are eight students, two of whom have a personal assistant, with intellectual disabilities of varying levels in the TELMA training preparing students for work and living independently, provided in the Lahti facility of Kiipula Vocational College. In addition, there is one counsellor in the group.

According to the students, the most memorable events included the JA Company semi-finals in Hämeenlinna in 2020. We could see that the business ideas of Kiipula's young people who need special support were as good as those of young people whose conditions of learning and operating are more conventional. Kiipula's students excelled themselves by running their own "All the Same" project booth at the Duuniexpo job fair. The project was based on the web-based learning materials provided by Junior Achievement Finland. As such, the materials were too challenging for Kiipula's students to learn, so they were adapted as applicable to suit the needs of young people who need special support. The JA Company pilot, and the entire project, challenged both the students and teachers who participated in them. Everyone learned new skills, obtained a wealth of new information and gained new insights in the project. As a result of the project, cooperation was solidified and the community-based operating model was established in the participating organisations in practice. In the joint feedback discussions, the LAB students said they had learned practical skills for encountering and instructing persons who need special support. The overall sentiment in both student groups after the events was positive and joyful. This was also reinforced by the related survey conducted among physiotherapy teachers in the spring of 2020.

Diversity as a management tool

The integration of management instruction and the "All the Same" project was realised in the "Moninaisuus organisaation voimavarana" (Diversity as an asset in organisations) course in LAB University of Applied Sciences' Business programme. The premise was productive, since both the course and the project shared the same objective: sparring for ideas, challenging the established and reactive ways of doing things and deploying new operating methods.

The conclusion after the course was that it is necessary to motivate students

to contemplate inclusion and diversity in workplace practices. The students will need this view in future work, the development of organisations, supervisory work, managing teams, personnel development, and, ultimately, in their jobs as managers. This competence is based on the understanding of equality and non-discrimination legislation, labour legislation and occupational safety in a broad sense as structures that support a sense of community in the workplace. Ethical and moral growth are always included in pedagogical work.

The course was a trailblazer since it was included in LAB University of Applied Sciences' course offering even before public discussion on the links between executives' bonuses and responsibility related to, for example, the environment and sustainable personnel benefits. The performance bonuses of Nokia's CEO Pekka Lundmark have been linked to the company's social responsibility and non-discrimination in its HR policy. Similarly, Kone's CEO Henrik Ehnroth only receives bonuses if the company has performed as expected in terms of not only its carbon footprint but also occupational safety and the diversity of the working community. (Saarinen, 2021).

Learning and the diversity of personalities

Viewing diversity as a starting point and an objective was realised in the form of practical cooperation in the joint training of workplace supervisors organised by Kiipula and LAB. The students in LAB's Business programme completed their workplace supervisor placement at the work placement locations for Kiipula's students and prepared inclusive orientation plans for the workplaces. This offered the students an opportunity to gain comprehensive insights into the importance of diversity and to learn on a practical level, enabling them to expand their thinking in a new way and change their actions as well.

Sari Ajanko, the author of a book about diversity, was invited to give a lecture on diversity and managing diversity in the course. She pointed out that "difference" is not a neutral word but implies deviance: people have opinions and attitudes about deviance; deviant people are tolerated; attempts are made to understand them. According to Ajanko, "diversity" could be a word that describes both sides of difference – both the challenges and the richness. It integrates the healthy and natural variation between different people, which, when examined more closely, is desired and even necessary. (Ajanko, 2021).

This provided theoretical justification for the core concept of the "All the Same" project; namely "sameness", seeing the similarity between the other person and oneself, seeing everyone as equals; and this also applies to differences between personalities. After all, they are much wider than differences caused by any special needs. The project used the term "precise work ability" instead of the terms "partial work ability" or "incapacity". Similarly, people are unique persons, one of a kind, the same within their specialness.

An ethical leader is a successful leader

The Future of Leadership management seminar (2 June 2021) emphasised the clear connection between the moral compass of leadership and the success of leadership. The topic has been extensively studied by Kenneth-Maxwell Nance. The results of his studies showed that leadership was considered thin if it was not moral, and the total results of people who otherwise succeeded as leaders were influenced by whether they were considered ethical.

Humanity and encountering everyone as equals are at the core of the "All the Same" project. There cannot be well-being in a work community unless everyone in it feels fully equal and encountered. A leader is a role model who, by each micro-characteristic of their behaviour, reflects the image that the organisation conveys of itself both internally and externally. This image either conveys equality and encounters with people and is safe and positive, or it includes dimensions that give rise to concern both within the company and externally. When a leader consistently acknowledges their attitudes, values, body language and the image it conveys to others, and this image reflects equality, the well-being of everyone improves.

The "All the same" project and the diversity management course include practical efforts to ensure that diversity is an integrated aspect of the atmosphere and opportunities in training and in workplaces. The starting point for it is to accept the wide spectrum of personalities. Everyone must first determine what their own view of humanity is. Everyone comes with their specific psychological baggage that needs to be worked on in order to see all people as equals. Equality is also required by law. This is what business life has also recognised, for the benefit of society, even though with business goals in mind.

Learning environment and operating models as established ways of operating

LAB University of Applied Sciences implemented its regional development task in the project, bringing together

representatives of two different educational organisations, representing different levels of education, and business life to develop a joint work placement model that would promote the vocational growth and employment of young people and job creation in the Päijät-Häme region.

The “All the Same” project created a genuinely shared learning environment for students of LAB University of Applied Sciences and Kiipula’s students who need special support. This learning environment supports the students’ study paths and strengthens their working life skills. The project planned and piloted new kinds of solutions based on peer activities for the development of the working life skills of young people who need special support. The entrepreneurship of students who need special support and their enterprising attitude developed, providing them with self-confidence and additional skills to be members of working communities and to work in different kinds of operating environments. The project also expanded the pedagogical competence of teachers, counsellors and coaches on encountering diversity. Multidisciplinary education and cooperation between teachers in different fields increased in LAB during the project. Teachers reflecting on topics together introduced new operating methods and practical knowledge and skills in the implementation of teaching. Teachers found the podcasts, videos and e-book produced in the project to provide considerable support for their work.

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Minna Kuvajainen, Pipsa Murto

Developing teamwork and trauma-informed practices in early childhood education

Trauma-informed approach for sustainable development

The trauma-informed approach is a global movement that has been developed in English-speaking countries, in particular. The overall objective of the approach is to promote a culture of compassion and security in society. A specific goal is to gradually increase trauma awareness in the entire population so that the prevalence of trauma and the impact mechanism of trauma on health, well-being, relationships and behaviour are understood better, tools are obtained for trauma recovery and civic skills are learned that prevent passing traumas down from one generation to the next. The trauma-informed approach is based on a holistic view of humankind, in which the root causes of ill-being are made visible, and on the necessity of multidisciplinary cooperation (Sarvela 2020, 33). The objectives of the approach are far-reaching, extending to the entire population, and the approach generally pursues socially sustainable development, which helps people to maintain their work ability and functioning longer. In Scotland, for example, national trauma information is disseminated in accordance with a four-level system: on the first level, general information is disseminated to all citizens, and the fourth level consists of professionals in trauma-specific vocations, such as trauma therapists (NHS Education for Scotland 2021).

The trauma-informed basic competence of social services and healthcare professionals refers to understanding the effect of trauma and stressful situations on the development of the nervous system, behaviour, health and well-being. In addition, it refers to self-knowledge and interaction competence that enables professionals to work relying on this understanding in different situations with clients and

colleagues. This supports recovery from trauma and prevents re-traumatisation in the services. Making structural and other violence visible and carrying out diverse equality work are also needed as part of increasing the understanding. In the operating environment of early childhood education and care, the trauma-informed approach refers to the understanding of the variety of family situations children come from, the development of children's self-regulation skills as well as the role of adults and educators in supporting children's self-regulation skills. Competence concerning self-knowledge, emotions and interaction is also at the core of the practical application of the approach among educators in early childhood education and care.

In Finland, this comprehensive movement has been promoted by a self-organised group of social services and healthcare professionals who maintain a Facebook page entitled "Trauma-informoitu sote ja ope" (Trauma-informed social services and healthcare and the teacher), among other things. In June 2021, the page had approximately 8,000 followers. A book entitled "Yhteinen kieli – traumatietoisuutta ihmisten kohtaamiseen" (A common language – a trauma-informed approach to encountering people) on the trauma-informed work approach was published in 2020 as a joint effort of 11 professionals. The authors state that their goal and vision are to increase trauma awareness to reduce human suffering and violence, make recovery possible, promote learning and reduce the costs of social services and healthcare. (Sarvela & Auvinen 2020, 10). One of the UN's Sustainable Development Goals is quality education, including ensuring high-quality early childhood development as well as providing safe, violence-free, inclusive and efficient learning environments for everyone (Suomen YK-liitto 2021).

In early education and care, trauma awareness is developed both as an individual's competence (self-knowledge and emotional skills) and a team's competence (a shared understanding and operating culture). Traumas may exist in organisational cultures as unconscious stressful practices (Bloom& Fallanger 2013), which is why it is important to increase understanding and develop skills through sharing in a compassionate atmosphere. A trauma-informed organisation is an environment which in every way promotes the sense of security, empowerment and recovery of both clients and employees. This requires providing the personnel with training in emotional skills and increasing self-knowledge. (Sarvela 2019).

“The structure of the Team Coaching is brilliant!”

The “Vakautta varhaiskasvatukseen” (Stability for early childhood education and care) project helped develop the operating culture of early childhood education and care in the Päijät-Häme, South Karelia and South Savo regions. It also increased the emotional education competence and trauma awareness of the early childhood education and care personnel. The project developed and implemented new team coaching modules in the spring and autumn of 2021. The team coaching included recognising one’s own feelings and provided stabilising methods and methods based on body awareness for children and educators through art, among other things. The stabilising methods aimed at strengthening the educators’ competence in encountering others, communality, safety, security and the sense of agency in the early childhood education community. This helped strengthen the work approach in accordance with the National Core Curriculum for early childhood education and care (OPH 2018), laying the groundwork for a sustainable way of life in accordance with the UN’s Sustainable Development Goals (Suomen YK-liitto 2021). In addition to the ecological perspective, sustainable development also encompasses social and cultural sustainability, which are supported by inclusion, communality, equality and diversity (Kangas et al. 2021, 192–194).

The project contributes to the achievement of the strategic objectives of the LAB University of Applied Sciences by designing sustainable services, social inclusion and safety in everyday life with the partner organisations. The team coaching model was developed in cooperation with early childhood education and care actors and implemented fully online. The main themes of the coaching were emotional and trauma awareness, body awareness, and art as a stabiliser and provider of safety and security. The model consisted of lectures and functional workshops built around these three themes as well as the coaching meetings that supported the workshops. The lectures provided a theoretical foundation for the team’s joint exercises in the functional workshops. After the workshops, the teams applied the working methods they had learned to their work with their designated groups of children. The participants reflected on the experiences with their own teams in the coaching meetings, and ideas were also shared with the other teams. The maintenance and further development of the operating methods learned were also planned and brainstormed. The team coaching module provided researched information and support for the practical measures to apply the information

to the daily activities in early childhood education and care. The participants praised the structure of the coaching, calling it “brilliant”.

The elements of safety and the related challenges in the structures of early childhood education and care

The central purpose of trauma-informed work is to increase the experience of safety and security in interactions in daily life. It takes into account physical, social, psychological and moral security and safety. This categorisation of the four dimensions of safety was presented by Sandra Bloom and Brian Fallanger (2013) in their Sanctuary Model, which was translated by Kati Sarvela (2019).

Physical safety is very important in the early childhood education and care environment, but it may at times be overemphasised, which results in numerous rules that stifle children’s learning. This theme was examined in the portion of the coaching that covered the stabilising effect of art, among other things. It is usually not necessary to control the child’s artistic process in terms of the process output, and the stabilising work method guides the participants to value the process itself and the child’s experience in the process.

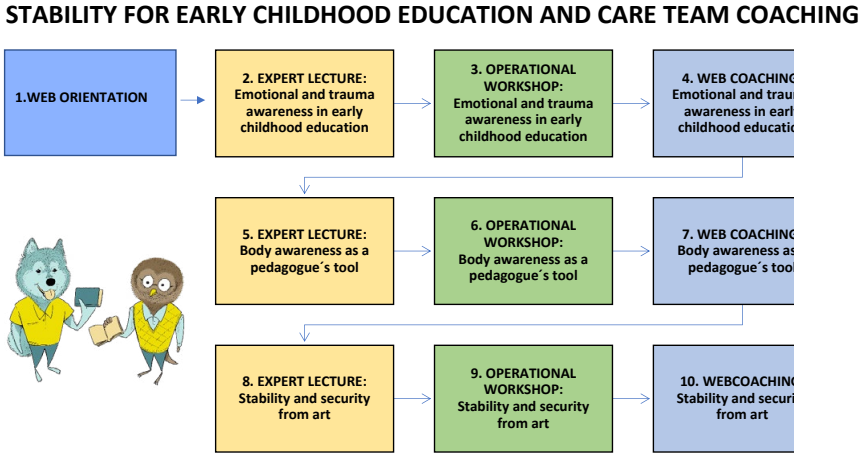

Figure 1. The structure of the “Stability for early childhood education and care” team coaching. (Picture: Pipsa Murto 2021, animal figures Taru Rantanen 2020)

Figure 2. Painting to music in the team coaching art workshop. (Photo: Pipsa Murto 2021)

Social safety stems from shared values and people being able to create and maintain safe, secure and nurturing relationships (Sarvela 2019). Early childhood educators are tasked with providing children with social safety, interacting sensitively, and giving room for the child's initiatives, experience and perspective. To do that, the educators themselves need stability and the experience of safety.

According to Sarvela (2019), psychological safety is manifested as the employee's strong identity that allows them, when necessary, to protect themselves against the harmful impulses of others. They also do not get drawn into behaviour patterns that harm others. The employee's boundaries are sufficiently strong, enabling them to position themselves in the educational community without applying repressive practices to others or becoming repressed themselves.

The early childhood educator's sense of safety and security may be challenged by various stress factors associated with work, such as challenging pedagogical situations with children, matters related to the organisation of work or the demands of their work. According to Sarvela (2019), the experience of moral safety may be compromised if an employee is forced to work against their learned values. In a workplace with moral safety, a person can work knowing that their work is supported and carried by the manager

of the workplace and the entire institution that is behind the activities.

In recent years, measures have been taken to strengthen the quality and guidance of early childhood education and care by reforming the legislation governing early childhood education and preparing the National core curriculum for ECEC (Opetushallitus 2018), which is now a national norm. These measures help employees outline and direct their own work but, on the other hand, also set requirements for their work. The tasks of early childhood education and care are defined in the Act on Early Childhood Education and Care (540/2018) and include securing a safe early childhood education and care environment that promotes learning, and developing the child's cooperation and interpersonal skills, which contribute to the child's interactions in a group of peers. In early childhood education activities that have a pedagogical emphasis, children's development and learning must be supported in a goal-oriented and systematic manner. The activities are also evaluated and developed on a regular basis. The quality of early childhood education and care must be high and personnel competence must be diverse. (Opetushallitus 2018).

The effects of the Act on Early Childhood Education and Care (540/2018) that came into force in 2018 extend beyond the quality requirements of work, to the personnel structure and the qualification criteria. The changed qualification criteria diminished the opportunities of Bachelors of Social Services and practical nurses to be employed in early childhood education and care. At the same time, the number of qualified early childhood education and care teachers has decreased in relation to the workforce demand. The workforce situation has been examined based on a number of separate studies in the Programme for Developing Education and Training Provision and Programmes in Early Childhood Education and Care 2021–2030 (2021, 92), according to which there is a shortage of early childhood education and care teachers almost everywhere in the country. In many units, the lack of qualified employees has resulted in hiring unqualified substitutes with a high turnover, insofar as substitutes are available in the first place. Naturally, this puts a burden on the permanent staff of ECEC-centres. Regardless of the temporary arrangements, the early childhood education and care personnel are obligated to meet the requirements set by law for their work. A burdening work situation easily affects the employee's resources and sense of security, which in turn reflects on their emotion regulation and encounters with children.

The safety scanner of the autonomic nervous system

One of the central aspects of the trauma-informed approach is increasing the understanding of the development of a person's autonomic nervous system and how a person reacts when they feel safe or when they do not feel safe. A person's autonomic (involuntary) nervous system continuously assesses the sense of safety and security in different situations, and the world is a very different place depending on whether the person feels safe or does not feel safe. If the autonomic nervous system deems a situation to be safe, the person functions optimally; they are creative and capable of learning, making sensible decisions and relating to other people in a cooperative and solution-oriented manner. A severe state of stress also compromises the sense of safety. (Leikola et al. 2016).

Being aware of the biological mechanisms behind human behaviour helps to understand stressful situations and to find ways to calm excessive arousal both in oneself and in a child. Stress, or becoming alert in new situations, is a normal and useful reaction in the body. However, if this state of alertness fails to "switch off", the child's budding self-regulation skills deteriorate. This is manifested as severe reactivity and a difficulty to regulate behaviour, emotions and thinking. The child does not learn to regulate their stress activation without help from an adult. (Sainio et al. 2020, 39).

The biological alert system may become overly sensitive as a result of stressful or traumatic situations. An over-aroused stress radar sensitises the amygdala, which triggers a distress signal and, subsequently, becomes activated by the slightest stimulation. The overly alert child's way of observing their surroundings changes: they are on edge and see threats everywhere, even where there are none. The body is in a constant fight-or-flight mode as stress hormones are being pumped into it non-stop. The alert system does not distinguish between a real and an imagined threat. (Sainio et al. 2020, 50-51). A child who is in a state of stress is restless and nervous or, on the other hand, withdrawn and quiet. The connection to the higher-level regulatory functions of the prefrontal cortex shuts off and primitive survival mechanisms take over. This results in the child being unable to receive verbal messages and control their own actions.

The more developed social brain, which is based on language and speech, does not operate. The child is extremely susceptible of either shutting down or exhibiting impulsive, aggressive behaviour. However, a child who is in a fight-or-flight mode is not being deliberately difficult, but they

are controlled by primitive biological models of action. (Sainio et al. 2020, 48).

Chronic stress in the body interferes with the normal functioning of the body and destroys cells in parts of the brain that are still developing. By doing do, it slows down or prevents the development of the self-regulation skills. The harmful effects are the greater the younger the child is when they are exposed to an excessive burden of threats. Chronic stress of the mother during pregnancy affects the foetus, so that the child is already on high alert at birth. Recovering from stress is necessary for self-regulation to strengthen and for the healthy development of the child. (Sainio et al. 2020, 50-51). The trauma-informed approach applies information obtained from studies on adverse childhood experiences (ACEs), which examine the impacts of adverse childhood experiences on health and well-being at a later age.

Supporting the child's self-regulation requires that the educator is aware of their own state of alertness

The child is still practising their emotional regulation skills and hit the limits of their skills many times per day. As their stress system activates, the child needs an adult to support them in self-regulation, to be present and help them calm down. With an adult's help, the child accumulates positive experiences in situations that are challenging to them and, through the repeated successes, gradually learns to cope with the situations independently. (Sajaniemi et al. 2015, 39-41). The sensitivity of an educator and the predictability of their actions have been found to be linked not only to children's regulation skills but also to learning. For an educator to be sensitive and authentically present, it is important that they observe their own state of alertness and recognise their own emotions. (Sainio et al. 2020, 84, 90).

In an optimal state of alertness, the educator is able to act in accordance with the warm interaction method described by Ahonen (2017, 78). In the method, the early childhood educator remains sensitive even in situations in which the child exhibits a strong need for social and emotional support. The educator understands where the child's difficult behaviour stems from and stops and is present in the child's experience, listening to the child and striving to identify with the child's experience of the situation.

In the team coaching, the experience of security was approached by first building a theoretical basis of the activation of stress and the conscious observation of one's own reactions. Stabilising elements, such as compassion, presence and warm interaction,

were also included throughout the process. The functional workshops provided a platform on which to practice observing and recognising one's emotions and reactions in practice through methods of drama, for example. The participants also continued to practice conscious observation in their work, paying special attention to recurring situations that compromised safety and security. The situations were reviewed with a focus on the activation of stress and the associated events, emotions and reactions from both the child's and the grown-up's perspective.

The stress mechanism was illustrated by means of the animal figures of a dog and an owl in the coaching. A barking dog represented the activation of a stress reaction in the brain and the body. An owl symbolised the prefrontal cortex that controls self-regulation, and its role was to be a calm observer of the situation and the environment. According to feedback, the conscious observation enabled the participants to pay more attention to their own emotions and reactions. Processing the topics helped increase the understanding and acceptance of emotional reactions, and the teams integrated the concepts of the dog and the owl in their daily discussions.

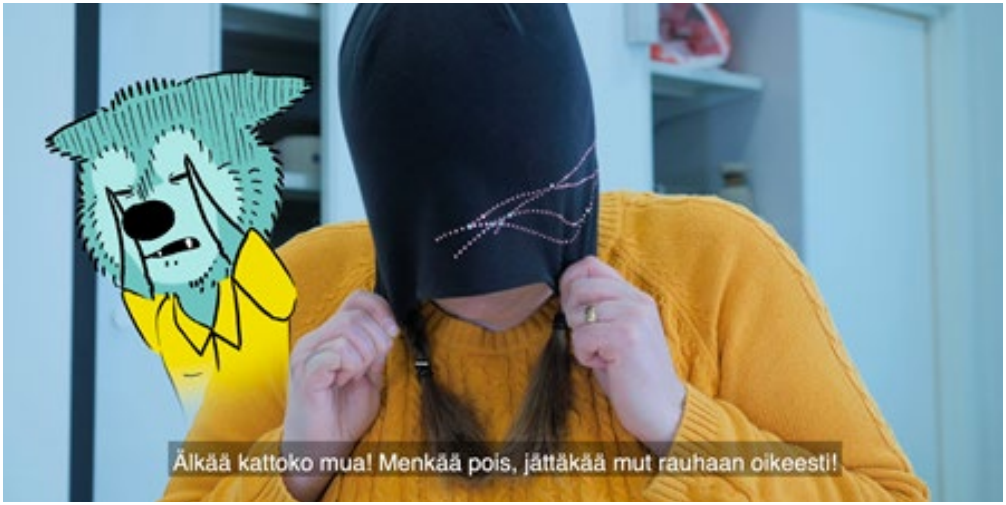

Figure 3. A screenshot of the project workshop's dramatic training video "Apua, liima valuu!". (Video: Minna Kuvajainen, Tiina Vaara and Nea Yli-Paavalniemi 2021)

On the continuum of examining emotional reactions, the coaching proceeded to methods to calm the body-mind. The connection between the state of mind and the body is strong, since the circulation and hormones affect both. As an emotional reaction triggers an alert in the body, the heart rate rises and breathing becomes faster, blood pressure is elevated, and the body becomes tense. When the stressful state continues for an extended period, the individual's functioning weakens and the regulation of emotions and reactions becomes more difficult. (Huotilainen & Peltonen 2017, 130–132). It is important for both the child and the adult to be able to stop and calm down to consciously observe their feelings and sensations. Observing and recognising the bodily messages related to emotions help with regulating one's emotions and adjusting one's behaviour. (Sainio et al. 2020, 59).

The workshops included physical exercises to help achieve an optimal state of alertness and examine the sensations in one's body. After the workshop, the educators were given an assignment to apply their choice of physical exercises in their own groups of children in accordance with the children's needs and skill levels. In the coaching meetings, the teams shared their experiences of various activities that strengthen body awareness. At the end of the team coaching, the participants said they had received good tips on adjusting the state of alertness of both children and educators. Such operating methods included various ways to calm down, such as relaxation and story massage, and reserving time and space for calming down independently. The new or strengthened operating methods helped the educators focus their attention even more on the child's experience.

The trauma-informed approach is often presented as a change of attitude, in which an employee's annoyed response to a child's or client's behaviour, "What on earth is wrong with you?", is transformed into a compassionate "I wonder what has happened to you? What gets activated in you right now? What would restore your sense of safety?". Keeping these questions in mind will also help a professional probe their own experience of "What is happening in me right now?".

Ethical competence as body awareness

The competence shared by all early childhood education and care professionals includes ethical competence and competence related to cooperation and interaction (Varhaiskasvatuksen koulutusten kehittämisfoorumi 2021, 75). Ethical competence includes knowledge of the Convention on the Rights

of the Child and its obligatory nature, familiarity with the value base and the guiding documents of early childhood education and care and compliance with them, as well as the awareness of the principles of privacy protection, information security and confidentiality and compliance with them.

Kirsi Törmi, Doctor of Arts (Dance), (2020) proposes body and trauma awareness as the basis of ethical competence. She points out that it is important to be aware of and recognise "the animal in us", in other words, the reactions of the autonomic nervous system, so that we can work together, negotiate and interact—which are what ethics involves in practice.

Psychological safety makes collective agency, dialogue between various actors, well-being at work, ethics and creativity possible (Törmi 2020). This kind of ethical bodily competence in early childhood education and care refers to the educator being aware of what their own bodily state of alertness is at any given time and how it creates—or fails to create—a sense of safety and security in a group of children or in colleagues. Ethical competence and interpersonal competence are intertwined in a new way through body awareness, and ethical bodily competence becomes visible in the practical interactions.

Törmi (2020) describes how conflicts are inevitable in working communities, because they are places where many different values, assumptions and impressions come together, and many of them may be unconscious and therefore also go unchallenged. In that situation, the activity of the prefrontal cortex of the brain is invaluable: we need a strong sense of reality and cognitive and logical thinking. However, without a sense of safety and security, this is not possible. When people have a sense of safety, they automatically rely on their social system, or other people, to help them through challenging situations. If they have no sense of safety and an interaction is perceived to be too stressful, exclusive or threatening, our nervous system's instinctive protection modes kick in: first fight or flight, and if that does not work, we resort to becoming withdrawn and frozen.

The better one understands one's own modes of defence and protection, the better one can influence them. It is possible to understand the emotions and bodily sensations stirred by interaction and to influence the level of reciprocity one is contributing to by one's own behaviour. (Törmi 2020). Thus, early childhood education and care professionals should have the ethical obligation to invoke safety and security on the nervous system level

not only in themselves but also in their colleagues. This will make it possible to resolve conflicts and other challenging interpersonal situations together by relying on the team's extensive understanding. To develop this skill requires compassion towards oneself as well, since teaching self-knowledge and emotional skills as part of the school system is still a fairly new phenomenon.

"All training should be completed as a team since this is teamwork"

The Finnish National Agency for Education and the Finnish Education Evaluation Centre encourage personnel training in early childhood education and care to cover the entire pedagogical personnel (Peltoniemi 2020). In early childhood education and care, work is usually carried out in teams of a few people, which is why shared views and operating methods play a key role. Ahonen & Roos (2019, 111) suggest that in the development of early childhood education and care attention should be paid specifically to the development of the functioning of the team instead of the content of the activities. When the team members commit to the shared objectives and learning, the team has the opportunity to grow into a functioning whole. A team that is learning promotes the personal development of all its members, in addition to the collective development of the team. (Parrila & Fonsén 2017, 83).

The teams participated in the "Stability for early childhood education and care" team coaching together as teams. Based on participant feedback, the shared journey provided the teams with tools for working together and enabled co-creation and joint development. Being able to share one's experiences with others strengthened the team and boosted team spirit. The participants said they had learned to be more sensitive to the emotional states of both children and other adults. Acceptance in the interaction between the educators had increased. The teams said the coaching had provided them with much-needed time for discussions and consideration as a team. The themes were studied together, and it was easy to discuss the shared topics and to deliberate and reflect on the importance of the topics in terms of one's designated group of children. The increased discussions lowered the threshold to try new things with the groups of children. The shared training allowed for immediate application of the matters learned to the activities of the team, and practical planning began while the training content was still fresh in everyone's mind.

According to Kangas et al. (2021, 194) social and cultural sustainability in early childhood education and care are

built through the pedagogy of inclusion. Communality is strengthened by conscious sensitive interaction and by treating others as equals. Sensitive interaction and equality were the focus of the project's team coaching. Regardless of the previous trauma or stress experiences that a child, family or employees may have had, everyone has the right to be valued and encountered with respect in safe interactions.

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Maisa Anttila, Taija Nöjd

Experiential tools for enhancing the impact of gender segregation training

Gender segregation means that professions and educational fields are segregated by gender. Gender segregation in education and working life remains strong in Finland. In the domain of knowledge, segregation in Finland is below the European average (EIGE 2020). Gender segregation needs to be reduced to decrease the gender pay gap and increase employment and individual well-being, for example (Kauhanen & Riukula 2019; Microsoft 2017; Finnish Institute for Health and Welfare 2018). Achieving gender equality is a global objective with significant impacts on sustainable ecological and economic development as well (Agenda 2030). The most female-dominated fields are in social care and healthcare and education, and the most male-dominated disciplines are science, technology, engineering, and mathematics (STEM) (Suomen virallinen tilasto (SVT) 2018; 2019).

The reasons for gendered occupational choices are various but difficult to recognise, for they are often structural and part of our culture. The segregation of vocational choices already begins in the socialisation to gender. Other reasons are the structures of working life, the state of gender equality in general, and the various factors influencing career choices.

Experiences outside the school like hobbies are gendered, and boys and girls become generally familiar with different fields and occupations (Saari & Lahtinen 2019; Aapola-Kari et al. 2019). With regards to school, adolescents tend to believe that some skills are more natural for the other gender (TAT 2017), and there are gendered differences in performance in various school subjects like reading, mathematics, and science (OECD 2018). Self-efficacy and confidence do not necessarily follow performance. Girls typically have lower

self-efficacy, especially in “masculine” subjects like mathematics and science, which may partly explain why fewer women apply for STEM careers even though they perform sufficiently well for the career (OECD 2015).

Social and cultural factors also matter. A sense of belonging and perceptions of similarity to the stereotypes of the field’s culture (people, work tasks, and values) affect career choices and interest (Cheryan et al. 2015; Cheryan & Plaut 2010). We compare ourselves with the image and stereotype of a person working in the field to evaluate whether or not we fit (Rommes et al. 2007). Social norms affect us all and especially young people, often unconsciously. Research confirms that adolescents make more stereotypical and less atypical choices (Saari & Lahtinen 2019, 46). Role models are needed to encourage applications for an atypical field. It is crucial to provide enough information and experiences of different and atypical careers and occupations to avoid misleading stereotypes. It is equally important to break down the unequal cultures that still exist in some fields and workplaces.

The Roleplay (2020–2022) project by LAB University of Applied Sciences and Outward Bound Finland focuses on breaking down gendered divisions in education and working life. The Roleplay project is funded by the European Social Fund (Leverage from the EU 2014–2020). In this project, we train and work with teachers, counsellors, educators, and youth workers to develop and provide concrete tools to address segregation among young people. Career counsellors and teachers remain important information sources for educational choices. Their meaning is highlighted during the transition from basic education to general upper secondary or vocational education (TAT 2020). It is difficult to recognise and verbalise the meaning of gender for one’s career choice (Lahtinen et al. 2019, 147). Concrete action and tools are therefore needed to promote gender-conscious choices. Developing and piloting a tool is also important for learning about gender segregation – learning by doing. Tools are developed as part of the project’s training programme for education and guidance professionals. In this article, we consider how piloting practical tools may enhance the impact of gender segregation training for adults.

Developing tools to mitigate gender segregation

In the Roleplay project, tools are developed collaboratively with the project’s educators and participants (professionals working with young people). To support all students equally, teachers and other professionals need to reflect on their own gender stereotypes and

gain knowledge of gender differences in education and teaching/learning methods (Kollmayer et al. 2020). In the Roleplay training programme, the process of developing tools is preceded by learning about social norms, roles and stereotypes, and experiential pedagogy. The participants familiarise themselves with the various reasons for segregation, and how to mitigate it. Learning material presents gender equality tools developed by previous projects and different organisations. The training programme is built on the following principles, which have been found successful in promoting gender-equal attitudes and action among teachers (Kollmayer et al. 2020):

- reflection on one's own attitudes and stereotypes (subjective perspective)
- theoretical material and practical exercises (individual, pair, and groupwork)
- transfer: piloting, testing and integrating materials, content and practical tools in one's own working environment.

Before designing the tool for their own work, each participant had to observe their own actions, attitudes and work environment from the perspective of gender segregation and gender equality. To do this, the project provided an observation form with ready-made statements about gender-aware teaching/counselling, organisational culture, and communication. They also interviewed young people to discover how adolescents saw gender issues from their own perspective. The aim was to identify how they could support adolescents to make (gender-) aware career choices. During a training weekend outdoors, the participants developed and guided a concrete tool in small groups. Developing and testing a practical tool is a way of enforcing the transfer of the learned content and is a crucial part of the learning process in the Roleplay training programme.

How to develop tools to mitigate gender segregation

There are many reasons behind gendered occupations, and the process of developing tools begins with choosing the factor you wish to address and affect. A requirement for the tool to be effective is to have a clearly defined objective (Table 1). In the case of tools developed to mitigate gender segregation, the desired effect or change can be a change in attitudes or improved self-knowledge.

Figure 1. One way to categorise tools for more equal career choices. (Table: Maisa Anttila & Taina Nöjd 2021)

OBJECTIVE/TOPIC	MEANS
Social norms, gender roles and stereotypes	Tools and methods that enhance a conscious and critical approach to norms, roles, and stereotypes
Occupations and fields with a gender-aware approach	Getting to know different and atypical fields and careers either by trying different occupations and fields in practice or by seeking information, career stories, and role models
Gender equality in general	Gender segregation can be mitigated by reducing gender prejudice and discrimination
Enhancement of self-knowledge	Knowing one's strengths, interests, values, and abilities is fundamental for an aware career choice (even though it is not necessarily enough to break down segregation)
Profession- or career-related teaching	Enhancing adolescents' career awareness with career-related teaching and instructions, by introducing and handling careers while teaching school subjects, for example
Organisational development	Enhancing gender-aware guidance and teaching and gender-equal attitudes in one's organisation

The Roleplay project's pedagogical framework is experiential pedagogy, which is concerned with experiential learning and development in the outdoors (Outward Bound International 2021). Experiential pedagogy follows the social constructivist learning theory, and experiential and reflective approaches (Marttila 2020): learners collaborate, and all have the opportunity to participate, feeling involved and included in the learning practice. Learning is social, subjective, experience-based, and learner-centred (Pylkkä). The focus is on learning by doing. Learners play an active role, and the learning task or practice includes pair work or groupwork, communication, and cooperation between learners. In an ideal situation, the learning process is holistic, meaning that all the following are involved: hand (active doing), heart (emotions), and mind (thinking) (Karppinen 2005). The learning practices typically consist of the introduction of practice, the practice itself, and reflection as an important part of the learning.

Evaluation of the effectiveness of the Roleplay training programme and tools

We also need to evaluate the effectiveness of the process and tools. To evaluate effectiveness, we need to understand what we mean by it. The purpose of evaluating effectiveness is simply to discover if the desired goals are being met or not (Robson & Lindqvist 2001, 85–86). On the other hand, effectiveness refers to results or effects, as well as to the process of how they are generated (Dahler-Larsen 2005, 7).

A crucial concept is change: effects are manifested and can be seen as changes that take place. Evaluating effectiveness is to recognise these changes and decide whether the targeted changes have been realised (Robson & Lindqvist 2001, 85–86). The main goal of the Roleplay training programme is to change the working patterns of the professionals who work with young people. Through the coaching programme, participants become more aware of the factors that influence gender segregation, and have and use a variety of methods for its mitigation. How these methods or interventions produce these effects or changes, and in what conditions, also needs to be considered. Both results and processes need to be examined when evaluating tools developed to mitigate gender segregation.

The tools are also evaluated from the perspective of gender equality by reflecting on the tool participants have to consider, what its mechanisms are, and how it reduces segregation. The purpose of the evaluation is to assess the tool and process for its development and verbalise how the tool mitigates

segregation. The questions were: What is the meaning of gender for the tool? How are the different needs and experiences of genders considered? Can different genders participate and use the tool? How does the tool mitigate gender roles or stereotypes? How does the tool mitigate gender segregation in education and working life? How does the tool encourage and support gender-aware educational and career choices? How does the tool enhance gender equality in general? And how is the tool is used after the pilot? (Rakennerahastot 2015).

How practical tools foster the change to a gender-aware approach

To evaluate the Roleplay training programme's effectiveness, feedback was collected from the participants. Thirteen participants were involved in the training programme's first pilot. The observation task conducted by programme participants revealed there was a lack of concrete tools teachers, educators, and counsellors could use to mitigate segregation. Based on the feedback questionnaire (N=10), the Roleplay training programme's participants became more aware of the factors that influenced gender segregation, and they at least to some extent received methods to mitigate segregation in their own work (Anttila & Nöjd 2021).

Although this was not specifically asked about, some participants expressed the view that developing the tool enhanced the transfer of the learned knowledge and skills into practice. On the other hand, some participants felt that even more tools and methods could have been integrated with the Roleplay training programme. Some participants cooperated with their colleagues to build and test the tool, and their colleagues participated in the pilot. This will contribute to the project's effectiveness when gender segregation tools and knowledge are distributed more widely in the organisations.

There are many ways to influence segregation. Many of the tools developed so far focus on norms, roles, and/or stereotypes. There are also tools that enhance self-knowledge or encourage thinking about careers from a gender-aware perspective. Concerning effectiveness, it is important that a variety of tools is developed to cover all the aspects of gender segregation (Table 1). We also wish to highlight hands-on experiences of various occupations, fields, and work tasks, because this enables the replacement of (misleading) mental images and beliefs with experience-based knowledge.

Discussion and conclusions

Through the training programme, professionals working with young people become more aware of the factors influencing gender segregation, and a variety of methods is made available to address and mitigate it in their own work. In this project, we assess the impact of the training programme through a feedback questionnaire and observations made during training. The questionnaire allows us to assess the immediate effects on participants' attitudes, but the output is subjective and limited to participants' own perceptions. It is impossible to observe the changes in working patterns in the long term. However, developing and piloting a tool during training enforces the transfer of the learned content to one's own work. We also support long-term effectiveness later by sending participants the commitment letter they wrote at the end of the training programme. Participants' own motivation plays a crucial role in the extent to which they adopt new tools during the training programme, and if they use the tools after it has ended.

The effectiveness of the tools should already be taken into account at the beginning of the development process. The impact mechanisms are thus thoroughly considered. The tools' effectiveness is evaluated via feedback from the young people and colleagues, and by using the previously provided questions about gender equality: these are examined by both the participants in developing tools and the project personnel. The funding agency also uses these questions to evaluate the tools developed in projects concerning gender equality. Organisation-wide effects in participants' organisations are difficult to assess. Some participants were successful at collecting feedback from their colleagues; others lacked the time or opportunity. The same challenges were confronted in collecting feedback from adolescents.

Interventions are often based on a presupposition of causality: that a certain intervention will lead to certain results or effects (Dahler-Larsen 2004, 7–8). This is defined as the mechanism that makes the intervention work, and how the intervention and the effects are related (Pawson & Tilley 1997). However, we should assess the different variables, conditions, or contexts that might explain the results or effects, or hinder their appearance (Dahler-Larsen 2004; Pawson & Tilley 1997). What makes examining effectiveness of tools complicated in real life is the difficulty of asserting that the perceived effects have resulted from a certain intervention. With the available evaluation methods, it is impossible to evaluate if adolescents really choose careers with an awareness of gender because of the

tools and/or if the tools reduce unemployment. However, we anticipate that by enhancing more (gender-) aware career choices, the project can improve adolescents' employment opportunities in the long term.

A general problem in short-term projects is the impossibility of long-term evaluation. Gender segregation is a widespread phenomenon which changes slowly. For example, long-term effects can be spotted in statistics and attitudes (conveyed in used term of speech, the actions of young people, and teachers, and counsellors etc., for example), but these can rarely be linked to specific projects. However, a wider impact/effect is pursued: the developed tools are promoted to a wider public via workshops and seminars during the project. Some participants in the training programme have also contributed to the workshops by presenting the tools they have piloted.

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Mari Rask, Maina Seppälä

Equality work required in the social services and healthcare sector: Outcomes of the Mainstreaming Gender in Social and Health Care Training project

Introduction

The project outcomes will include a method for assessing the realisation of equality in the provision of social services and healthcare education, a mentor operating model, as well as an assessment and modelling of the mainstreaming process. This article focuses on the outcomes of the "Mainstreaming Gender in Social and Health Care Training" project and the achieved impacts of the work carried out in the project.

The main objective of "Mainstreaming Gender in Social and Health Care Training" is to promote gender equality. Another objective of the project is to increase the interest of men in higher education in the social services and healthcare sector, and in the variety of duties for which it prepares students, and subsequently, to increase the number of men in the application and admission stages in various degree programmes. The long-term objective is to increase equality in the personnel structure of working life. The project helps reduce gender stereotypes and provide information that increases the interest of men in the career opportunities provided by the social services and healthcare sector. The period of the project, funded by the European Social Fund, is 2019–2021.

The measures taken in the project reinforce the importance of equality in the different levels of education and in working life. The view of the suitability of occupations for different genders will become less stereotypical,

and the information about the education offered in the social services and healthcare sector will reach potential male applicants better and offer more opportunities for men to be admitted to studies. In the long term, the project will especially strengthen the employment and career development of men in the social services and healthcare sector. The strengthening of the equality perspective in workplaces in the social services and healthcare sector will promote the experiences of well-being at work among male employees. At the same time, the well-being of working communities, the status of the social services and healthcare sector and the position of clients will improve as social and healthcare services are also increasingly produced and provided by men.

Promoting equality through several measures

The LAB University of Applied Sciences introduced a partially grade-based and electronic admission system, and the project examined the effects of the new admission system on student admissions. One of the measures taken in the project was to prepare a report on the impacts of the introduction of a grade-based and electronic student admission on gender distribution. The new admission method was implemented in the joint application round in the autumn of 2019, meaning the follow-up period was still short when this article was written in the spring of 2021. The report covered factors influencing admission, including the eligibility to apply as well as the selection based on the applicant's school certificate or an electronic entrance examination. The review included the nursing, paramedics, physiotherapist and social services programmes at five universities of applied sciences in different parts of Finland. According to the report, the electronic entrance examination tentatively seems to affect the sector's gender distribution. It can be concluded that more male applicants were selected for the aforementioned fields of education than previously. In particular, this trend was observed in social services education.

Previously, admission through a conventional entrance examination may have also been influenced by stereotypical conceptions of the appearance, habitus, gender or interaction skills of the applicants. In the electronic entrance examination, the playing field for the applicants' persons is more level.

It should be possible to influence the selection points related to career choices earlier than in the application stage and entrance examinations. With this in mind, the project has produced marketing materials for use on multiple channels such as podcast interviews. The podcasts were recorded in nursing

units, educational institutions and in the Finnish Defence Forces. The interview content focused on reaching potential male applicants and increasing the appeal of education in the social services and healthcare sector.

The interviewees emphasised the meaningfulness of work and the secure employment outlook as reasons for seeking education in the social services and healthcare sector. Many of them also highlighted the variety of specialisation options and the diverse career paths available in the sector. In line with previous results, the interviews indicated that the experience of the meaningfulness of work and professionalism must be emphasised more than previously in marketing. Other factors that should be covered more in marketing and when presenting the social services and healthcare sector in study guidance, among other things, included the wide variety of positions, the versatility of work, and the career advancement opportunities in the sector.

The podcast interviews were used as a basis of the materials prepared for the Finnish Defence Forces to use in their semi-annual information events for conscripts concerning education possibilities. Materials have also been sent to the Civilian Service Center to be used in study guidance and education information events. In the South Karelia region, materials have been distributed to institutions providing upper secondary education, and in Päijät-Häme to Salpaus Further Education and to upper secondary schools in support of study guidance and education information events.

The project has cooperated with the "You can! Girls and Technology" project in particular, which is coordinated by Oulu University of Applied Sciences and aims to attract more girls to the technology sector. A webinar targeting comprehensive school pupils and study counsellors has been jointly prepared. From the perspective of the "Mainstreaming Gender in Social and Health Care Training" project, the goal of the webinar was to reach students and study counsellors in upper secondary education and share information about the programmes available in the social services and healthcare sector, and about including it in the study counselling provided to boys. The cooperation outcomes also include packages of exercises that study counsellors can use in teaching, other occasions with students or in study counselling. The work package on the "Mainstreaming Gender in Social and Health Care Training" project included podcasts and exercises designed for them. The podcast interviews were transformed into PowerPoint presentations that included exercises for students. These presentations could be easily integrated in teaching.

Once equality increases, there will no longer be a need for gender-specific marketing. Instead, different vocations and their special characteristics, requirements and professional skills can be discussed without gender emphases, focusing on the characteristics of the sector instead. This would better serve a young person seeking a profession that would enable them to best apply their abilities and skills, but who does not consider gender to be a decisive factor in their career choice.

A mentoring model for men already studying in the sector has also been created in the project. The intention is to find a method that supports and encourages them to stay in the sector in the future. Working in a predominantly female sector and the various characteristics of the sector should already be covered during the studies. The mentoring model focuses on preventing interruptions in men's studies and ensuring that they graduate and integrate in social services and healthcare sector positions. The mentoring model is comprehensive and covers the mentoring terminology, content and objectives, as well as coaching and working life mentoring. The perspective of a working life mentor is particularly meaningful.

The intention is to prepare a model pilot, which is also part of the study unit concerning professional growth included in the basic studies of the social services and healthcare degree programmes, and which will subsequently become part of the education. The study unit concerning professional growth incorporates the mentoring model's basic idea of life-long learning, career and education paths and a smooth transition from education to working life. For its part, the mentoring model is built on working life mentoring, in which workplace representatives such as counsellors and employers offer the students orientation in the duties to be performed during a work placement. In part, the model is based on the perspective of education in which the student is provided support in graduating within the planned schedule and finding the motivation to study.

The perspectives and topics used to attract men to apply for social services and healthcare education and complete their degree in the targeted schedule, as well as to discuss the meaningfulness of work in a vocational context, will be collected and included in the mentoring model to be implemented on an electronic platform. The mentoring model is a multidimensional and multi-layered method of increasing the number of men in the social services and healthcare sector degree programmes and in working life contexts.

Diverse opportunities, jobs and specialisation options in the social services and healthcare sector

Gender-related matters are important in both society and the labour market. Economic fluctuations affect employment in the technology sector, for example. Employment is a marketing factor that is linked to the appeal of the social services and healthcare sector. It is a factor that may be connected to the sector a person chooses to study (Alanko & Orjasniemi 2018, 152). The variety of opportunities available in the social services and healthcare sector in terms of employment, positions and specialisation are also definitely attraction factors, and resources should be allocated to marketing them.

The meaningfulness of work is the most important attraction factor in the social services and healthcare sector. How individual experiences the meaning of work, and how much emphasis they place on it, is personal and subjective. The main reasons for applying for studies and seeking employment in the social services and healthcare sector are the sense of fulfilment provided by helping others, the diversity of encounters and the pursuit of meaningful work (Haunberger 2019).

The increase in the number of men in social services and healthcare sector positions will help to take male clients better into consideration as men. The diversification of the working community structure gives opportunities to encounter clients and offer services in a versatile manner. This is considered a positive factor when addressing the variety of challenges clients face, and clients also find it positive to be able to approach or process their situation from a male perspective. In such a comprehensive client encounter, the feeling of being encountered and heard is important (Peitsalo 2015). Meaningful client experiences contribute to men applying for social services and healthcare education, and their staying in the sector.

The project examined the experiences of social services and healthcare sector clients, and their families and friends regarding the importance of gender from the perspective of the user of social and healthcare services. It was interesting that almost without exception, the survey clients say that gender has no impact on the experience at the beginning of the survey. However, when asked to provide concrete examples and situations in which gender does matter, personal and intimate issues were emphasised. Clinical skills, social and emotional skills, and experience were considered the most important characteristics of employees. According to the respondents, clinical skills were not gender-specific, but it

was more likely that a member of the same gender would be better able to identify with what the patient was going through when their issue was highly personal.

A conclusion that can be drawn from the survey is that the ethos of equality is so strong in Finland that it took perceptiveness and thinking outside the box to view the importance of gender in a care situation, for example. This means that equality as a value is so important that a person likes to say that gender does not make a difference to them in any situation, but interaction skills, clinical skills or work experience matter more. However, on further examination, several different situations can be identified where gender has importance after all. The importance may be value-free in that a male or female nurse is not considered to be worse or better, but the importance of gender stems from the client's own experience that the situation feels more natural or easier when the professional at the appointment is of the same gender – or, depending on the situation, of the other gender. In some cases, this also affects the success of treatment if the patient feels uncomfortable listing all their symptoms, or if they do not trust the professional, for example.

A change of attitude requires extensive discussion in society of social services and healthcare jobs

Each project pursues its objectives by taking specific measures, and the "Mainstreaming Gender in Social and Health Care Training" project is no exception. The project is also connected with more extensive development work in society, which in this case focuses on increasing equality between the genders in the labour market. One of the premises of equality work is the reducing of segregation. Various projects and the related measures, workshops and information provision can add volume and coverage to the discussion in society. Sustainable solutions must also be sought to increase the appeal of vocational education and training in the social services and healthcare sector. One solution is projects that specifically cover and promote equality and non-discrimination, and they help reform the planning of education in various educational institutions. In the same context, sectors in which the gender distribution is not equal, and which will experience a shortage of labour in the future, must be identified (Opetus- ja kulttuuriministeriö 2010, 19).

The objective of the "Mainstreaming Gender in Social and Health Care Training" project is to promote gender

equality. In addition, the project aims to increase the interest of men in higher education in the social services and healthcare sector. Social services and healthcare education offers work that is varied and diverse. However, our society has a stereotypical view of what working in the social services and healthcare sector entails, and who is suitable to work in it. Dispelling these stereotypes still requires the promotion of equality on several fronts. In the context of equality, comprehensive well-being must also be taken into consideration. The strengthening of the equality perspective in workplaces in the social services and healthcare sector will promote the experiences of well-being at work among male employees. At the same time, the well-being of working communities, the status of the social services and healthcare sector in the labour market, and the position of clients will improve as social and healthcare services are produced and provided by men.

Equality has been studied extensively from the perspective of working life, but the studies often talk about masculine indicators of success. As a result, the work to increase equality often targets masculine sectors, where the goal is to increase the number of women. The low number of men in predominantly female sectors is a known fact, but it has raised considerably less concern and received less attention (Opetus- ja kulttuuriministeriö 2010, 19). However, it is noteworthy that the structures of vocations must change for working life to become more equal. Structural changes have already taken place, and gender boundaries are being increasingly transcended in different sectors year after year. Statistically, women move to predominantly male sectors more than vice versa (Alanko & Orjasniemi 2018, 152). Furthermore, minimal numbers of men apply for studies in the social services and healthcare sector. The underlying factors include pay, impressions, preconceived ideas and attitudes (Tenkanen 2013).

The project has created working life networks. It has also examined and analysed development needs. The project has also partnered with universities of applied sciences in Switzerland and Iceland, and established good practices to attract men into social services and healthcare education. The situation in Iceland has been considered very poor due to the prevailing gender stereotypes. Social services and healthcare positions are thought of as women's work, and it is considered a bad career move for men to seek employment in the sector. In Iceland, the discussion about attitudes and values is seen as a social challenge that should be included in in the discussion in society at large. The social services and healthcare

sector is also predominantly female in Switzerland, and recruiting men into the sector there has been deemed extremely difficult. Changing social attitudes requires positive marketing that appeals to men. However, this change happens slowly, and requires not both time and patience.

Men are also a minority as clients of the social services and healthcare sector, because they seek help in the sector less than women. In particular, seeking help for extremely personal issues is considerably less common among men than women. There are several reasons for this, but masculine role expectations and the structures of the service system are factors. Against this backdrop, there is demand for gender-specific vocational well-being competence in the social services and healthcare sector in particular. In gender-specific vocational well-being competence, it is important to maintain a natural relationship with the masculine identity and the cultural concept of being a man. This calls for vocational competence and awareness of the impact of gender on the part of all stakeholders in different services in which men are encountered. The increase of male employees in different sectors benefits the service system as a whole.

In social services and healthcare positions, considering every client from the starting point of each individual is of the utmost importance. Male-specific assistance provides considerable benefits in encountering a male patient and reviewing their situation (Peitsalo 2015).

However, for example, a male-specific service does not mean focusing excessively on masculinity but recognising that the professionals providing the services are predominantly female, which means that their way of doing things, or the language they use may not be something the client is used to. The "Miestutkimuksen metodologiaa" publication on the methodology of men's studies is therefore a welcome addition that sheds light on the sensitive approaches required when encountering men in different contexts. The publication examines the generation of information concerning men, boys and masculinity, as well as the relationship between the concepts, theories and methods applied to studying men (Aho & Nieminen & Salo 2021). This publication has been applied in analysing the results of the "Mainstreaming Gender in Social and Health Care Training" project, because it offers modern concepts and accurate definitions for partly outdated contexts concerning gender segregation.

Reducing segregation based on gender in the social services and healthcare sector should start by paying attention to the gender sensitivity of

education, which is taken into account in marketing, teaching methods and teaching content in the sector. At the level of society, this change would require letting go of the stereotypical idea that some vocations are categorised by gender, for example. Each person should be seen as an individual, and gender roles should not define their characteristics or actions. Changes within the sector and in society would make it possible for men to pursue careers in the social services and healthcare sector without having to worry about potential stereotypes. The reduction of gender segregation in the social services and healthcare sector would in itself improve working conditions, management, pay and education in the sector. Reduced segregation in the long run would also reform the discussion about costs incurred by family leave and distribute the expenses of parental leaves more evenly between different employers.

Structural notions

From the gender perspective, mainstreaming means the promotion of equality in all activities related to society (Sosiaali- ja terveysministeriö 2020). An increase in the number of men in social services and healthcare positions will help the personnel structure become more equal. A diverse personnel structure can address different kinds of client needs and offer diverse services (Laukkanen, 2017, pp. 101–104).

In Finland, social services and healthcare positions have an extensive impact on employment. Since 2017, the public sector has experienced the highest increase in the number of jobs, and one in five jobs is generated in the private social services and healthcare sector, with 19,000 new jobs generated in the last two years (Erkkilä 2020). Male-dominated industries have lost a great many jobs over the years. By contrast, the social services and healthcare sector is suffering from a shortage of new employees. The structures of vocations are changing, and some transfer between predominantly female and predominantly male sectors across gender boundaries has already taken place. According to statistics, however, women have taken the lead in moving to jobs traditionally taken care of by men, rather than the other way around (Tilastokeskus 2015). This may in part be due to attitudes: predominantly male sectors are generally valued, and pay in those sectors is often thought to be better. Although during the last decade, the emphasis has been on an individual's own choices, and individuals do not necessarily simply drift into their vocations, the image of the social services and healthcare sector is not exactly attractive to people seeking their own paths.

According to Alanko and Orjasniemi (2018), gender questions can be considered both social and labour market issues. Technical sectors are sensitive to economic fluctuations, which is why the employment outlook in them has become somewhat unstable. This has a direct impact on those currently planning their educational paths and careers choosing the field of their studies based on labour market demands. Social and health care education could prove to be a strong choice particularly among men, given that secure employment causes an increasing number of men to choose a field that is heavily female-dominated (Alanko & Orjasniemi 2018, 152).

A study was launched in the "Mainstreaming Gender in Social and Health Care Training" project with the aim of developing pedagogical solutions meeting the needs of men studying in a higher education institution. The study began by examining how men ended up in the social services sector, and what factors had influenced them in selecting the sector and shaped their career path. The aim was to understand and find potential methods to increase the number of men in the social services and healthcare studies, and to support them. Solutions and methods were especially sought for different problem situations regarding studies. However, this approach was deemed outdated.

The students' views were applied in the development work to determine what options and operating methods met the learning needs of male students in particular. A view shared by the students was that pedagogical special needs were not gender-specific. Both male and female students have a wide variety of learning styles. Students need more diverse pedagogical solutions that take different ways of learning into account. They would like teachers to treat them equally and fairly in teaching situations. As students, they do not want to be noticed specifically on account of their gender.

Instead, the assessment of gender impacts could be a functioning method that takes the students' different starting points and their effects on studies into account. As the name implies, it would assess the different impacts of gender. This method could also be applied in educational institutions. A concept known from local politics is child impact assessment, which examines the impact of various services for families with children, daycare centres, the location of schools, leisure time facilities or public transport on families with children and their life in the municipality in question. To eliminate the dated attitudes of *boys will be boys* and *nice girls with good grades* from higher education for good, the educational institutions could take a broader look

at factors related to student well-being and equality through a gender impact assessment (Terveyden ja hyvinvoinnin laitos 2021). One of the separate measures within the "Mainstreaming Gender in Social and Health Care Training" project is a model of gender impact assessment suitable for higher education institutions . The model will be published in the "Mainstreaming Gender in Social and Health Care Training" project's final publication, scheduled for completion in the autumn of 2021. The publication will include all the key results of the project and its outputs, models, articles and blogs. The electronic publication will be broadly available. The "Mainstreaming Gender in Social and Health Care Training" project will market and introduce the publication and its contents before the project ends in October–November.

The project has contributed to the promotion of gender equality. The project activities have been closely connected with the appeal of the social services and healthcare sector, career choices and studying to work in the sector. The sector is highly divided by gender, and the project activities have been necessary to promote equality. The project's key objectives have catered to the strategic objectives of the LAB University of Applied Sciences of acting boldly and fairly, and building a better world of work.

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Tarja Kempe-Hakkarainen, Virve Pirttikoski, Tiia Kangassalo

Individual learning in Participation Block – The process of student-driven accreditation of prior learning for social services students

The Participation Block project involves developing, in cooperation with representatives of working life, a process for the accreditation of prior learning in some other way ('accreditation') and learning environments which support the working life skills of LAB University of Applied Sciences' social services students and their smooth transition to working life. Participation Block offers students inclusive learning environments which enable the achievement of diverse learning opportunities and results. The project is a collaborative effort, implemented by LAB University of Applied Sciences, Lahden Diakonialaitos (DILA) and Harjulan Setlementti (LAB University of Applied Sciences 2021). This article provides an introduction to the student-driven process of accreditation and the operators' tasks at various stages of the process.

Accreditation is an alternative way of completing studies, in which the learning covered by a study unit is brought to workplaces. In Participation Block, the learning differs from the traditional model of accreditation in that the student is not in an employment relationship, but rather in the role of a student, in the workplace (Kempe-Hakkarainen and Pirttikoski 2019). The working environment allows the completion of work placement periods, thesis work and other study units included in a social services degree. This article describes an alternative way of completing studies, particularly

in terms of study units in which the student has obtained skills in voluntary work, human rights and cultural diversity, as well as integration. This method of completion offers a flexible alternative to students who have not completed all their studies at the same pace as their own study group. In accreditation, the teacher and working life provide the students with individual support throughout the process.

DILA and Harjula as Participation Block's working environments

Successful accreditation processes require working environments in which students can safely practise encounters with customers and enhance their working life skills while learning new things. Participation Block's working environment is made up of DILA's Dilakortteli and the work with immigrants at Harjulan Setlementti. DILA and Harjula are non-profit third-sector operators providing a variety of educational as well as social and health care services. In addition, both operators aim to provide services to people who are at risk of remaining beyond the reach of other social aid due to their more vulnerable position (Harjulan setlementti ry. 2021; Lahden Diakonialaitos 2021).

At DILA, Participation Block's working environment consists of Dilakortteli, which provides diverse voluntary activities, employment services and services for the elderly, as well as early childhood education (Atkinson and Eerola 2020, 114–115; Lahden Diakonialaitos 2021). In Harjula, the pilot working environment of Participation Block is composed of various forms of work with immigrants, which include courses on the Finnish language and culture (Harjulan setlementti, 2021). The working environments offered to students by DILA and Harjula are diverse, given that they are home to the activities of many different groups, including children, youth, families, adults, senior citizens, foreign-born people and voluntary workers. The diverse working environments and working life projects give students an opportunity to study according to their own skillsets and capacity as part of a multiprofessional team.

The student, teacher, working life instructor and Participation Block's contact persons as active operators

The accreditation process requires smooth cooperation between the university of applied sciences and working life, given that these parties serve as the enablers, organisers and supporters of the learning. In the Participation Block project, the student and teacher are supported by the university of applied sciences' contact person, who is an expert teacher in working life pedagogy. The expert teacher coordinates

Figure 1. Participation Block as a working environment. (Picture: Oona Rouhiainen)

the accreditation and keeps in touch with both the student and working life. The workplace's contact persons at DILA and Harjula serve as partners to the contact person at the university of applied sciences. The workplace's contact person coordinates the accreditation process in the working environment, acting as an important link between the teacher and working life instructor.

All the operators play a significant role in ensuring the success of the accreditation in different stages of the process. In accreditation, the student is the owner of and active operator in the learning process. The student is supported by the teacher, who coordinates the overall process (Kempe-Hakkarainen and Pirttikoski 2020). In addition to expertise in their own field of work, the teacher functions as an instructor and coach in the learning process, also supporting the working life instructor in the student's guidance (Pakkala and Kettunen 2020, 79; Airila et al. 2019, 29). The working life instructor introduces the student to the practicalities and learning methods of working life with which the student may be unfamiliar at first. The working life instructor steers the development of professional skills,

which helps the student reflect on their own activity. Below, we describe accreditation phase by phase and specify the tasks of each operator.

The accreditation process begins with a student being guided to Participation Block

There are various paths through which a student is guided to complete studies in Participation Block. The student can be informed of the alternative way for completing a study unit by a teacher tutor, guidance counsellor or the teacher of a particular study unit. The student then contacts the university of applied sciences' contact person concerning the study unit they need to complete. During the guiding phase, the contact person guides the student in familiarising themselves with the working environments available through Participation Block and in selecting the options that most interest them from among those environments.

The university of applied sciences' contact person plays an important role in the initiation of the accreditation. The contact person contacts their counterpart in working life to explain the learning outcomes and the student's needs. The role of the contact person in working life is emphasised in the mapping of the working environments. The contact person contacts working life instructors to discover which working environments would provide the student with an opportunity to attain learning in line with the study unit's learning outcomes. After the guiding phase, the contact person is tasked with supporting the employee of their own organisation – i.e. the teacher or working life instructor – during the subsequent stages of the process.

The start of accreditation requires smooth cooperation

Good planning is one of the prerequisites for success in student-driven accreditation (Kotila 2020, 31). The accreditation process always starts with a study unit's learning outcomes and evaluation criteria, which determine the kind of learning the student should achieve. In the first guidance meeting, the student, in cooperation with the teacher and the working life instructor, begins planning how the student should pursue competence in the workplace, and how to construct it by combining work assignments and studies. The student prepares for the meeting by acquainting themselves with the selected working environment and the content of the study unit.

In the initial phase, the working life instructor fills in the details of the working environment and the work assignments on offer to the student, and informs the teacher and the student of the needs of working life. The

student's individual needs, such as their own way of learning, are accounted for in the completion of the studies. It is important to identify the student's learning style, because it can be a factor that either promotes or complicates learning (Niskanen and Kantanen 2020, 39). In Participation Block, students have the opportunity to complete studies remotely or by producing written material, for example. The guidance meeting also serves as an occasion to map the overall situation in the student's life and their scheduling wishes in terms of the studies' completion.

The accreditation of a study unit also always involves its theoretical mastering. The teacher's most important duty in the initial phase is to provide the student with the study unit's theoretical material. The demonstration of the competence attained is also planned during the initial phase. It is the teacher's task to ensure that the demonstration accords with the level of an institute of higher education. In accreditation, demonstrations – and the ways in which they are evaluated – are diverse. The demonstration can be customised to account for the student's learning strengths. The competence can be demonstrated orally or in writing, as in the form of a blog text.

A competence plan that guides a student's own learning has been developed to serve as a tool in the accreditation process. The student completes the plan in terms of the study unit's outcomes, evaluation criteria, the study unit's key theoretical material, the agreed work tasks and the concrete schedule, which paces the completion of the tasks at work and the completion of the studies. The competence plan must also state the time of the competence demonstration, the manner in which it will be carried out, and how the demonstration will be evaluated. The students submits the plan to the teacher and the working life instructor. The plan allows the working life instructor and the teacher to support the student in attaining the outcomes and in developing their skills. When necessary, the competence plan can be specified and supplemented as the process progresses.

Students complete studies in the working environment independently and under guidance

The student acquaints themselves with the working environment, the work to be carried out among the target group, and the tasks defined in the competence plan with the working life instructor. Once the student becomes part of the work team, the support provided by the workplace community provides the student with a safe environment in which to develop their skills. The support and guidance provided by the working life

instructor is determined according to the student's needs, and the development of the student's competence lies at the core of this (Mäki 2020, 41). The student carries out the jointly agreed tasks and work assignments as an active member of the workplace community and partly independently. It is important for the student to develop their skills as a member of the workplace community, alongside individual competence development (Mäki 2020, 42). It is emphasised to the student that guidance is always available, and that the student does not bear the responsibility for their tasks on their own. The instruction skills of the working life instructor have a strong link to learning (Rintala et al. 2015, 19).

The meaningful tasks offered by working life in which the student has an opportunity to accumulate skills in their own field of work promote the completion of the studies. The tasks are selected in such a way that by doing them, the student has the opportunity to achieve key competences, particularly in the field of social services. Students' tasks and work assignments have included the planning and implementation of group activities for various customer groups, organising volunteers' peer support meetings and producing guidance material for different implementations. They have also consisted of various development tasks in the working environment's projects. Participation in the working environment's operations and tasks enable the student's experience of learning (Rintala et al. 2015, 9).

The student's own activeness and autonomous work plays a key role in the completion of a study unit in need of accreditation. The workplace community as a learning environment provides the student with an opportunity to strengthen their readiness for working life and development orientation through learning experiences. Work at the customer interface helps the student develop basic professional skills such as people and cooperation skills, problem-solving skills and information-gathering skills (Virtanen and Tynjälä 2019, 880; Virtanen et al. 2020, 15, 25). Learning working life skills is multidimensional, and it is influenced by a variety of the working environment's social and structural factors such as the student's perceptions of the workplace community, their discussions at work, and the availability and content of individual guidance (Tynjälä and Virtanen, 2020). Working in interaction with the working life instructor and the sharing of experiences support the student's professional growth (Virtanen et al. 2020, 26).

The working life instructor steers the student towards the attainment of the learning outcomes with the aid

of continuous feedback. The student themselves also reflects on their own activities. The reception of feedback is very important for the student (Tynjälä et al. 2020, 17), given that it allows the student to develop their own professionalism and gain confidence for working. The working life instructor supports the student in their self-reflection, and guides the student in processing their successes and any challenges.

The teacher's role during the studies' completion phase is not only to be an expert in their own line of work, but to be at the student's side, supporting and guiding the student's learning process. When necessary, the teacher can hold a separately agreed interim meeting with the working life instructor and student in which the parties ensure the integration of the practical tasks and knowledge basis. The meeting can also serve as an occasion for checking the schedule and study progress in accordance with the competence plan. It is the task of the teacher and

Figure 2. An image of Delacorte's activities. In the Participation Block project, social services students work in the diverse services offered by DILA and Harjula. (Photo: Sonja Siikanen)

the working life instructor to support the student's experience of their own competence and ability to perform the agreed tasks. The teacher ensures the correct dimensioning of the tasks and their equivalence with the study unit's learning outcomes (Niskanen and Kantanen 2020, 40).

Students demonstrate their competence as the studies are completed

The manner in which the competence acquired in working life is demonstrated is considered an important cornerstone of student-driven accreditation (Kotila 2020, 31). The concrete demonstration method, the key content of the demonstration, and the criteria according to which the demonstration is evaluated are agreed at the start of the accreditation process between the student, working life instructor and teacher. In the demonstration, the student demonstrates both their theoretical and practical knowledge, acquired in working life, in addition to carrying out a self-assessment of their skills and professional development (Tynjälä et al. 2020, 18).

In Participation Block, the demonstration is carried out in the form of a tripartite discussion between the student, teacher and working life instructor. In the demonstrations, the student demonstrates their competence either orally, in writing or a combination of these methods. The demonstration situation is a reflective learning process, in which the teacher and working life instructor's feedback plays a major role for the student (Karjalainen and Kangastie 2019, 32). The feedback helps the student observe connections between theory and practice, and to put the professional skills they acquire in the working environment into words. The student's assessment of their own work and learning is of key importance to the development of the student's skills in working life (Virtanen et al. 2020, 25). The accreditation process concludes with the entry of the evaluation.

Once the studies and tasks have been completed, the student is asked to give feedback for the development of the accreditation process in Participation Block. According to Tynjälä et al. (2020, 18), it is worthwhile to reflect on the challenges and successes of learning that occur in working life, given that the experiences may result in positive perspectives on working life, particularly in students whose earlier experiences of it have been negative for some reason.

Preconditions for a successful accreditation process

This article has provided an introduction to the student-driven accreditation process and the tasks of the various operators at various stages of the process.

The development work was carried out in the joint Participation Block project of LAB University of Applied Sciences, Lahden Diakonialaitos and Harjulan Setlementti in 2019–2021 (LAB 2021). The project is part of development work funded by the European Social Fund with the aim of improving services that support equality in transitions and education.

Active dialogue between the student, teacher and working life instructor at all stages of the process was a key premise for successful accreditation. Alongside the pedagogical approaches, functional interaction in the working environment creates an environment that is supportive of learning. Functional and open cooperation between the different parties supports the student's performance and allows them to learn new things (Airila et al. 2019, 38). A key result of the Participation Block project was the appointment of a contact person, both at the university of applied sciences and in the working environment (Atkinson & Eerola 2020, 119). This made the cooperation and communication smoother, given that the contact persons served as the individuals responsible for the accreditation at their respective workplaces, supporting the other teachers and working life instructors involved in the process. It is advisable to name the individuals responsible for communications and the accreditation process (Kotila 2020, 31). Internal communication within the university of applied sciences is important for the opportunities offered by accreditation as an alternative method of completion to reach an increasing number of students. As Vehkala and Härkönen (2020, 37) point out: 'Even the finest process is pointless if the student cannot find it'.

The key result in student-driven accreditation processes was the flexible operating methods in Participation Block's working environments, and the pedagogical solutions supporting learning developed in the project. They allow for the consideration of students' individual needs in the accreditation, such as learning difficulties or stressful life situations. According to studies, various forms of working life cooperation have diverse impacts on students completing their degrees and moving on to working life. Activity within working life also strengthens the students' working life skills and generates belief in their own competence. It also contributes to the shaping of the student's professional identity. (Tynjälä et al. 2020, 11).

Participation Block's accreditation process has been developed continuously on the basis of student feedback. The feedback has been positive and constructive. The students have been particularly happy with the good orientation during the initial phase, and the fact that they themselves have

been able to influence the selection of the working environment. The students have also been motivated by the experience they accumulated and the responsibility they were given in carrying out meaningful duties.

The students' individual schedules in completing the studies have contributed to the completion of their degrees. Furthermore, the competence plan has been considered a good tool in progressing according to the set objectives. The students have also given positive feedback on their previous competence and professional strengths being taken into account. The accreditation has been perceived as a more laborious, but also more rewarding, mode of studying than traditional studying.

The student-friendliness and welcoming attitude of the working environment contributes to the achievement of a positive learning experience. In the working environment, the student receives guidance from every member of the work team, in addition to the working life instructor. The joint responsibility for guidance diversifies the student's experience of the different ways in which work can be performed. The representatives of working life in accreditation may gain new experiences, perspectives and opportunities for developing their own operations (Holvikivi et al. 2019, 20). A working environment's positive approach to development also provides the student with an excellent platform for learning and improving their skills, when the student gets to develop working life practices in cooperation with the work team.

What is required of universities of applied sciences is the courage and will to develop working life-related pedagogical solutions, given that in the future, on-the-job learning is set to become an increasingly fixed element of the operating culture of universities of applied sciences (Tynjälä et al. 2020, 11). However, rather than developing working life pedagogy in a vacuum, a university of applied sciences needs committed working life partners. In the Participation Block project, the working life partners had the interest and possibility to develop teaching and learning at the level of higher education in workplaces (Kempe-Hakkarainen and Pirttikoski 2020).

Accreditation in the Participation Block project has provided social services students with an alternative method of completion, which has strengthened their skills in working life in addition to their skills in the subject matter. Global contexts are rapidly changing working life, and at the same time, they are challenging universities of applied sciences to shape learning as an increasingly competence-based process with close connections to

working life. Current working life is changing continuously, and students must be given the opportunity to get involved in the production of new processes as early as during their studies. While accreditation is strongly competence-based, it also challenges the guidance and instruction of students, because studies are becoming increasingly similar to career choices as they develop into an expert (Mäki and Wikström-Grotell 2020, 29). The Participation Block project developed practices and operating models related to working life pedagogy in cooperation with representatives of working life. In the future, the joint development work of universities of applied sciences and working life must also be carried out along a path outlined by continuous learning.

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Tarja Vahtokari, Tuula Hämäläinen

International talents for the needs of working life

Finland has yet again had the honour of being ranked as the happiest country in the world (Helliwell et al. 2021). This is a good place to live and work – a fact also recognised by many with a foreign background. Even so, some are forced to leave the country against their will because they cannot find a job (Vipunen – Education Statistics Finland 2021b). According to a report, many lines of business in the industrial sector suffer from a shortage of skilled workers (Orjala 2021). The issue has been acknowledged, and while some effort has already been made to resolve the problem, more needs to be done, and perhaps differently, for skilled workers and those requiring their talent to meet.

In the autumn of 2020, Minister of Employment Tuula Haatainen noted that the government must be able to name the measures for achieving an additional discretionary 30,000 employed people. Labour migration contributes to an increase in the number of the employed, but moderately. Haatainen says that while labour migration forms only part of the big picture, it responds to an important need to attract skilled people to Finland and facilitate recruitment (Ministry of Economic Affairs and Employment 2020).

One of the measures is an extensive study – Training and employment paths for immigrants – published by the government in the spring of 2021. The study employed a broad range of methodologies, and its aim was to produce data with which to develop the training and employment paths of immigrants so that their employment rate increases and social inclusion improves. (Shemeikka et al. 2021).

The issue was last covered in the national news on 2 June 2021, when Yle ran a highly visible story on the topic. The story points out that the population projections of MDI – Consultancy for Regional Development paint a picture of a more international Finland. The whole country's population growth

over the next decades will be based entirely on an increase in the number of people who speak foreign languages, given that at the same time, the ageing Finnish- and Swedish-speaking population in many municipalities will die, and no new residents are being born (Toivonen and Martikainen 2021; MDI 2021).

The national Talent Boost programme invests increasingly heavily in the perspective of the immigration of international students and scientists, and their integration in Finland. Talent Boost was initiated in 2017 by a decision made by Prime Minister Juha Sipilä's government, and it focused on international specialists. Next governments have continued the work, in addition to which Prime Minister Sanna Marin's government has expanded the programme as of December 2019 to concern labour migration on a wide scale (Ministry of Economic Affairs and Employment 2021).

The greatest challenges for the viability of South Karelia are a dwindling demographic trend and employment, meaning jobs and working. According to the forecast, the total dependency ratio is becoming heavier all the time as the population becomes smaller and older (Regional Council of South Karelia, 2018).

It is therefore important to utilize the skills of international students and immigrants, while advancing their opportunities for employment and settlement in the region. This allows for the promotion of the internationalisation of the region's businesses on the bases of the students' and immigrants' cultural and linguistic skills, and for responding to any industry-specific labour shortages (Regional Council of South Karelia, 2018).

Several projects that support the employment of individuals with an international background in the region are underway in Southeast Finland. The Talenttimagneetti-project initiated work of this type in Kymenlaakso at the beginning of 2020, with funding from the ERDF (City of Kouvola 2021c), as did the TalentHub Etelä-Karjala project in Lappeenranta some months later. The projects cooperate closely across regional borders, which has proven not to prevent good cooperation (LAB 2020c).

In addition to the afore mentioned projects, a two-year project, funded by the ESF (European Social Fund) and supporting the projects which have been launched earlier, began at LAB University of Applied Sciences in the spring of 2020. This project is also part of the national network of Kokka projects (LAB University of Applied Sciences 2021).

LAB University of Applied Sciences engaged in accelerating job-skills-matching

The Kaakon Kokka – International Workplaces and Experts in South Karelia and Kymenlaakso project, administered by LAB University of Applied Sciences, tackles the mismatching problem of businesses' need for labour force and international skilled workers. The project partners include XAMK South-Eastern Finland University of Applied Sciences, LUT University, Saimaa Vocational College Sampo, The Joint Authority of Education of Kotka-Hamina Region Group Ekami and Aikuiskoulutus Taitaja (Global Education Services Taitaja). The other parties involved are Cursor Oy and the City of Kouvola. Businesses in the town of Lappeenranta and the Imatra Region Development Company (Kehy) are also worked with in close cooperation within the framework of the parallel TalentHub South Karelia project (LAB University of Applied Sciences 2021).

Figure 1. The project partners at a working meeting in September 2020. (Photo: Tuula Hämäläinen)

The project's key objective is to increase the number of international jobs in Southeast Finland. Based on a needs assessment, businesses are provided with training and coaching that support their readiness and skills in recruiting international talent for their labour demands. Another objective is to enhance the network-like work of existing operators aiming to promote the employment of international skilled workers and to establish a network of skilled workers during the project which supports the development of the region's viability. The settlement of international talent in the region is supported by connecting them and their families to the communities of organisations and other operators (LAB 2021). The project measures aim to reduce the employment inequality of international talent and to support their inclusion in Finnish society (UN Association of Finland 2021).

So far, the labour and training needs of the businesses in the region have been investigated widely, particularly from the perspective of recruiting skilled international workers. In this context, the businesses were asked about their labour needs and willingness to recruit individuals with a foreign background (LUT University 2020a). Two webinars have been held for the businesses by the summer of 2021. The topic of the first webinar was the recruitment of international talent (City of Kouvola 2021a), while the second webinar focused on the competitive advantages offered by multiculturalism (City of Kouvola 2021b). Webinars on the recruitment of individuals with an international background will be held in the autumn of 2021 to support and motivate businesses in the recruitment of such individuals.

Employment outlooks of individuals with a foreign background

Of the total of 23,139 students who studied in the institutes of higher education and vocational colleges of South Karelia and Kymenlaakso during the 2020–2021 school year, 2,519 – or 11 per cent – had a home country other than Finland (The Joint Authority of Education of Kotka-Hamina Region Group Ekami 2020; LUT University 2020b; LAB University of Applied Sciences 2020b; Saimaa Vocational College Sampo 2020; Global Education Services Taitaja 2020; XAMK 2020). Most of the individuals who completed their degrees pursued jobs outside their study localities, and moved to the Helsinki metropolitan area or another country. The situation is demonstrated by the fact that in 2018, 9 per cent of students who completed their degrees at LUT, left Finland. The same was true with regard to 10 per cent of those who completed their degrees

at LAB University of Applied Sciences (Vipunen – Education Statistics Finland 2021b, LABa).

According to Birgitta Vuorinen, Director of the Division for Higher Education Policy in the Ministry of Education and Culture, Finland has more international students studying for a degree than is the average among OECD countries. What attracts them to Finland is the quality of the education and the job prospects. Vuorinen also notes that the number of foreign students studying for a degree in Finland has been growing during the 2000s (Orjala, 2021).

In 2015, individuals with a foreign background who completed degrees in vocational or higher education in Finland numbered 8,050. In addition, data on the country of birth of 2,100 individuals who completed a degree was missing that same year, due to which these individuals can also be assumed to have a foreign background. If they are counted among the individuals with a foreign background, one in every five such individuals – amounting to some 2,000 – left Finland the year they completed their degree (Loukkola 2020).

The following information provides a review, on the basis of registered data, of the activity of 8,050 individuals with a foreign background during the year they completed their degree, and within one, two and three years

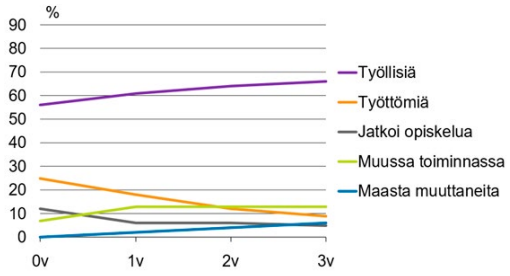

Figure 2. The principal activity of individuals with a foreign background who completed a degree in Finland in 2015 over a three-year review period. (Picture: Loukkola 2020)

of their graduation (Figure 2; Loukkola 2020). There is no separate regional data for South Karelia or Kymenlaakso, for instance. Available at:

At the end of the year during which they completed their degree, 56 per cent were employed – 53 per cent of those who had completed a secondary vocational degree and 58 per cent of those who had completed a degree in higher education (Loukkola 2020).

At the time of completing their degree, 25 per cent of the individuals were unemployed, while 12 per cent were still studying on a full-time basis. Some of them were working on a master's degree after completing a bachelor's degree in the same subject (Loukkola 2020).

It is a fact that it is more difficult for an individual with a foreign

background to find a job than it is for a Finnish individual. More than 80 per cent of Finnish-born individuals were employed after three years. During the review period, the share of the employed individuals with a foreign background increased from 55 per cent to nearly 70 per cent. At the end of the review period, there was no longer a significant difference in the share of the unemployed. However, the most positive point to note is that even though one out of four of all those with a foreign background was unemployed at the time they concluded their studies, by the end of three-year review period, their share had dropped to around 9 per cent (Loukkola 2020).

Impediments to employment and solutions for removing them

Finland's net immigration has been positive for a long time now. When examined from the perspective of origin, the gain in immigration in recent decades has consisted nearly exclusively or exclusively of the population with a foreign background. In 2019, the net immigration of the population with a foreign background showed a gain of 16,200. The trend of internal migration in Finland is largely moving to urban municipalities, in terms of both the Finnish population and the population with a foreign background. The total migration gain of urban municipalities has been maintained by the foreign population's ratio of immigration in relation to emigration (Official Statistics of Finland 2020).

The age group responsible for the greatest internal migration gain of urbanised areas consisted of young people aged 15–24. Their net internal migration has remained fairly stable for the last 15 years, being approximately 11,000 persons a year (Official Statistics of Finland 2020).

In light of the aforementioned statistics, Southeast Finland's situation is not flattering. In 2019, 768 individuals completed a master's degree at LUT University (Vipunen – Education Statistics Finland 2021a). Given that the number of people who left the region at the same time was high, the mismatching problem is very real. Of the graduates, 330 people – or 43 per cent – relocated to Uusimaa once they had concluded their studies. The number of graduates who relocated to other areas were considerably smaller; 18 relocated to Southwest Finland (Vipunen – Education Statistics Finland 2021b).

As early as in September 2017, Jussi Mustonen, the Director of EK – the Confederation of Finnish Industries, noted that Finland's bright growth outlook was overshadowed by the lack of skilled labour. The first bottlenecks related to the availability of workforce became apparent in field of

construction. After this, the shortage has been spreading to the service and industrial sectors (Panzar 2017).

Foreigners are studying subjects which in Finland represent major industries, including business and administration, technology, and information and communication technologies, and social welfare and healthcare services. Director Birgitta Vuorinen of the Ministry of Education and Culture confirms that these are also the areas of the Finnish labour market where there is demand for both Finnish and international talents (Orjala 2021).

The entrepreneur barometer published in February 2019 reveals that 29 per cent of Finnish SMEs expected economic cycles to improve. In addition to a labour shortage and disruptions in exports, the entrepreneurs also believed that the amount of investments in construction would reduce. The outlook in South Karelia was no different from the rest of the country (Pullinen 2019).

In the autumn of 2019, the managing director of Etelä-Karjalan Yrittäjät stated that the lack of skilled workers in South Karelia was still a major factor slowing down the growth of businesses. On the other hand, one in every four companies was ready to recruit foreign workers in the future (Manskinen 2019). This is a positive signal for the international students in the educational institutions who would be interested in local companies as employers.

A shortage of skilled labour continues to trouble businesses in Kymenlaakso as well. According to the results of a survey conducted by the Kymenlaakso Chamber of Commerce in September 2020, 54 per cent of businesses reported a shortage of skilled labour. For 20 per cent of the businesses, the shortage was considerable. For a third of the businesses, the situation was balanced, and 13 per cent of the businesses reported an oversupply of skilled workers. A little more than half of the businesses expected recruitment needs to remain stable for the next six months, while 23 per cent expected to need more workers. Some 90 per cent of the businesses expected their recruitment needs to increase over the long term (2–3 years) (Kymenlaakso Chamber of Commerce 2020).

The Occupational Barometer published at the beginning of 2021 by the Centre of Economic Development, Transport and the Environment (ELY Centre) on sectors suffering from a labour shortage shows a breakdown very similar to that of the previous year (Ministry of Economic Affairs and Employment, ELY Centre and TE Services 2020).

The coronavirus pandemic has affected businesses in different ways. While some service sector businesses are taking their last breaths, some

branches of the industrial sector are doing even better than before. Regional differences were also found. According to the SME barometer published in February 2021, the outlook within South Karelia is divided: in Lappeenranta the entrepreneurs saw the trend in economic cycles positive, and their expectations were significantly higher than in the country on average, whereas in Imatra, expectations concerning the economic cycles were much more pessimistic. Despite the exceptional circumstances, the expectations of businesses in terms of trends in the number of personnel have taken a slight upward turn (Etelä-Karjalan Yrittäjät 2021).

To prevent brain drain while increasing brain gain (international talent migrating to Finland), the biggest cities, Helsinki and Tampere, have already taken concrete measures to assist and guide individuals with a foreign background.

International House Helsinki and International House Tampere were established to provide services and to guide customers on an extensive range of matters, from job hunting to applying for a work permit, social security, finding housing, and applications related to children's schooling and day care. While the website of International House of Helsinki is available only in English (International House Helsinki 2021), the corresponding website of Tampere can be located through the city's website, and is available in English and Finnish. Tampere has also drawn up an Employer's Guide for the recruitment of international employees in the Tampere area (International House Tampere 2021). The guide aims to provide businesses with information that is as multifaceted as possible to facilitate their recruitment of born abroad employees.

In Kymenlaakso, efforts to improve the growth and success of businesses through closer cooperation with educational institutions are also underway. The best practices of cooperation with educational institutions have been collected in a guide helping businesses to start and develop such cooperation. The guide has been drawn up to provide information to both businesses and students (Aalto et al. 2021). A similar guide is being prepared in South Karelia.

Public sector organisations study workforce-related matters in different regions on an annual basis, and ample information is available. The figures in Southeast Finland are in line with the national figures in the sense that there is a significant labour shortage in some sectors (Ministry of Economic Affairs and Employment, ELY Centre and TE Services 2020; Vahtokari-Sahari 2021a).

In terms of Southeast Finland's Top 15 list, there is a labour shortage related

to the healthcare, social services and education sector. A closer look at the list reveals that education or training for 26,860 jobs of the 50,551 open vacancies can be found in Southeast Finland. In other words, 53 per cent of the students for these open vacancies could find training or education for the jobs in question in this region (Ministry of Economic Affairs and Employment, ELY Centre and TE Services 2020b). What is needed next for the region's businesses is to find the skilled individuals there. We are engaged precisely in this work in the International Workplaces and Experts in South Karelia and Kymenlaakso project.

It is worth noting that the mismatching problem also applies to Southeast Finland internally. ICT jobs in Lappeenranta suffer from a severe shortage of application

Figure 3. Top 15 jobs suffering from a lack of skilled employees. (Picture: Ministry of Economic Affairs and Employment, ELY Centre and TE Services 2020.)

designers, web and multimedia developers, application programmers, and other programme and application developers. Correspondingly, their numbers in Imatra are too high, while in Kymenlaakso (Kotka and Kouvola) the situation is balanced (Ministry of Economic Affairs and Employment, ELY Centre and TE Services 2020).

Integration has gained increasing attention in recent years. Indeed, Ilona Korhonen, Project Manager of the At Home in Finland project, points out that the receptiveness of the labour market plays a crucial role in recruitment. In January–March 2020, Taloustutkimus conducted an extensive telephone survey for the project, asking businesses engaged in construction, the industrial sector, trade, services, as well as social welfare and healthcare, about the reasons behind the difficulties in recruitment. The interviews revealed that only a fifth of the businesses had found it easy to find employees for open vacancies. The most common reason for recruitment difficulties was a lack of skilled workers in the sector involved (Korhonen 2020).

The survey also revealed biases: businesses preferred to hire individuals active in working life to individuals who were unemployed. What gave cause for concern was that nearly a third of the recruiters interviewed named countries or regions from which they would prefer not to hire employees. This result is in line with those of earlier studies. It also shows a stark picture of the receptiveness of the Finnish job market. It seems to be a fact that far from all jobs are open for all candidates (Korhonen 2020; Vahtokari-Sahari 2021a).

Saku Tihveräinen addressed the challenges and beliefs often confronted by recruiters in the *Kansainvälisen osaajan rekrytointi (Recruiting an international talent)* webinar held for entrepreneurs on 15 April 2021. He explained in concrete terms how things can progress – in both a positive or negative sense – in a company. His key message was that once the issues were identified, they could be addressed and dealt with (Tihveräinen 2021).

The Centre for Occupational Safety's publication on diversity and equality in a workplace community (*Monimuotoisuus, yhdenvertaisuus ja tasa-arvo työyhteisössä*, Rauramo 2021) is a tool for the management and supervisors of businesses, as well as those working in HR development. The publication also takes a stand on diversity in workplace communities and describes how supervisors can support, and how organisations in general can take into consideration the diversity of workplace communities.

What is referred to as 'anonymous recruitment' is increasingly being adopted in an effort to reduce bias. In

anonymous recruitment, the person who handles applications is not shown the data in an application form's anonymous data fields before the processing of the applications has reached a stage at which you need the applicant's contact details, for example. Kuntarekry offers this feature at the request of the customer (Kuntarekry 2021). Imatra has used the feature on a few occasions with positive results (City of Imatra 2020).

The City of Helsinki tested partially anonymous recruitment last year when it was hiring new employees. The results were so promising that the city wants to continue and expand the practice (Aalto 2021). The pilot project in question lasted for the entire year (2020) and covered several occupational groups.

According to the study, managers felt that they were better able to focus on people's skills. The different recruitment process also helped them examine their own attitudes. At the same time, the applicants felt that they were more clearly on an equal line in an anonymous application process (Aalto 2021).

In 2014, the Finnish Institute of Occupational Health, in cooperation with other parties, drew up the Working in Finland – Information for Immigrants -guide. The guide is available in internet in both full length and as an abridged version Finnish Institute of Occupational Health et al. 2014).

Kansainvälisen rekrytoinnin opas (Guide for international recruitment) is a guide supporting the recruitment of businesses. It was produced on the initiative of the Ministry of Economic Affairs and Employment by the *Kokka kohti Suomea (Heading towards Finland)* -project, coordinated by the ELY Centre for Southwest Finland. Its preparation involved a wide range of authorities and experts. The guide was published on 7 April 2021 and it is available at online in internet. Among other things, it includes more detailed information for companies wishing to recruit employees directly from abroad (ELY Centre for Southwest Finland and the *Kokka kohti Suomea* -project 2021).

Envisioning Southeast Finland as a viable region

To ensure that Southeast Finland remains viable, we need healthy businesses with an opportunity to grow and internationalise. Our region produces roughly 1,000 international graduates in various fields every year. They are immigrants who have arrived here for various reasons, and most of them want to stay and work in the region. It is our common task to support the matching of the region's employers and international employee potential. We need attractions to ensure that Southeast Finland keeps attracting talents and has the retaining power needed for them to stay here.

An investment in leisure-time activities is a concrete measure to promote staying in the area. It also contributes to linking migrants to social communities here. Young people want to pursue various interests alongside their studies. The project therefore collected information on opportunities for different hobbies. Students are provided with information in English on various hobbies, particularly in Lappeenranta. By participating in local hobbies and recreational activities, students get to know local residents and can start putting down roots in their present locality (Vahtokari-Sahari 2021b).

It is the role of education institutions to serve as educators and ensure that graduates possess up-to-date skills which respond to the needs of working life. Degrees usually include different opportunities to take part in authentic situations in working life and have contact with the region's employers. This familiarizes international students with Finnish working life. Practice, project work and theses also give the region's businesses an opportunity to get to know future professionals and experts, and to select the best talent during their student years.

In many fields, work placement occurs in the form of summer jobs, so jobs are also necessary for international students for the advancement of their studies. Hiring students for summer jobs also provides businesses with an opportunity to gain experience of international employees within their own company, without having to immediately commit to a permanent employment relationship. The joint career services of LUT and LAB engage actively in promoting matching between employers and students with the help of the JobTeaser service, for instance. The service allows employers to post information on open vacancies, traineeships and thesis work, and students to apply for them.

Language skills are a significant factor for employment. While the degree programmes include Finnish language teaching, the level of language skills required in working life cannot be attained during compulsory studies if the language training starts from the basics. It is therefore important to enable the use of even minor skills in everyday life.

Cities, towns and municipalities are tasked with supporting settlement in the region and providing the services required for living. While workplaces function as one field of social relations, other networks are also important. Regarding cities and municipalities, students hope for measures that welcome them to the region. They also need guidance regarding services and recreational activities in a language they can understand.

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Pictures

Figure 1. The project partners in September 2020. (Photo: Tuula Hämäläinen)

Figure 2: Loukkola, A. 2020. The principal activity of individuals with a foreign background who completed a degree in Finland in 2015 over a three-year review period, %. In: *Kuinka moni Suomessa tutkinnon suorittanut ulkomaalaistaustainen jää tänne töihin?* Tieto&Trendit. (Statistics Finland). [Cited 03.06.2021]. Available (in Finnish) at: https://www.stat.fi/tietotrendit/artikkelit/2020/kuinka-moni-suomessa-tutkinnon-suorittanut-ulkomaalaistaustainen-jaa-tanne-toihin/?_cldee=anVoYW5hLm5vcmRiZXJnQHN0YXQuZmk%3d&recipientid=contact-9d706379076ae81180dc000d3ab16605-8a5586af0f344c4fae5537adf8aa7c96&esid=b8d6b691-189c-ea11-a812-000d3ab701f8

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Tarja Tolonen, Tuulia Stellberg, Juha Roslakka, Marjut Suokas

Smooth service paths for supported work ability and employment in a future social services and healthcare centre

Introduction

A national work ability programme implemented jointly by the Ministry of Social Affairs and Health and the Ministry of Economic Affairs and Employment was initiated to support the realisation of the employment objectives set in the Government Programme of Prime Minister Sanna Marin (Valtioneuvosto 2019, 130–133). The Finnish Institute for Health and Welfare (THL) is in charge of the practical implementation of the development work. The objective of the work ability programme is to strengthen the work ability competence of professionals, and the existing work ability and functioning of clients, as well as to promote the employment of persons with partial work ability (STM 2020). Focusing on strengthening competence and on developing, with clients and employees, accessible services for supported work ability and a subcontracting model for promoting the employment and job retention of persons with partial work ability will boost growth that supports a sustainable economy, the environment and social justice and the Government's objective of increasing the rate of employment (Suomen YK-liitto 2021; Valtioneuvosto 2019, 130–141). In accordance with LAB's strategy, the development work will improve the prerequisites of employment and increase the number of people with higher education in working life by developing smooth services of supported work ability for clients and strengthening the competence of social services and healthcare professionals, and subsequently, well-being

in the future social services and healthcare centres (LAB-ammattikorkeakoulu 2021b).

In the work ability programme projects funded by the Ministry for Social Affairs and Health, the services for supported work ability and supported employment are integrated in the service system of social services and healthcare that is being reformed, in order to find solutions that are economically and socially sustainable. The employment promotion objectives are also supported by the social security reform under way, which aims to create a clearer system that functions better and enables the integration of work and social security in changing situations. (STM 2020; Valtioneuvosto 2019).

The number of unemployed jobseekers has decreased in the last year in Päijät-Häme, while the number of persons engaged in services included in the activation rate has increased. In April 2021, the total number of unemployed jobseekers was 14,072, which was 4,245 fewer (-23.2%) than the year before. The number decreased by 642 (-4.4%) from the previous month. In the Häme region, the rate at which unemployment decreased was the third lowest in Finland. There were 3,594 (73.1%) more long-term unemployed – in other words, people who had been unemployed jobseekers for an uninterrupted period of at least one year – than in the previous year, totalling 8,510. The number of persons engaged in services included in the activation rate was 7,585, or 60 (0.8%) more than in the previous year. The number of persons engaged in the services grew by 44 (0.6%) from March. Of the persons engaged in the services, 3,791 were clients of local government employment pilots. Of those engaged in the services, 2,174 studied independently, 1,696 were engaged in rehabilitative work activities, 1,613 were employed, 1,346 were in labour market training, 550 participated in an employment or training pilot, 120 worked as a job alternation substitute, and 86 received coaching. The activation rate at the end of April was 25.2 per cent, or 4.6 percentage points higher than a year ago. In addition to the increase in the number of persons engaged in the services, the increase in the activation rate is based on the decline in unemployment (TEM 2021).

Despite the reduction in the number of unemployed jobseekers and the increase in the activation rate, boosting employment in Päijät-Häme still requires cooperation across sector boundaries. Both national and regional co-creation is required to identify those at risk of losing their work ability, assess the need of support and plan its implementation, and create further paths. In Päijät-Häme, client-centred, flexible and accessible support services for work

ability are built through service design methods in cooperation with clients and the network of actors (Sosiaalialan osaamiskeskus Verso 2020).

Service design is a way of strengthening the client-centredness and needs-orientation of the services and sustainable development, and of supporting social responsibility in particular. The process-like and client-centred operating model of service design supports the continuity and result-orientation of the activities and work. The deployment of services and operating models developed in cooperation between multiple actors is smoother and more motivating than implementing models developed externally or handed down from above (see Kuure 2020). Our objective in the "Supported for employment and inclusion in Päijät-Häme" project (the TTO project) is to apply service design methods in the development of a concept for smoother and more sustainable result- and client-oriented services.

"Supported for employment and inclusion in Päijät-Häme" project

The objective of the "Supported for employment and inclusion in Päijät-Häme" project (the TTO project) included in the work ability programme is to increase the competence of social services and healthcare professionals in the identification of support needs, the use of assessment indicators for work ability and functioning, and the development of support services for work ability. Another objective is to support the work ability and functioning of unemployed people with partial work ability, and promote their employment and job retention. The sets of measures in the project are 1) Integrating work ability support in the social and health centres of the future, and 2) Developing mechanisms for supported employment. The first set of measures develops, describes and implements a functioning multidisciplinary assessment model for work ability and functioning which involves a developer client, a social worker, a public health nurse and a physician. The clients' employment support services are integrated with the services provided by other employment and rehabilitation actors. A key worker model is developed as part of the work ability support services (Sosiaalialan osaamiskeskus Verso 2020).

The second set of measures in the project develops a model of supported employment for the Päijät-Häme region. In the model, the social services service path of supported employment has been clarified, modelled and harmonised with the other actors. The role map for supported employment will be visualised from the client's perspective. A subcontracting model for community employment will be piloted and

assessed in the services for the disabled. The sets of measures and service paths developed in the project are described in the Finnish Innokylä innovation environment for social services and healthcare (Sosiaalialan osaamiskeskus Verso 2020).

Client inclusion in the planning, development and assessment of support services for work ability is strengthened through developer clients and client panels. The project outcome will be easily accessible and functioning support services for work ability for the clients. The client's role in the expertise in and maintenance of their work ability and functioning has strengthened. The competence of the professionals working in the social services and healthcare centres in identifying and supporting work ability and functioning has increased, and if necessary, they have access to the expertise of an assessment team (Sosiaalialan osaamiskeskus Verso 2020).

The partners in the co-creation of the sets of measures and service paths for work ability support and supported employment are the clients, the Päijät-Sote Joint Authority for Health and Well-being, the local government pilot on employment, the Future Health and Social Services Centres project, the Social Insurance Institution of Finland (KELA), the TE Office, and associations. As the administrator, the Verso social services centre of expertise is responsible for the realisation of the project objectives, execution of the measures, and follow-up and reporting. As a partner, the municipality of Padasjoki models the implementation of work ability support services from the perspective of the needs of a small municipality. As a partner, the LAB University of Applied Sciences supports the project's implementation and objectives through assessment and service design (Sosiaalialan osaamiskeskus Verso 2020).

Work ability and related support

The view of work ability has become more diverse and comprehensive. Previously, work ability was viewed with a focus on the health perspective, but currently, work ability is considered to be made up of several different building blocks. After all, work ability is a complex entity at the core of which is the relationship between a person's resources and work. When health, resources and other personal factors are balanced with the requirement of one's job, the person's work ability is high. However, it is common that work ability varies in different life stages and situations, rendering a person unable to cope with the tasks assigned to them (Ilmarinen 2006; THL 2021).

Work ability can be described as a house (see Figure 1). The aspects of work

ability, or the floors of the house, support one another, but they need to be developed and maintained throughout one's working life. Health and functionality are the foundations of the house, and if they are compromised, attention should be paid to all the house's floors. For example, ageing may change one's individual work ability, and the person's ability to react and respond to change requirements may not be sufficiently considered in the rapidly changing job duties. If work no longer feels meaningful, or it is too stressful in relation to one's resources, work ability deteriorates further (TTL 2021a).

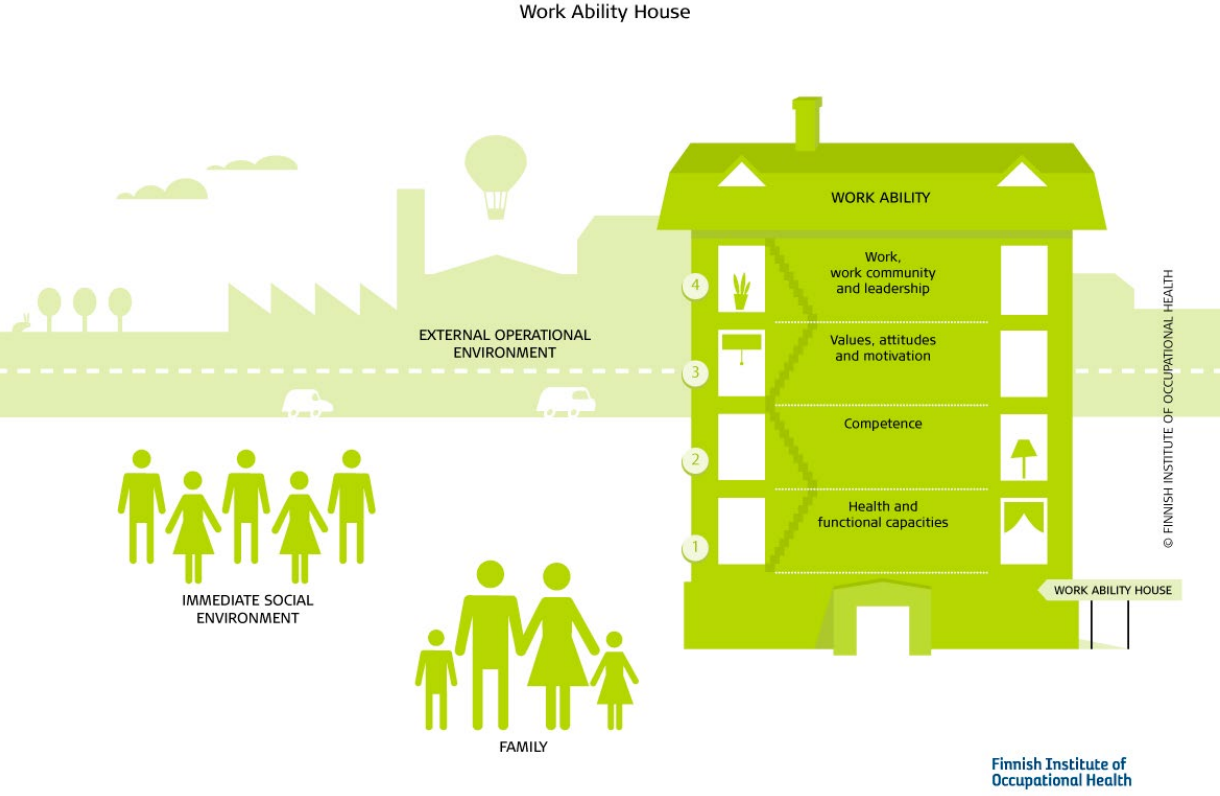

Figure 1. Work Ability House. (Figure: TTL, 2021a)

When work ability weakens, the person may have partial work ability. Partial work ability means that only some of the person's work ability exists. Partial work ability may be due to an injury, illness, life situation or insufficient competence, for example, and it may be temporary or permanent. Work ability is always viewed in the context of the job for which the person is applying, or that they perform. A person with partial work ability may therefore be fully qualified for a job in which requirements are aligned with their work ability and competence (THL 2021; THL 2019). According to estimates, approximately 1.9 million people in Finland have a long-term illness or injury, and nearly a third of them, or 600,000 people, think their illness or injury affects their work ability or opportunities of finding employment (Taskinen 2012). Partial work ability may thus concern a considerable number of working age people. Partial work ability is always situation-specific and proportionate to the requirements of the job. It is therefore important to identify support needs and offer timely support.

As indicated by work ability house (see Figure 1), work ability is a multidimensional concept which is reviewed and assessed from many different perspectives. Assessing work ability and functioning refers to activities in which a client and a professional assess the client's resources and situation together, as well as the services the person needs to maintain or improve their work ability and functioning. Various indicators such as the Abilitator® are used in the assessment of work ability and functioning. The outcome is an evaluation, such as a medical statement or an assessment of a working-age person's need of services. If necessary, the client is referred for further examinations and to additional services. The assessment of work ability and functioning is carried out by the social care and healthcare services. The TE offices do not carry out assessments but should identify and direct clients to have their work ability and functioning assessed if necessary (TEM 2019; Wikström & Valkeinen 2020).

Work ability is tied to a person's life situation and includes the dimension of experience, which is why it is very important to consider the person's own view of their situation. The Abilitator is an easy-to-use, free and straightforward tool for this purpose. It helps a person assess their own work ability and functioning, or it can be used by professionals in client work. The Abilitator provides an assessment of the perceived work ability and functioning, and of the areas of inclusion and well-being. Repeating the assessment later can indicate any changes in work ability and functioning. In addition to Finnish, Swedish and easy language, the Abilitator is available in English,

Arabic, Somali, Sorani and Dutch. The Abilitator survey can be filled in electronically or in paper format (TTL 2021b).

The Abilitator provides immediate feedback after the survey, indicating the strengths and challenges in the areas of work ability and functioning. It is a good conversation starter for a professional and offers a comprehensive overview as assessed by the client themselves. Using the Abilitator systematically in work with clients will enable the professional to monitor the effects of work and provide information that is regionally and nationally comparable. Professionals may request access to the Abilitator from the Finnish Institute of Occupational Health for their organisation or project free of charge, and the organisation will be able to view the responses and prepare reports. The Abilitator can be tried on the Finnish Institute of Occupational Health website (see TTL 2021b).

Service design enabling better services

LAB is in charge of the data collection and modelling related to describing the set of measures concerning work ability. In addition, LAB is responsible for determining and describing the responsibilities and roles of the actors in the supported employment operating model. The development is carried out in facilitated development workshops, using methods of service design in cooperation with the project actors.

Service design is a process in which the creative and the analytical processes alternate. It is important to be aware of and understand the different stages of the service design process: 1) common comprehension; 2) investigate and encapsulate; 3) generate idea, describe, test; and 4) take an action, modify, duplicate (see Figure 2). The process's different stages have different goals: the creative stages (1 and 3) aim to generate as many ideas and thoughts as possible, without discarding or limiting them. The purpose of the analytical stages (2 and 4) is to assess, analyse and reflect on the usability and applicability of the ideas generated, and to identify further processing needs. This process-like progress is called a Double Diamond. In service design, it is important to believe in and trust the process. Each stage has a purpose that is important, and that boosts and strengthens the other stages. People have an innate tendency to sometimes start solving issues and challenges a little too fast. This may result in blind spots in development and introduce considerable vulnerabilities in the process (Ojasalo et al. 2015).

In the TTO project, elements of the well-being design process are integrated in the service design process. The goal is to apply the well-being

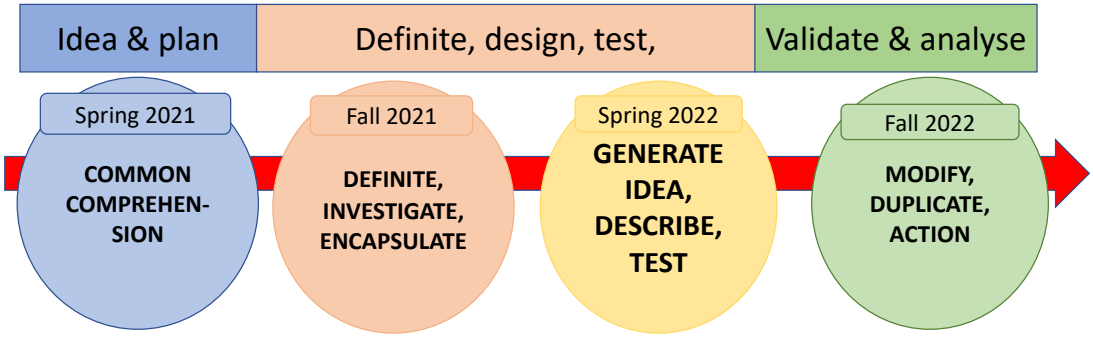

Figure 2. The service design process in the "Supported for employment and inclusion in Päijät-Häme" project. (Picture: adapted from Ojasalo et al. 2015)

design to highlight the views and experiences of different actors, pursue authentic multidisciplinary cooperation, and transform pilots, inclusion and research into a better service product (Keinonen et al. 2013, 13).

As a term and an operating method, service design refers to the client-centred planning, development, renewal and modification of services (Kuure 2020). Service development and modification as such are nothing new. The basic ideas of service design are co-creation and client-centredness. Genuine and continuous inclusion of clients, making them feel heard and listening to them adds depth and impact to development, and this is something that cannot be accomplished through expert-driven development (Lahden ammattikorkeakoulu 2007, 15). The old way of developing services is to proceed from inside out – in other words, to work from the organisation's need and offering towards the client and the user. Service design approaches development from the outside in – in other words, from the perspective, need and objective of the client and the user towards the service provider and producibility.

In this project, the concept of client refers to the internal and external client. Internal clients are the service provider personnel, professionals and experts who operate at the core and around the service. External clients refer to the client and the user. In this project, the extended meaning of an external client also includes the family and friends of the users of work ability support services, organisations and companies.

For example, in the set of measures number 2 internal clients in the development of a subcontracting model for supported employment may include job-coaching experts and professionals. By contrast, external clients include the organisations and companies that offer work, as well as the clients of supported employment, and their family and friends.

The core objective of service design is better services. The formula of better services (C) is simply A + B = C, where:

A) is a better client experience, achieved through close and client-centred service development and strong client understanding. The applicable tools include client archetyping and company visits during which services can be explored;

B) is a better employee experience, which is achieved through strong common comprehension. In service design, the overall objective based on the subgoals must have a clear framework and definition, with genuinely balanced roles, responsibilities, obligations and rights, as well as authority. A strong, encapsulated and clarified common comprehension strengthens professional self-confidence, the experience of meaningfulness and opportunities to influence. A better employee experience provides stability and strengthens engagement through work. A better personnel experience promotes and strengthens a better client experience (Korkiakoski 2019, 15).

C) is a better outcome, and services with increased impact are a reward worth pursuing for both internal and external clients. Clear and concrete service descriptions can be achieved by generating concepts for service products, and by establishing the interfaces between different service points on the service path. A good and convenient tool is provided by service path descriptions that apply the "railyard" model, for example.

In addition to workshops, the project will include different kind of expert-led training, mentoring and coaching, both individually and in groups. The process stages and the project team's skills and needs will guide the selection of the working methods. The co-creation methods we have chosen include various development workshops in which all participants contribute to a shared theme with their competence and perspective. In this project, co-creation refers to cooperation that is multidisciplinary and involves multiple sectors, and to working with clients. Co-creation is a relevant and productive operating method, since genuine and in-depth cooperation makes the social distance between different client groups and stakeholders shorter in service development (Keinonen et al. 2013, 18). The principles that guide the planning and

implementation of the project's development workshops are:

1. defining the need and objective, advance planning, facilitating and documenting work, a constructive focus on finding solutions, and psychological security;
2. boldness and courage to find new ideas, as well as to question old operating models and ways of thinking; active participation and an open attitude;
3. documenting the outcomes of work, implementing them in daily work and processing them further. This is meaningful, since if the outcomes, ideas and insights generated by co-creation are not closely linked to concrete measures and actively deployed in practice, the participants may become frustrated and less committed to future development.

The tools used in the development workshops in this project include the sun model for defining a shared understanding, the sailboat exercise and network mapping. Central themes in these tools include identifying strengths, and verbalising and developing competence jointly towards a common goal.

Client understanding and interaction – in other words, genuinely listening to and hearing the voices of the users, as well as making use of diversity – are excellent examples of the aspects of strengthening social and ethical responsibility in service design. From the sustainability and usability standpoints, services developed in this manner are more successful, generate more results, stand the test of time better, tolerate changes in the operating environment better and have a higher impact (Kamensky 2015, 20).

Assessment of the project

An assessment is used to determine the value of the target being assessed. At the level of public administration, the target of assessment refers to the value of a programme, innovation, intervention, project or service (Robson 2001, 24). The assessment activities are traditionally divided into formative and summative assessment (e.g. Patton 2015, 248). Formative assessment aims to improve a programme or a project during its implementation (process evaluation). Summative assessment refers to assessing the results and impacts achieved at the end of the development activities (the evaluation of the end result). Vataja (2012, 83) refers to Patton (1994; 1997) and discusses developmental evaluation, which means *evaluation processes and activities which aim to support the development of a programme, product, personnel or organisation, and the generation of evaluation*

practices in the organisation. In developmental evaluation, there is no strict division between assessing the process and assessing the end result, since the activity being assessed does not necessarily ever reach a certain end result but is in a constant state of change. Developmental evaluation is based on self-assessment which focuses on the work community, and in which development is integrated in the basic function of the working community and everyday practices (Vataja 2012, 9). The assessment of the TTO project applies the developmental evaluation approach and self-assessment, focusing on the working community. In other words, the project assessment simultaneously views the development process and the results of the development activities, while striving to develop the working community's work practices.

In the work ability programme, assessment targets both national and regional projects. At the national level, the Finnish Institute for Health and Welfare (THL) is in charge of the overall assessment of the execution and outcomes of the sets of measures. The Finnish Institute of Occupational Health (TTL), which is the other national partner in the work ability programme, uses the Abilitator to assess the impacts of the work ability programme on the development of work ability and functioning among the clients participating in projects. TTL also assesses the career plans and sustainable employment of the participating clients. In addition, THL and TTL jointly conduct a register study on the integration of services and benefits.

LAB is in charge of the facilitation of the TTO project's assessment process, and collecting and analysing the data related to the assessment. The assessment performed by LAB's project actors reviews 1) the project process and its progress, 2) the results of the project, and 3) the project's perceived effects (see Figure 3). During the project's first development cycle (spring 2021), the activities focus on establishing common comprehension of the project objectives and measures jointly with the project employees. A central aspect of establishing common comprehension has been to define indicators for the assessment of the project results. The project's results will be reviewed in the interim assessment during the second development cycle (autumn 2021 – spring 2022) and in the third development cycle at the end of the project (autumn 2022). The third development cycle will also include an assessment of the perceived effects through self-assessments by clients and stakeholders. The progress and development of the project process will be assessed four times during the project, approximately every six months. The Seiska

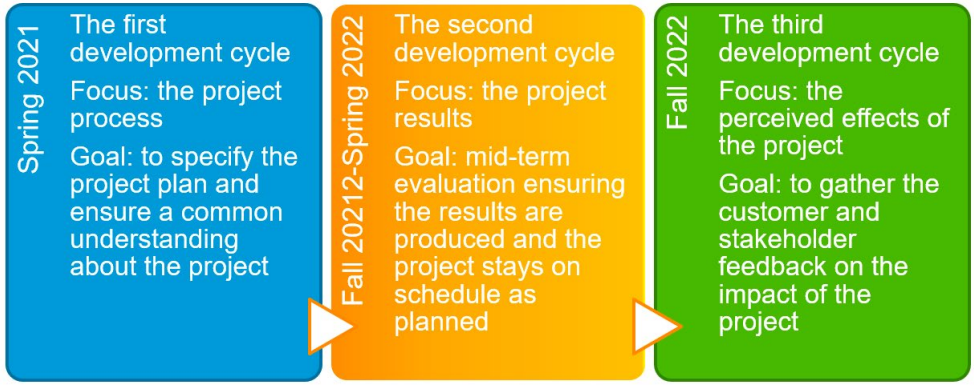

Figure 3. The 2021–2022 assessment process of the "Supported for employment and inclusion in Päijät-Häme" project. (Picture: LAB-ammattikorkeakoulu 2021a)

self-assessment model, developed by the Funding Centre for Social Welfare and Health Organisations (STEA) (2021) on the basis of the EFQM model, will be used in the assessment of the project process. The Seiska self-assessment model targets seven dimensions of the project process and their realisation in the project activities using a four-level scale (poor – satisfactory – good – excellent):

1. Objectives and stakeholders:
2. Resource allocation and coordination
3. Commitment and support provided by the background organisation
4. Measures and implementation
5. Assessment and development
6. Communication and partners
7. Results and effects

The participants of the process assessment are the project employees from Päijät-Sote, LAB and the municipality of Padasjoki, as well as the stakeholder representatives – approximately 80 actors in total. The results of the process assessment will be reviewed at project employee meetings and in larger joint workshops of the project employees and stakeholder representatives.

Towards smooth service paths

The service path of supported work ability is linked to a large number of services, ranging from basic healthcare to workshops, from social work among adults to services for substance abusers, from outreach youth work to mental health services and from debt counselling to the Ohjaamo services

for young people. The need to integrate several services is based on the numerous ways in which employment issues are connected to a person's state of health, competence and need of social support (OECD 2020). The services that are central in terms of employment are provided by different organisations, and building functioning service paths across organisations is therefore required, regardless of which organisation is responsible for managing employment matters. In the employment services, cooperation that spans different organisations and organisers in the building of service paths will play a particularly central role in the coming years (Eronen et al. 2021, 56).

The service path for supported work ability is considered a comprehensive way to organise and coordinate the client's different care and service processes across organisations and professions (Hujala & Lammintakanen 2018, 20). The objective is to provide the client with an appropriate high-quality service that meets their needs and to secure its continuity. Building a client-centred work and operating culture that transcends sector boundaries calls for common comprehension of both the task and the objective. The service paths being developed in the project make it possible to analyse the points at which the activities promoting well-being and health intersect citizens' lives. At best, the service path model for supported work ability is a generic modelling which offers several different ways to operate while taking into account the clients' need of services, the available services, and other opportunities for inclusion, support and assistance. In a smooth service path model, there are various channels through which one can become a client (STM 2019, 17–19). In this project, our intention is to describe a comprehensive service path, while taking into consideration the stages before, during and after the client relationship.

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Maija Eerola, Tiia Kangassalo, Mia Kröneck,
Virve Pirttikoski

The “My Home in Finland” operating model promotes integration by supporting women’s inclusion and mental well-being

The My Home in Finland project aimed to promote women’s integration by strengthening their social inclusion, activeness in society, Finnish language skills, cultural competence and mental well-being. The project’s target group consisted of women whose native language is Arabic, Kurdish, Dari or Thai. The activities were especially designed to meet the needs of women who had only recently moved to Finland, and were on family leave or otherwise beyond the scope of working life and training. The goal of the activities was to prevent situations in which a woman’s life would remain solely inside the home, with no social relations, the development of language skills or familiarisation with Finnish culture.

The project developed low-threshold activities to complement integration services, including group activities, individual guidance and voluntary activities for migrant women. The My Home in Finland activity provided the women with peer support and different situations for language use, both under the instruction of Finnish language teachers and with volunteers. The women’s well-being and inclusion were supported in many ways. This formed the basis of the operating model in which all parts were equally important and complemented each other. With the help of the My Home in Finland operating model, similar activities can be continued in Lahti and implemented elsewhere.

The My Home in Finland project concluded in September 2021, and constituted part of the European Union’s efforts to promote integration.

It was funded by the EU's Home Affairs' Asylum, Migration and Integration Fund (AMIF).

Activities complementing integration services

Services complementing integration services and their development are required especially for women, because the status of immigrant women is in many ways more vulnerable than that of men. They participate in working life significantly less often than foreign-born men or the original population. The women care for their children at home more often and start families earlier than Finnish-born women. Among other things, this impairs the women's income level. The level of their education may also remain lower, and they may not accumulate any work experience at all before starting a family. In addition, the women have less opportunity to take part in language training supporting integration, and their contact with Finnish society may remain minor, which may further hamper their integration. The situations of the women vary, and a vulnerable status is not common to them all. However, the women in the most vulnerable situation are those who have moved to Finland from the Middle East or Africa. Women who move to Finland on the basis of family ties may also be in a weaker position, because they are not necessarily provided with information about Finnish society and its services, like those who arrive in the country as asylum seekers or refugees (Ministry of Social Affairs and Health, 2016, 63–64). The My Home in Finland project responded to a societal need from the perspective of equal access to public services, given that the principal target group was composed of women who had arrived in Finland from third countries.

Various service models from the perspective of positive special treatment, which supplement the integration services provided by local governments, have been developed in support of women in recent years (Castaneda et al. 2018, 114). These include the Äidit mukana and Vanhemmat mukaan kouluun projects carried out in the Helsinki metropolitan area, in which women participated in comprehensive school lessons with their children and then moved, with support, to working life or further studies (Perakorpi-Sulin 2019). Career and service guidance, as well as peer support with the goal of studies and working life, were also provided in the ItseNaiset operating model (Snellman 2020).

Mental well-being and social inclusion as a basis of activity

Mental well-being and inclusion were the concepts guiding the activities in

the design and implementation of the My Home in Finland activities. Mental well-being is a resource and an integral part of health. It is also important for an individual's well-being and ability to function. It pertains to multidimensional well-being, with an overall impact on a person. As a concept, mental well-being aims to emphasise an individual's resources, hopefulness, their sense of being in control of their life, and the social relations which provide the person with joy and a positive sense of themselves, and their opportunity to develop (Finnish Institute for Health and Welfare (THL) 2021a).

Settling down in a new society is inevitably a stressful event in an individual's life, regardless of the reasons for their immigration. It is influenced by a change in the individual's personal ties and networks, settling down in a new environment and getting used to a new culture. Not all stress is harmful, and not all stress necessarily leads to a deterioration in well-being. The individual's own resources and protective factors affects the perceived stress. It is nevertheless worthwhile to focus on mental well-being with immigrants, because one's state of mind affects how successful the integration is, and how well their interaction with the surrounding society works. Ensuring mental well-being is also important for both the meaningfulness of the individual's life and the success of the integration effort (Kerkkälä and Säävälä 2015, 10).

A person's experience of integration or adjustment to a new environment depend on the experiences and successes they encounter in their daily life and the kind of interactions in which they result (2015, 21). In terms of effective help and the maintenance of mental well-being, strengthening an individual's resilience and increasing their coping skills are central factors protecting mental well-being. One way of strengthening resilience is to create an external environment providing positive experiences in interaction. Social support networks also have a protective and restoring effect on individuals' well-being (2015, 23). According to THL, promoting the mental health of immigrants is an important means of supporting their inclusion, well-being and health. Mental well-being has a considerable influence on immigrants' ability to function and their physical health. If mental health problems are not treated, they make daily life and integration more difficult (Finnish Institute for Health and Welfare (THL) 2021b).

The concept of inclusion was the second principle, alongside mental well-being, guiding the activities. In the My Home in Finland activity, 'inclusion' meant an individual's sense of being part of a community or society,

and their perception of their possibility of influencing the course of their life. This subjective experience takes shape in social interaction. While efforts that aim to support the process of participation from outside are possible, the experience itself is always subjective. 'Social inclusion' refers to equal rights and opportunities, as well as the resources to participate in society's activities. Among other things, social inclusion can mean access to social care and health care services, as well as the job market. Participation in social and cultural activities is important for an individual's well-being (Leemann et al. 2015, 3–5).

The experience of inclusion can be divided into social, emotional and linguistic support. Participation in the My Home in Finland activity offered the participants communities in which to belong. In turn, the communities provided the participants with an opportunity to receive information about various practical aspects of everyday life and societal matters from both their peers and Finnish people. Emotional support helps an individual feel important. It also has considerable bearing on an individual being encouraged to get involved in situations in which they have an opportunity to use the new language. Social relationships play an important role in language socialisation. They increase women's well-being and agency, as well as their desire for closer affinity with different communities (Intke-Hernandez 2020, 76–78). In addition, an ability to function in society increases the experience of inclusion. This can be promoted by peer support activities, through which a person gets an opportunity to act and interact within a community (Castaneda et al. 2018, 79). The following provides a more detailed description of the My Home in Finland operating model, which is made up of group activities, individual guidance and voluntary activities.

Language use situations and peer support

The group activities, in which women convened twice a week, provided the participants language use situations and peer support in the form of low-threshold activities. The women spoke only a little Finnish, and very few of them knew English, so the activities took place in plain Finnish and with the help of pictures. The goal was to get women involved in an activity and thereby rooted in an area or region and Finnish society. The process started in the form of an initial interview of the women participating in a group activity, with the assistance of an interpreter if necessary. The initial interview charted the participants' background, support network in Finland, health, leisure time

and hobbies, future plans, and their Finnish language skills. The content of the group activities was based on these data. The women hoped to be taught Finnish and to be familiarised with Lahti and Finnish culture. The familiarisation with the culture and language were advanced through activities, including a Pancake Day event and a food course held by the Martha Organization.

The group activities were held at the Multicultural Centre Multi-Culti in Lahti in the centre of Lahti, which is easy to get to. It is important from the perspective of the activities' accessibility for the premises to be accessible and situated in a place easily reached from different parts of the town 2020, 127). A childminder was always present during the group activities. This supported the women's opportunity to participate and their well-being through the provision of important breaks from daily life with small children (Eronen 2020, 352–353).

The group activities were carried out in the form of actual meetings and, due to the coronavirus situation, via remote connections, with the help of the Teams and WhatsApp applications. The goal was to learn the basic vocabulary needed in daily life. The Finnish language instruction relied on both assignments prepared by the teacher and available online materials (such as listening, videos and various educational games). Multi-Culti's premises allowed for simultaneous S2 support in three small groups divided according to the participant's Finnish skills. The division into the smaller groups was found effective. The aim was for the language use situations provided in the group activities to be as authentic as possible, accounting for the women's needs.

With the aid of various themes involving assistance and well-being in daily life, the women were encouraged in active parenting and supporting their children. Most of the women participating in the group activity had several children. The successful integration of a mother and a woman affects the entire family. If a mother does not know the local language and therefore cannot make decisions related to their children's well-being and education, the mother becomes a passive recipient of information. This can affect their experience of good motherhood (Intke-Hernandez 2020, 78–82). It can also have intergenerational effects on the children's education, in that their parents' inability to support them in education may make the children's education paths more difficult (Mäkelä et al. 2019, 286).

According to studies, language socialisation occurs in the context of everyday situations, including various public events and open family activities. When women are provided with linguistic, emotional and social support, its effects extend to language socialisation. The

starting point must be a feeling of inclusion, with the help of which an individual becomes an active user of the new language (Intke-Hernandez 2020, 78).

Supported by the project, the women got to know Lahti and the area's diverse range of services. The women said that they had made friends within their groups, which helped them cope in difficult situations. The fact that the women could get to know people outside their homes and participate in society was important and motivating in daily life. According to the participants, the group provided them with joy and energy. Their participation in the activities reduced feelings of loneliness and improved their mood.

Resource-driven working under individual guidance

Alongside the group activity, the operating model provided the women with individual guidance. Support needs voiced during the initial interviews were responded to as required, and the participants were guided accordingly. The needs involved ranged from applications for places in daycare or education institutions, health-related matters (such as booking doctor's appointments), as well as challenges with Kela (The Social Insurance Institution of Finland) or banking.

The individual guidance also included advice on training and employment alternatives, as well as the planning of continuation path in cooperation with the participants. Concrete plans for future participation in training and volunteering or the advancement of employment opportunities were prepared for the participants.

Inclusion is part of a person's right to health, education, work, livelihood, housing and social relationships. It also entails influencing the course of one's life, opportunities and activities. It is important to support immigrants in independence, determination and decision making. For us to perceive our lives as meaningful, we need meaningful activities which help us structure our lives. This also supports our mental health (Castaneda et al. 2018, 78) and increases happiness.

In the individual guidance, mental well-being was supported by a focus on the strengthening of resources and the structuring of an individual's life with the aid of a dream or vision board. The dream board is a tool used to manage people's permanent changes, and in which a person's mental resources are increased and put to use. When a person sets their sights to the future and their dreams, they become aware of what is important for them, while activating in themselves a desire to start working towards their dreams. At the same time, the person begins to process and produce different solutions for attaining

them. The method's starting point is to strengthen the person's individuality and to improve their readiness for a sense of community (Pihlaja 2013, 11).

When a person is well as an individual, they are well as part of the community. The individual guidance included the drawing of dream trees with each of the women. The trees helped to map their work experience in their home country, and any skills they had accumulated through hobbies and meaningful activities. After this, the work focused on the content of their dream life in Finland: the kind of work they would like to do, where they would like to live, and what they would want to do during their free time, both alone and with their families. The dream trees then served as a basis for groupwork in which the participants produced a visual dream map of the topics in the trees. This map serves as a reminder of the goals towards which the participants begin to progress in their lives in Finland. The method aimed to bring out an individual's internal thoughts, which would help them discover new characteristics in themselves and thereby participate in their personal process of change 2013, 12). According to the participants, the work provided them with positive emotions for future plans, which they felt increased their hope. This opened up their minds so that they were able to see more opportunities in the current moment.

Inclusion and well-being through voluntary activities

Both migrants and Finnish native women had induction to voluntary activities. The voluntary activities offered participants peer support that strengthened inclusion and well-being.

Taking part in voluntary activities is a good way to support integration (Nieminen et al. 2015, 3; Kaila 2014, 53). Migrant women need and want to meet Finnish people, create social contacts and be encountered. While meeting new people may pose its challenges, voluntary activities provide immigrants with an opportunity to be encountered and be part of an activity. Voluntary activities are a good way of getting to know people and making friends (Sademies and Kostiainen 2019, 3; Bashir et al. 2013, 22). The project's aim was to enable situations in which the social contacts, language skills and cultural competence of women who have moved to the country increased.

The possibility for social relationships supports women's integration (Intke-Hernandez 2020, 78; Pöyhönen et al. 2010, 56). It is important to show a genuine interest in and will for support during the initial stages of integration to ensure the encounters are trustworthy and encouraging. Each woman has their own background which affects their everyday life and choices (Puukari and Korhonen 2013, 33,38). Volunteering

Figure 1. Participants working on their vision board. (Photo: Mia Kröneck)

allowed the women to further the forging of social relationships and the encounter of cultures, in addition to providing support for integration. A meeting place for women, which the women could come to with their children, was provided for the women on a weekly basis at Lahden Diakonissalaitos (DILA). The encounters of the women and the volunteers constituted reciprocal events in which they spent time together, focusing on various topics. In addition to the meeting place, the participants, based on the women's wishes, got to know the surroundings in Lahti and various activity opportunities, including children's music classes and playgrounds. The encounters provided the women with a safe place to discuss matters important to them, and to become part of and be encountered in positive interaction situations.

Due to the women's poor knowledge of Finnish, the voluntary activities were organised in the form of a supported group activity. The volunteers were given the opportunity to act as peer support to migrant women or to support them in learning Finnish, help them in running errands or be their friends. The volunteers supported the women's sense of inclusion, providing them with an opportunity to be encountered and be part of a group. The sense of inclusion is reinforced by the fact that the women can be part of community activities and are encountered as equal individuals (Intke-Hernandez 2020,73). Instead of having any predetermined specific goals, the meetings focused on genuine encounters. The activity was found to be extremely necessary and to support the women's integration. The most important thing was listening to the women and responding to their needs.

Voluntary activities and their successful implementation require organising and planning. The My Home in Finland volunteering highlighted the importance of a coordinator in the maintenance of grouping and inclusion. In addition to coming up with ideas for the meetings, and planning and convening them, the coordinator created a safe and tolerant environment for the encounters and free-flowing conversation. The women's poor language skills affects their self-image and may make it more difficult for them to participate in conversation or activities. To participate in activities, the women may need the support of someone they already know . A sense of community requires work and a safe environment (Karreinen 2017, 145), which is why it is a good idea for the facilitator of the activity to be someone the women know.

The project-oriented volunteers to encountering women staying at home in particular, who may lack linguistic or cultural competence, and have little contact with the native population. Volunteers from both the foreign-born and native population were recruited to provide support for the women, enabling an increase in cultural competence, as well as the creation of contacts and networks.

A sense of social inclusion is important in integration. It emphasises an individual's right to participate in the life and activities of their community (Clark 2011, 52, 53). The voluntary activities increased social skills, social networks and a sense of community. They also strengthened the women's sense of inclusion and competence.

In voluntary activities, women who have moved to Finland get to practise their language skills, learn about Finnish culture and create networks. The voluntary activities have a positive impact on well-being, and through

them, an immigrant excluded from working life can practise their skills, which may assist them in job hunting, for example (Sademies and Kostiainen 2019, 4; Castaneda et al. 2018, 53). The My Home in Finland project also involved foreign-born women taking the role of volunteers.

The My Home in Finland activity supports the realisation of women's inclusion in their own lives and in communities. The article describes the operating model created in the My Home in Finland project, which consists of mutually complementary parts: group activities; individual guidance; and voluntary activities. The operating model and the realisation of inclusion in the project were assessed on the basis of the division of the Finnish Institute for Health and Welfare (THL). These principles promoting inclusion are inclusion in one's own life, inclusion in communities and processes of influence, as well as local inclusion. The division is based on research in social, behavioural and health sciences (Isola et al. 2017, 25–38). The concrete assessment tool used was the 24-question assessment model developed in THL's Sokra project, which is based on the elements of inclusion. The assessment tool helps develop activities in which the participants consist particularly of individuals in a weaker position. Regarding the My Home in Finland activity, 12 key questions were selected for the assessment (Finnish Institute for Health and Welfare (THL) 2021c).

In the My Home in Finland project, inclusion was promoted by locating individuals who had been left outside services and welcoming them to the activity. Among other things, the outreach work was carried out by mobilising in organisations providing education in the Finnish language and marketing the activity to different teaching groups. The hope was for the information to reach a spouse at home who was unable to attend daily courses for family reasons. Partners also informed their own customers of the activity. The participants were able to take part in the activity on their own terms, even as a mere onlooker, and join in when it suited them best. The women were met respectfully and in a relaxed manner. The activity aimed to guarantee a safe environment, in which each of the participants would feel welcome. The activity was planned according to the women's hopes and needs. Once the women's language skills improved, their own activity increased, and they were offered the opportunity to share their own knowledge in the meetings related to the voluntary activities, for instance. The activity also provided the women with an opportunity to detach themselves from everyday tasks, given that the group activity included

childminders, and the voluntary activities included the organising of various events supporting well-being.

In addition, the activity provided the women with an opportunity to become part of communities and influence matters concerning their own lives. The participants themselves were heard when clarifying their needs. Each participant was offered individual guidance on different training courses and jobs, as well as other services supporting well-being. The women were also included in the development of the activities through individual interviews and an assessment workshop. Feedback was likewise regularly collected from the participants. A participant's opportunity to influence matters was also strengthened outside the activities. The group activity included Finnish language teaching and practice in many skills such as traffic safety. Employees of social care and health care services visited the group to inform the participants about the services. The group also made visits to education institutions and other services supporting well-being in the vicinity.

The women were also given an opportunity to influence their own local living environment when an event within the voluntary activity was held in which everyone was able to participate and make use of their own skills. This enabled connections with others, and generated well-being and appreciation in new communities.

Operating models promoting inclusion, such as the My Home in Finland activity, should be rooted as part of continuous operations. The women who participated in the activities of the My Home in Finland project were interviewed in Lappalainen's thesis (2021, 27). According to the results of the interviews, participation in the group activities had marked a decisive change in their integration. In addition to strengthening the participants' language skills, the activities increased their activity and social resources. The need for similar activities to be continued in Lahti is obvious.

Ensuring the continuity of the operations

The My Home in Finland activity constituted inclusion work which aimed to support a process in which an individual could live as a meaningful part of various groups and communities and make decisions related to their own life (Isola et al. 2017, 25–28). The activity also consisted of integration work, which occurred in dialogue between an immigrant and a professional. Furthermore, the activity was carried out in cooperation with various professionals across organisational borders (Vuori 2015, 402).

In line with the UN's 2030 Agenda

for Sustainable Development, the project promoted 'quality education' by increasing women's education and employment opportunities; 'gender equality' by strengthening women's rights and opportunities; and 'reduced inequalities' by advancing women's social inclusion and encouraging women in moving towards it (The UN Association of Finland, 2017). The project also met LAB's objectives by promoting social inclusion, safe daily life and the well-being of individuals.

The operations were evaluated continuously as the project progressed, and their necessity in promoting the inclusion of immigrant women and supporting mental well-being was recognised. The operations contributed to diverse services in supporting the integration of immigrants, particularly those in a vulnerable position, in accordance with the Päijät-Häme Regional Immigration Programme (2021–2025). The aim was to root the operations so that they would become part of other integration services by sharing the experiences and results with various networks.

Encounters in everyday life increase a sense of community and feelings of inclusion. Community spaces and meeting places increase possibilities for social interaction Päijät-Häme Regional Immigration Programme 2021–2025, 2021, 18). A low-threshold service such as the My Home in Finland operating model enables timely help, being listened to, unhurried encounters and spending time with people in a safe environment. In addition, it strengthens women's sense of their own inclusion and activity, and provides them with information, activities and an opportunity to spend time with each other. A feeling of being welcome and appreciated as oneself is the best way to integrate.

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Taina Heininen-Reimi, Onni Kuparinen

The Possibilities of Co-creation – A review of project collaboration in the OTE project

Menandros once said that cooperation is the root of wisdom.

In the OTE project, the collaborating parties are students' unions and the staff of the universities of applied sciences. The official name of the project – OTE – Students Promoting Employment Opportunities with the Staff of Universities of Applied Sciences – conveys the essence of the project. The project's principal objective is to develop activities that support students' employment. The students' needs, ideas and activity lie at the core of the development of these activities. The OTE project is funded by the European Social Fund's 'Sustainable growth and jobs 2014–2020 – Finland's structural funds programme' for the period between 1 October 2019 and 31 December 2021. The project includes five universities of applied sciences: Turku University of Applied Sciences, Diaconia University of Applied Sciences (Diak), Savonia University of Applied Sciences, Oulu University of Applied Sciences, and LAB University of Applied Sciences. The project is being coordinated by Turku University of Applied Sciences, and LAB and the other universities of applied sciences are the project partners. The project works in close cooperation with the student unions and staffs of the universities of applied sciences and with workplaces. At LAB University of Applied Sciences, the student union collaboration is carried out with the Student Union KOE.

Co-creation in the OTE project

'Co-creation' refers to the development of a product or service in cooperation with customers or users. Inclusion lies at the core of co-creation, and transparency is a must – what the co-creation concerns and what is being developed should be explained clearly.

ACTIVITIES PROMOTING EMPLOYMENT	CO-CREATION
The work packages (WP) and the university of applied sciences in charge	The work packages (WP) and the university of applied sciences in charge
WP1 – OPEN BADGE LAB University of Applied Sciences	WP4 – COLLABORATION AND PEER REVIEW OF STUDENT UNIONS Turku University of Applied Sciences, Diak and all the universities of applied sciences involved
WP2 – EMPLOYMENT SUPPORT AND ENTREPRENEURSHIP Oulu University of Applied Sciences	WP5 – COLLABORATION AND PEER REVIEW OF UNIVERSITIES OF APPLIED SCIENCES Turku University of Applied Sciences, Diak and all the universities of applied sciences involved
WP3 – MULTICHANNEL JOB SEARCHING Savonia University of Applied Sciences	

Figure 1. The work packages of the OTE project and the universities of applied sciences responsible for them. (Table: OTE project)

Those included must feel that they are, and multivocality must be enabled. 'Multivocality' refers to bringing out different views and voices. At the level of emotional planning, this means building trust, putting inclusion into specific terms, and ensuring multivocality. (Herlin and Kostia 2021.) In the spirit of co-creation, this article was written as a collaboration by a student working in the OTE project as an employee and a lecturer serving as the project manager. The student has previously served as the Student Union KOE´s representative in the project and is now a hired project employee. This is visible in the article's structure as follows: The student-project worker is primarily responsible for the content describing the collaboration with the student unions and the co-creation with KOE. This provides the article with an authentic student and student union perspective. The lecturer serving as the project manager is responsible for the content on general co-creation in the OTE project, and for the review on embedding, outcomes and impact. However, the article as a

whole has been planned and written with joint responsibility.

In this article, we discuss co-creation through the experiences gained in the OTE project. The OTE project has five work packages, each of which is the responsibility of a specific university of applied sciences (Table 1). Co-creation appears cross-sectionally in all the project's work packages, and in the project application, it is written in work packages 4 and 5. The objective of the OTE project is to support the employment of students in cooperation with the student unions and the universities of applied sciences. The development is implemented in the form of co-creation. LAB is responsible for the development of the open badge (WP1). The open badge has been developed in cooperation with the student unions and the project personnel. The open badge has been named the change maker (*muutoksentekijä*) open badge.

As an example of the co-creation, we discuss the development of the change maker open badge. The co-creation of the open badge has been carried out in a process-like and diverse manner. The co-creation of the open badge took place primarily in the work package's (WP1) regular meetings and during the virtual co-creation days during the spring and autumn of 2020, and in the spring of 2021. The content and objectives of the open badge, as well as the its criteria, have been thought about jointly. The naming of the open badge and the development of its visual identity have also been discussed collaboratively and voted on when necessary (Figure 2). A competition was held to come up with the visual identity, and the selected designer was a student of LAB Institute of Design and Fine Arts. A smaller group focused on planning the pilot project and the implementation of the open badge. The work of this group also involved co-creation. It was composed of students and the project's employees from the different universities of applied sciences. The universities of applied sciences and their student unions involved in the project have had the opportunity to influence the change maker open badge as a whole during all stages of the badge's development.

Figure 2. The visual identity of the change maker open badge. (Picture: Henri Syrjö 2020)

The objective of the OTE project's co-creation is to identify three beneficiaries. The common denominator

behind all these is the promotion of students' employment. 1) Student unions: Establish a national collaboration network between the student unions of universities of applied sciences which supports the further development of the student unions' employment activities. In addition, the objective is to collect expertise on the student unions' possibilities of supporting students' employment and to disseminate information about services promoting employment. 2) The staff of the university of applied sciences: The project results in a network composed of the staffs of the participating universities of applied sciences. The network can exploit its expertise in promoting students' employment in cooperation with the students. 3) Students and working life: In terms of student services, the student unions will co-create a way of influencing the development of the career guidance and working life services of universities of applied sciences (Turku University of Applied Sciences 2020).

Project collaboration with student unions

The project collaboration between the university of applied sciences and the student union constitutes co-creation. The student representatives' inclusion in the project affords an opportunity to develop the service according to the users' wishes. Involving student unions in the development of services for students provides the project workers with valuable insights, given that they receive direct feedback on the planned service, in contrast to projects with no student representation.

Project collaboration carried out with student unions provides the unions with new ways of implementing their fundamental purpose pursuant to the Universities of Applied Sciences Act: "The student body liaises with and on behalf of its members and promotes their societal, social and intellectual aspirations and those relating to studies and the status of students in society" (932/2014, section 41, subsection 1). Resources must nevertheless be discussed openly with the student union as early as when planning the project work. The work of student unions is largely under-resourced. They do not necessarily have the financial or temporal resources required by the project. If a student union is unable to actually participate, keeping it informed and updated about the project in a steering or monitoring group is a good alternative.

In the OTE project, the collaboration with the student unions in many universities of applied sciences began in connection with the preparation of the project application. The project application's texts were reviewed with the

student operators and modified in a more student-driven direction, based on their experiences. Given that the student unions' involvement in the project was official, their inclusion was critical for the project's approval. The inclusion of student unions, starting from the preparation of the project application, promotes their motivation to commit to the project. A student-driven project plan which is practical from their perspective ensures the students' genuine interest in the project, its measures and objectives. Taking these matters into account particularly facilitates multi-year projects in which the student representation changes.

To be able to participate in the project properly, student unions need financial resources. Whether the student union has the resources for the project's self-financed share is an especially pertinent question in terms of small student unions. Student unions are also required to come up with increasingly specific accounts of objectives and plans. The work of student unions is largely under-resourced, and they lack the time to formulate and plan objectives with the project workers. When a project wishes to collaborate with a student union, the project workers should think about what the project requires from the students as soon as they start thinking about the initial contact. It is easier for a student union to get involved when they know what they are signing up for. While student unions can, of course, be contacted merely on the basis of an idea, one must prepare for change and correction proposals regarding the project application in such cases. In the future, projects could also be applied for jointly with student unions, in which case both responsibilities and resources will be allocated to student unions in addition to the universities of applied sciences.

During the project, student unions were included in the co-creation days, work package meetings and the implementation of work packages in the different universities of applied sciences. Rather than remaining at the level of mere tinkering, the co-creation between the staff of the university of applied sciences and student unions has been effective, and the experiences it has yielded are of primary importance for the future. Based on the questionnaires carried out, some of the student unions feel that they have been listened to, and that their opinions matter. However, this feeling varies by student union.

Challenges in co-creation with student unions have stemmed from changes in operators. Since the project began in the autumn of 2019, the operators in the student unions have changed twice. The representatives elected to student unions usually change on an annual basis, and there are practically

no two-year operators at all. The starting points of student representatives may vary greatly. Some may join the union directly after secondary education, while others are more experienced and have a longer study history. This should be accounted for when project workers plan collaboration with students. Changes in the project's students requires the orientation of new ones. During a long-term project, the project workers may also change, in which case it should be remembered that their replacements should also be oriented to the project, its objectives and any matters in hand. It would be good for those who have been involved in the project longest to orientate newcomers. Cross-initiate, in which project workers would orientate new students, and students new project workers, could work in a co-creation project.

Including students in the activity is recommended. It was often noticed during the project how differently people think, especially students and staff. Indeed, the strength of co-creation lies in the different starting points and perspectives of the participants. The project is provided with special diversity when it involves five universities of applied sciences, each with slightly different emphases.

General observations on co-creation between LAB and the KOE student union

The collaboration between the University of Applied Sciences and KOE has been rewarding. The student representatives have been included in the project work and have had the opportunity to carry out their activities with resources provided by the project. The well-being of students is important to KOE and the other student unions. Students' well-being is not limited to their well-being during studies alone. Students about to graduate need support for employment, for example.

During the initial stages of the project, the Student Unions SAIKO and LAMKO considered their participation from the perspective of whether they saw the project's idea as practical, important and beneficial for students. SAIKO was involved in the project from the beginning, while LAMKO joined it only after the merger of the Universities of Applied Sciences and Student Unions. Following the merger, the project work was continued by KOE.

The collaboration of LAB and KOE during the project has been based on regular meetings. Roughly once a month, the project workers and representatives of the student union have met in the context of longer meetings, during which they have discussed the project and all its work packages on a

wider scale. Work package meetings have been held regularly in the joint project of the five universities of applied sciences. These work package meetings have been followed by LAB's short internal meetings, in which the participants have shared the work package's latest news and clarified or made more detailed plans for LAB's implementation of the project. Responsibilities for the project's joint meetings have been allocated, meaning that not all participants attend the same meetings. The division of work has allowed a more sensible resourcing of time and human resources.

Tasks were divided between participants from KOE and LAB at the beginning of the project. In the OTE project, LAB is responsible for the first work package, which covers the open badges. LAB is also involved in the "Employment support and entrepreneurship" (WP2) work package, the "Multichannel job searching" (WP3) work package and the co-creation work packages (WP4 and WP5), which cover the co-creation between the student unions and universities of applied sciences. Responsibility between the participants from LAB and KOE was shared according to the individuals' personal preferences and interests. The person responsible for the work package has ensured that LAB and KOE attend the project's shared work package meetings and coordinated the implementation of the work package's implementation.

LAB and Student Union KOE together organised the project's third co-creation days in virtual format at the Lappeenranta campus. The programme for the days included a separate section for each work package, a student panel and shared programme. The idea behind the work package sections was to assess the measures already implemented and to develop and plan the work package's next steps. Similar co-creation days are held once or twice per semester throughout the project. The concept of the co-creation days has been welcomed, because it gives the entire project group an opportunity to plan and do things together – something which can easily remain in a minor role in a joint project of many universities of applied sciences.

Although LAB holds administrative responsibility for the project, KOE was also asked to provide comments for the project reporting. This was seen as positive in the student union, and it increased the feeling of inclusion, or genuine co-creation. The writing of the reports did not consist solely of listing past matters and the measures implemented, but also the planning of future matters and concrete assessments of the project's progress. The project reports were written primarily along the lines of the division of responsibilities.

Student unions and projects: development targets and experiences

The OTE project's co-creation days in the spring of 2021 included a panel discussion for the representatives of the student unions involved in the project. The panellists were composed of representatives selected by each student union. The topic was activity promoting employment in the operations of each student union.

The first question put to the participants was: "Which new aspects has the project introduced to the activity?" For many student unions, the OTE project was the first project in which they participated. As a result, the OTE project has provided many student unions with additional information and the courage to participate in future project work, either alone or together with the university of applied sciences. In this respect, the project can be said to have successfully communicated a positive view of projects and co-creation with the university of applied sciences to student unions.

Another topic the participants were asked to consider was the inclusion of student unions, and how that inclusion could be further developed. The students had primarily been included through traditional means, i.e. meetings. More specified responsibilities for work packages had been divided between LAB and KOE, and the student union's operators were most equal with the project workers. From a general perspective, the student union operators requested more detailed divisions of work and common ways of working.

The third and final official question pertained to the added value yielded by the project. The students were asked to discuss the value added, both on a personal level and from the perspective of the student union. The value added for the individuals resulted from meeting new people and increased job opportunities. The value added for the student unions was provided by the new knowledge and experiences.

Review of embedding, outcomes and impact

The primary purpose of the project funding is to serve as the driving force of a new kind of activity. The content-related objective in the OTE project is to develop the practices of co-creation promoting students' employment. Important experience and information on student unions' opportunities to get involved in RDI activities will also be gained during the project's implementation. It is important to identify the various stages of the project activities from the perspective of the student unions, from brainstorming to the project's implementation and embedding. The manner by which the

project's results should be exploitable, also subsequently, should be considered during its implementation.

The core issue of embedding in the OTE project is how to turn the operating methods developed in the project into a product, and how they can be marketed so that they are eventually incorporated into the routine activities of different universities of applied sciences and student unions. The embedding model developed in the Creative and Inclusive Finland project (2015–2018) and Osuma project (2018–2020) describes the path of embedding through communication, variation, mainstreaming and establishment (Halonen 2019). We are reflecting on the situation of the co-creation in the OTE project in the spring of 2021 on the key points of the embedding model. When applying the model, it must be noted on a general level that the identification of the good practices produced by the project and their transferability to another university of applied sciences and student union requires careful investigation. What works in one's own university of applied sciences or student union may not necessarily work in another university of applied sciences or student union. The model highlights the embedding of communications (Halonen 2019, 14). The central importance of communications was noted in the OTE project. It is important to pay attention to the project communications and the language used in them. Various phases should also be identified in embedding communications. At the beginning of the project, they concern raising interest, and later, to securing commitment to the co-creation and understanding its significance (Halonen 2019, 15–16). The diversity of the communications is also important. Currently, the OTE project is focusing on the possibility of introducing variations of the outcomes developed in the work packages suitable for different universities of applied sciences and student unions. This requires multi-vocal dialogue and a review of resources with the student unions. In terms of mainstreaming, the pilot project of the change maker open badge could serve as an example. The usability of the open badge is assessed in cooperation with the students and representatives of working life. This aims to ensure the usability of the design in the eyes of those external to the project (Halonen 2019, 21). Establishment still requires a great deal of in-depth co-creation. According to Halonen (2019, 22), the path from a project to a permanent activity requires a structural impact. When a project involves five universities of applied sciences and five student unions, it is also confronted by different strategies, communities and operating cultures.

The result of the OTE project is the goal of increasing the promotion of students' employment. The project application mentions employment services in which the student unions and staff would collaborate (OTE project application 2021, 11–12). During the project, it has become clear that the resources of the student unions are insufficient to run such operations. The project is now focusing on introducing variations to its measures (WP1–WP3) so that they will be suitable and appropriate for other universities of applied sciences and student unions. The OTE project will conclude in December 2021. At this point, the project's outcomes consist of concrete forms of collaboration and co-creation between different universities of applied sciences and student unions. Material observations in relation to this have been made of the structures and resources, with an eye on the project's embedding. An assessment of the OTE project's impact requires the project's objective – i.e. the employment of students – to be considered again. The employment of students is an individual and societal goal. Its benefits for an individual's, or student's, well-being are manifold. Erik Allardt's dimensions of well-being – having, loving and being – reveal the supplementary benefits which may be linked to employment (Finnish Institute for Health and Welfare (THL) 2021). The impact assessment must account for its temporal character. Often, the impact does not become apparent until years later. The OTE project has already yielded important information on co-creation and project activities carried out with student unions.

The co-creation and project work between the student unions and staffs of the universities of applied sciences has been a rewarding and instructive experience. The significance of co-creation lies in the fact that it will be a key operating method in future projects. Three key observations on project and co-creation work to be carried out with student unions:

1. Include the student union in the project's brainstorming, planning and writing phase. Discuss the student union's need for the project. The student union should also be included in the project's implementation and assessment.
2. Clarify the student union's resources and possibilities for commitment from a temporal perspective. The student union's board serves on a fixed-term basis.
3. Act openly, transparently and multi-vocally, collaborating throughout the project.

The OTE project promotes LAB's objective of making students' learning part of the RDI activities. Of the Sustainable

Development Goals, the OTE project promotes *quality education* by providing students with an opportunity to gain diverse experience in project work. *Gender equality* is promoted by enabling all genders to operate in the OTE project. *Decent work and economic growth* are promoted in the project by operating in a student-driven way and employing students in the project. In particular, the OTE project promotes collaboration and *partnerships*. These become apparent in the co-creation, which the staffs of the universities of applied sciences and the student unions implement together in the project.

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Marja Kiijärvi-Pihkala, Marja Ahola, Olga Kaartinen, Marina Shchipova

Towards Working Life – Building the Human Capital of Immigrants with Mentoring and Workplace Counselling

Introduction

Several projects and measures to support employers in the employment of people with different cultural and linguistic backgrounds are underway in Finland. Training and counselling models are also being developed to coach immigrants to enter the Finnish labour market.

The LAB University of Applied Sciences is committed to the joint programme of the universities of applied sciences for sustainable development and responsibility (Arene 2020). One of the promises in the programme is to promote access to education and increase in competence regardless of one's family background, gender, language, ethnic origin, nationality, disability, place of residence or other factors not attributable to an individual.

LAB's strategic objective is to support the growth of partner organisations and to create new jobs. The strategy is promoted through multidisciplinary development projects. The projects take the perspective of sustainable development into account. The objective of this article is to discuss factors and challenges that affect the employment of immigrants in Finland, introduce research-based practices which help improve immigrants' opportunities to enter the Finnish labour market and ensure that their employment is as sustainable as possible.

Employment situations of immigrants

The employment rate of immigrants is 10 percentage points lower than that of the general population, although

employment among Europe's internal immigrants is sometimes even better than that of the original population (Eurostat 2019). The employment rate of immigrant women is lower than that of men of the same nationality. Women often emigrate at an age when they have children, which slows down their integration in the labour market (Työ- ja elinkeinoministeriö 2021, Shemeikka et al. 2021, 41).

In addition to the aforementioned linguistic and cultural competence or the lack of networks, factors contributing to unemployment may include both prejudices and discrimination in recruitment (Alho 2020; THL 2021). Many employment opportunities are hidden jobs, and if an immigrant has no networks, it is impossible for them to find these jobs. What is often needed is someone who offers support and makes their existing social network available to the immigrant on the journey towards employment. This person may be a teacher, counsellor or mentor, or they may know someone who knows someone who can recommend the immigrant to a position that suits the immigrant's competence (Alho 2020). This person may also support the immigrant during the employment process, and often after the process as well, to ensure that employment is sustainable.

It is common that a person must change careers completely or work in a sector that does not match their education after immigration. The employment relationships of immigrants are often part-time (Kazi et al. 2019). The degree identification and recognition processes are complex and long, and determining what the licensing processes are takes an unreasonably long time (Ahola et al. 2019a; Kouzi et al. 2021). Working life is currently insufficiently flexible to integrate competence that does not fit a familiar mould.

Immigration will maintain Finland's population growth, because the birth rate in Finland is the lowest in history. Many sectors are suffering from a shortage in the labour force, and an ageing population is further complicating the situation. Immigration has the potential to alleviate the situation (Työ- ja elinkeinoministeriö 2021; TEM et al. 2021; Ministry of the Interior 2019). Sustainable reforms take place in working life in situations where cooperation between different actors and talents is flexible, and the parties needing and providing support find each other.

Eighty per cent of immigrants are of working age (Migri 2021; Tilastokeskus 2021). Despite the shortage of employees, companies are not ready to hire employees whose cultural backgrounds are foreign (Työ- ja elinkeinoministeriö 2021). Companies are concerned about challenges related to factors such as language skills, familiarity with the

working culture, occupational safety and liability.

The employment of immigrants benefits both the immigrants themselves and society. When an individual can apply their skills and competence, their well-being and that of their family improve. In addition, the effects extend to both working communities and the region's business life, strengthening them sustainably and responsibly.

Employees representing different cultures bring new perspectives to the working community and may offer the company considerable benefits when it expands to international operating environments. The benefits also include effects on product development, client satisfaction and the company's language competence. All parties benefit from the situation: a diverse work environment enriches working life with a new kind of competence and has been proven to increase companies' innovativeness and productivity (TTL 2021; Heikkinen et al. 2020).

The degree system is solid, and although vocational education has especially been working to promote the informal verification of competence, the licensing processes are still very slow in many vocations. Countries with a long history of international recruitment such as Canada, Great Britain, the USA and Australia have already streamlined their systems (Ahola et al. 2019a). In Finland, the diversification of working life is still a new phenomenon, but the streamlining of the systems should take place fairly soon, given the population projections and the need for labour in the care and service sectors in particular (TTL 2021).

A gendered labour market is also a challenge. In predominantly male sectors such as construction and transport less advanced language skills are sufficient, but the predominantly female sectors of care or education require excellent language skills. The barriers and delays to employment can be influenced with conscious and timely measures (Kazi et al. 2019).

An immigrant who has no job or works part-time lives in constant financial insecurity, and the situation also affects their social relationships, and the development of their linguistic and cultural competence. The uncertain situation affects the psychological well-being of the entire family and their networks, as well as the sense of being in control of one's own life. It takes a very strong character to remain unscathed by constant rejection. Persistence in jobseeking will finally pay off, but for many immigrants, the path to employment is excessively long and considerable time, money and human resources are wasted in the process (Heikkinen et al. 2020; Kazi et al. 2019). For the employment processes to be more effective, actors that facilitate

opportunities and offer networks and expertise to all employment stakeholders are needed.

Country-specific human capital contributes to employment

Human capital broadly refers to the collective capital of individuals and groups (Huff 2018). Human capital is often discussed in relation to work (OECD 1998). This capital includes all the information, competence, experience and characteristics of an individual, or share by a certain population. More detailed examples include education, health, personality, and workplace and cultural skills. These factors make up an individual's or group's cumulative capital into which their organisations can tap to achieve their objectives.

Originally, the concept of human capital stemmed from the idea that investing in human resources could improve productivity and performance (Becker 1975). Human capital helps generate material capital for an organisation, making it an indispensable resource. Taking human capital continuously into consideration and developing it through education, for example, is therefore of the utmost importance. Human capital can also be measured in monetary terms, in which case it refers to the value of an employee's experience and skills, for example (Huff 2018).

The concept of human capital has also been used to describe factors related to the employment of immigrants. The employment challenges immigrants face can be viewed from different perspectives. In the grouping by Van Dooren and De Cuyper (2015), the main important barrier to success attributable to the employee is the foreigner's lack of sufficient human capital (this may include both special skills and a network). Barriers related to the employer include issues associated with the identification and recognition of competence and potential negative attitudes. Barriers also exist due to the rigid structure of the labour market.

An immigrant's human capital consists of five areas: social (professional networks, shared acquaintances); information-related (for example, information on the national or local labour market); cultural (understanding the local work culture, workplaces, sectors); psychological (self-confidence, motivation); and economic (language skills, degrees, technical knowledge etc.) (Van Dooren & De Cuyper 2015).

Immigrants' opportunities to find employment can be improved by focusing on increasing human capital. Various counsellors, mentors and teachers may be of assistance in this.

Employers and other employees also have the opportunity to support the growth of human capital. According to

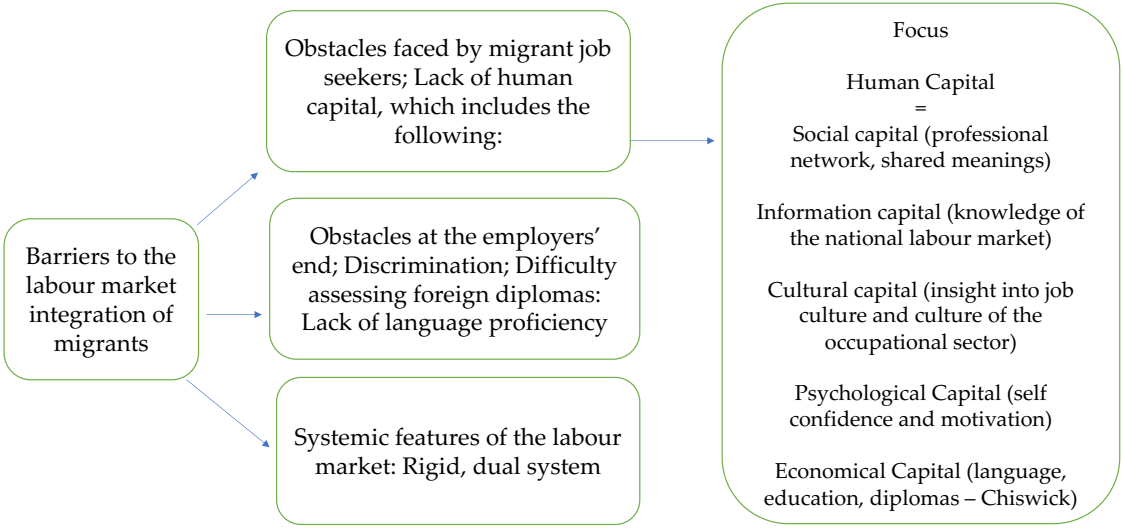

Figure 1. Explanatory mechanism for new migrants' difficult entry into the labour market. (Figure: Van Dooren & De Cuyper 2015)

Vandermeerschen & De Cuyper (2019), such cooperation benefits both parties: on one hand, it develops immigrants' employability; on the other, it also increases the employer's awareness and competence.

Mentoring to work supports employment

Mentoring to work is a process in which a more experienced person supports and guides a person with less experience (the mentee). The goal is for the mentee to proceed towards working life in a sustainable manner. The mentoring process is voluntary, and the mentoring relationship is reciprocal (De Cuyper et al. 2019, 117).

Mentoring has been proposed as a method to boost immigrants' employment (Organisation for Economic Co-operation and Development & European Commission 2018).

MENTORING TO WORK AND HUMAN CAPITAL

Vandermeerschen and De Cuyper have studied various mentoring programmes and the benefits the mentees have gained from the perspective of human capital. The research data included four focus group and 12 semi-structured interviews. In the study, conducted in 2018, a total of 30 immigrants with higher education who originated from 18 different countries (non-EU) was

interviewed (Vandermeerschen & De Cuyper 2019). The table below provides a summary of the perceived benefits and different areas of human capital.

Similar results concerning the benefits of the mentoring activities and their connection to the different areas of human capital were also obtained in the mentoring programme organised in the MESH project.

MESH – EMPLOYING IMMIGRANTS VIA NETWORKS AND MENTORING

The "MESH – Employing immigrants via networks and mentoring" project supports the employment of immigrants by strengthening their networks and developing mentoring practices. The project is implemented jointly by the universities of applied sciences in the Turku, Lahti and Tampere regions, and is funded by the European Social Fund.

BENEFITS	TYPE OF CAPITAL
Culture specific and spector specific advice	Information capital, cultural capital
Orientation	Information capital, cultural capital
Job application advice	Information capital, cultural capital
Having a person of trust – "helpline"	(different types)
Learning and practising Finnish	Economic capital
Developing/repairing self-confidence; empowerment, not giving up	Psychological capital
(step towards) access to employers	Social capital
Mentos accelerates process	(different types)
Developing network	Social capital

Figure 2. Benefits for the mentee and human capital. (Vandermeerschen & De Cuyper 2019)

The project has developed a mentoring model, practical tools for mentoring (Yeskummit 2021) and materials to support networking (Mesh 2021). The tools enable the mentor and mentee to work together to develop their theoretical and practical skills.

Mentoring programmes have been implemented in Lahti, Turku and Tampere during the project. More than 150 immigrants representing different sectors have already been accepted as mentees. Specialists from various sectors have worked as mentors. Feedback on programme participation has been collected from all participants (both mentees and mentors).

The mentees who participated in the mentoring programme organised by LAB University of Applied Sciences in 2020 described the benefits of participation as follows:

- I was able to understand how the Finnish system works in terms of when and how to apply for a job as a student, and even after graduation.
- I learnt a lot concerning work life and Finnish culture.
- Learning Finnish languages.

In Lahti, mentoring has also been piloted among immigrants participating in preparatory training. Their mentors were students from sectors in which the mentees were specialising. In these cases as well, the benefits gained by the mentees were linked to human capital.

The mentees felt that mentoring increased their courage and trust in their possibilities (psychological capital). Many participants said their mentor had helped them prepare their CVs and job applications. In addition, the mentors had helped them learn what types of recruitment channels were used in Finland (information-related capital, cultural capital). The mentees had also practised the terminology used in their respective sectors with their mentor (economic capital).

Scaffolding and workplace counselling connecting talents and needs

In the future, incorporating diversity in their operations will be crucial for companies. In addition to multidisciplinary cooperation, new kinds of understanding and information that increase companies' openness will be needed for companies to be better equipped to renew themselves and offer sustainable employment solutions to immigrants (Työ- ja elinkeinoministeriö 2021; TTL 2021).

THE MALVA PROJECT

The "Malva – Preparing immigrants for working life" project produces tools and resources that jobseekers, parties providing guidance and workplaces can

use. The project applies a practical and flexible approach to the mismatching problem between companies and immigrants through linguistic and cultural support, for example. Flexible as well as digital methods to support immigrants in employment provide an effective and precise way of supplementing competence in the employment stage.

MALVA asked companies to list their wishes regarding their need of support and orientation practices for employing immigrants by contacting the companies directly and through surveys and interviews (Zafar et al. upcoming in 2022). Based on the responses received, a network of workplace counsellors and related online coaching were established (Osaamisenpaikka 2021). The online coaching includes training packages for companies that cover resource-based coaching, identification of competence, linguistic and cultural awareness and diverse working communities, for example. Orientation and counselling solutions and orientation chatbots have been prepared jointly with companies for companies and jobseekers.

The MALVA project is implemented jointly by the LAB University of Applied Sciences, Salpaus Further Education and Haaga-Helia School of Vocational Teacher Education, and is funded by the European Social Fund. The project involved 50 immigrants and 17 job counsellors from 10 different companies, but more than 40 companies responded to the interviews and surveys. At the time of writing this article, a total of seven immigrants had found employment. All measures in the project were implemented by listening to the participants and collecting feedback from them on the measures implemented.

EMPOWERMENT AND SCAFFOLDING FOR IMMIGRANTS TO USE

Processing the problem areas identified in the employment of immigrants is possible when communication is open between companies employing immigrants and all stakeholders in the surrounding society: daycare centres, schools, services and jobs should be accessible to all. Finding employment is usually easier when there is a peer, a support person or a suitable contact in the network (Alho 2020).

In the MALVA project, more than 40 companies were interviewed in the Päijät-Häme and Uusimaa regions. Only a few considered commands of the Finnish language a decisive factor in employment. Companies want to find someone who is easy to get along with and can bring added value to the company's operations by being proficient in a certain language, for example. It is a general belief that the "wrong kind of" language skills, such as speaking

Finnish with an accent, are among the main barriers to employment. However, the experiences of both companies and jobseekers show that interaction skills and the awareness of cultural practices are at least as important as speaking the language of the original population in the workplace (Oikarinen et al. 2020). Many workplaces have been very interested in the "Selkeetä ohjausta" (clear counselling) training offered to workplace counsellors by MALVA personnel. Occupational safety reasons and being able to convey important messages in an easy and unambiguous language have motivated company representatives, vocational teachers and counsellors to work on their skills.

Workplaces want to find employees, and the variety of talents is extensive, but matching employees' skills with the requirements of a job requires job duties to be modified in many cases. If a shared planning process is established, and there is dialogue with the employer, it is often possible to create a functioning job description. The processes are not easy, and there are often no precedents. Reflection and investigation of relevant matters often takes a lot of time.

We will give examples of how new jobs have been modified in the MALVA project below. Process 1 (Figure 3) describes a client's process over nine years. The person in question worked as a psychologist in their home country and would also like to work in the same profession in Finland. Their language skills are already good, their egree has been recognised, and they are currently a qualified psychologist. However, finding a job is a problem. In the future, becoming an entrepreneur may be the only option for them to find employment in their own field. However, the person will need a lot of support in entrepreneurship.

Process 2 (Figure 4) describes a process in which a researcher with a PhD in chemistry cannot find work that matches their qualifications and eventually has to change careers and study for a new vocation. Through MALVA, they first found work as a light entrepreneur and later as a part-time teacher in a comprehensive school. They created a new job for themselves and generated a need through their own actions. Since they are not a qualified teacher, their pay is lower than that of the other teachers, and the employment relationship is for a fixed term. The person finds it important to be in a psychologically and financially equal position with their colleagues. They have therefore applied for further studies. They have an opportunity to find work as a chemistry teacher by completing supplementary studies and pedagogical studies in Finland.

Process 3 (Figure 5) describes the challenging path in Finland of a healthy

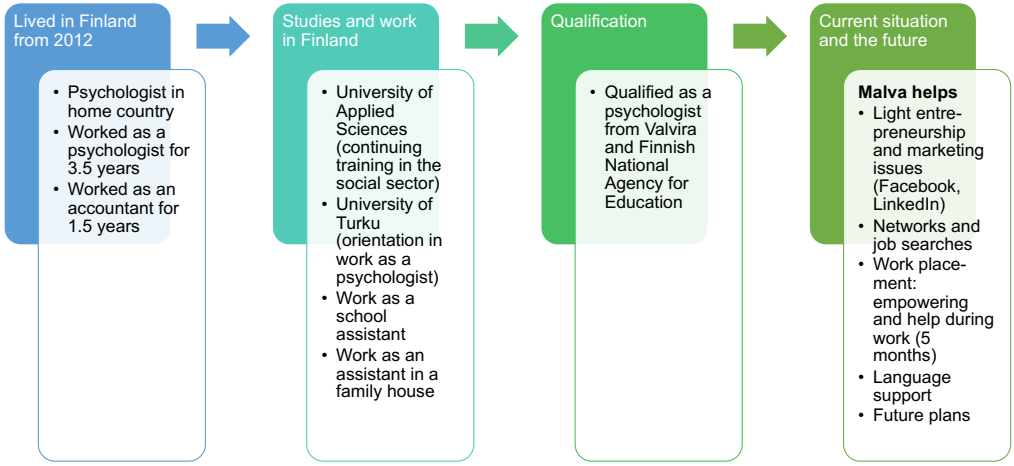

Figure 3. An example of the need for support: A qualified psychologist process. (Picture: Marja Ahola)

and hardworking person who has no reading and writing skills in their own language. They entered the MALVA project after establishing a food industry company (cheese production) and needed support to prepare the company's documents and with the permit processes. MALVA also supported them in applying for studies and in looking into the available opportunities.

All three examples describe people who would have been ready to work from day one after immigrating to Finland. Barriers to employment included their unfamiliarity with the Finnish operating environment, the lack of information on matters associated with being an entrepreneur and their lack of networks. The MALVA project was a bridge between the employee and the employer and took the needs of both parties into consideration.

RESULTS OF WORKING WITH WORKPLACE COUNSELLORS

One of the objectives of the MALVA project is to determine companies' need of talent and workforce, and the related need of support, orientation methods and digital practices related to orientation. Information, online coaching elements and workshops will be

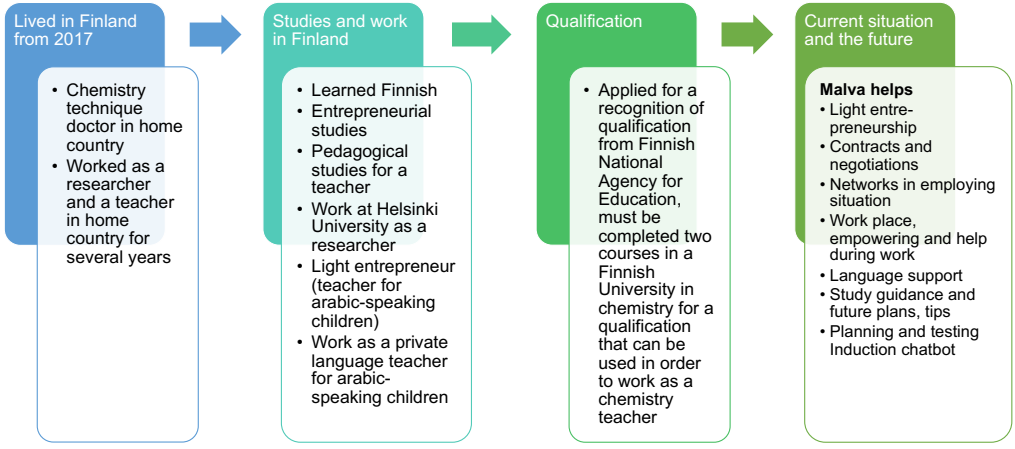

Figure 4. An example of the need for support: A chemistry engineer's process. (Picture: Marja Ahola)

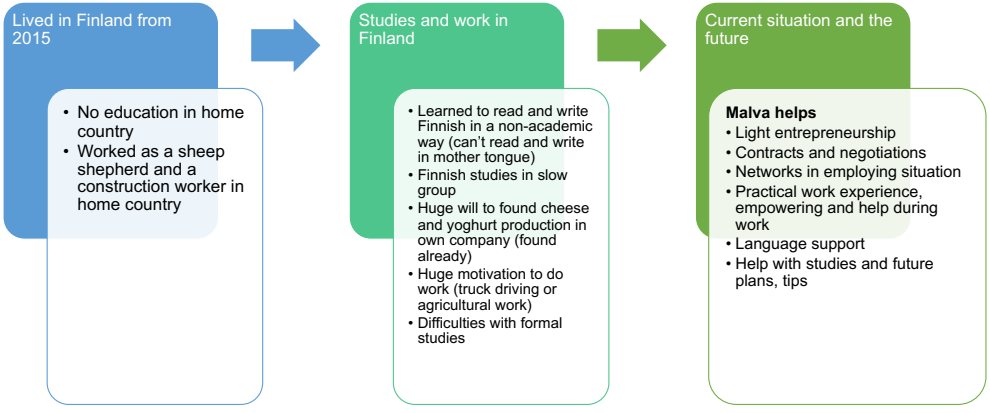

Figure 5. An example of the need for support: An agricultural entrepreneur's process. (Picture: Marja Ahola)

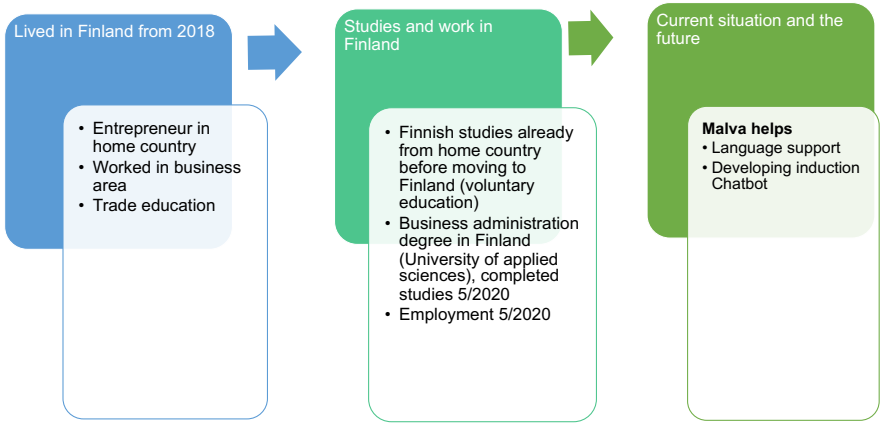

Figure 6. An example of the need for support: Bachelor of Business Administration. (Picture: Nuutila 2021)

produced based on the results (Zafar et al. upcoming in 2022). Orientation materials and orientation chat-boxes have been prepared with several companies to provide reliable answers to frequently asked questions, without having to bother the counsellor, which will save time for more meaningful discussions. Many companies already foresee challenges in finding employees, which is an aspect companies needed help with. More than twenty companies would like to work with educational institutions on recruiting immigrants (Zafar et al. upcoming in 2022).

MALVA personnel also conducted theme interviews with representatives of educational institutions, employers and immigrants. The results confirmed that immigrants often cannot make use of their earlier experience after arriving in Finland. According to the theme interviews, receiving support and encouragement is extremely important. Many prejudices undermine immigrants' self-confidence. The immigrants' motivation and desire to find employment is extremely high (Nuutila et al. upcoming in 2022). The MALVA project strives to increase the resources of both individuals and working communities.

All immigrants who found employment also received support from the project in the early stages of employment, which both the employee and the employer found important.

Conclusion

Increasing the employment rate of immigrants to the same level as the general population calls for changes in several areas. To ensure that

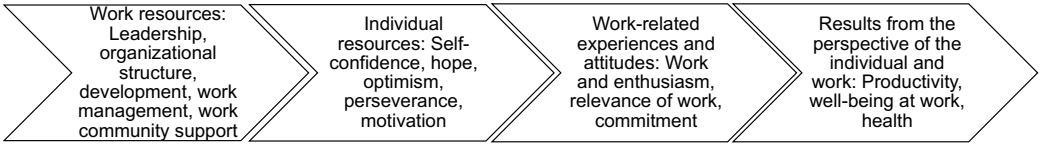

Figure 7. Results of theme interviews of the target groups of the MALVA project: Desires of the target groups. (Picture: Nuutila 2021)

employment is sustainable, and that both the sustainable development goals and LAB's strategic objectives are met, the challenges related to finding employment, as well as orientation to and integration with work, should be considered. This article discussed these issues and described how they have been addressed in the current projects in light of the best currently available information.

The MESH project harnesses volunteer professionals to provide support for immigrants. This provides reciprocal benefits: the immigrant develops their human capital, and the mentor improves their multicultural skills. In many ways, human capital is tied to culture: job search routes and information channels differ in different countries. Access to local networks is needed when one is looking for a job. Various country-specific regulations apply to certificates. A mentor can help an immigrant grow their country-specific human capital.

The MALVA project's measures influence working communities. Support that helps ensure success is available for recruitment and work orientation. The organisation should therefore focus on this stage, because recruitment is always an expensive investment. MALVA operates at the interface of educational and counselling organisations, as well as employer organisations, and enables smooth transitions. This also calls for educational organisations to take a leap of faith so that they can listen to and genuinely hear the needs of companies, and understand their daily operations. Boldness, creativity and innovative solutions, not to mention common sense, are needed to ensure that the measures are gradually incorporated into the daily work.

Employment support for finding work has been available for a long time. Educational processes are largely linear, but a step-by-step model is too slow. Employment processes take place concurrently, and linguistic and cultural skills can be learned on the job as long as sufficient support is ensured (Ahola et al. 2019b). There is also considerable need for support even after becoming

employed. Providing support for working communities in this situation ensures that employment is sustainable, and in line with both LAB's strategic objectives and the sustainable development goals.

The employment difficulties immigrants face can be explained by several factors related to jobseekers, employers and working life structures, among other things. A complex issue therefore calls for a variety of solutions. For example, more attention should be paid to supporting immigrants' entrepreneurship in future. The most important thing is to see immigrants as active contributors to the vitality of society and well-being. Sustainable progress on the path to employment benefits everyone.

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Jaana Lerssi-Uskelin, Katja Mälkki, Marko Kesti

Well-being at work, occupational safety and sustainable competitiveness require investment in technology and people

The UN's Agenda 2030 for Sustainable Development was adopted as early as 2015. Since the adoption, themes related to sustainable development and responsibility have received increasing public attention, and today they are also included in the agenda of a growing number of enterprises and organisations. Goal 8 of Agenda 2030 covers employment and work life, and emphasises decent work and economic growth with the aim of guaranteeing good and safe work for everyone (United Nations 2015).

The SafeInLog project, funded by the ESF, works to improve occupational safety and well-being at work for in-house logistics personnel in small and medium-sized enterprises, and by doing so, to promote the competitiveness and productivity of the SMEs. Work in the logistics sector is experiencing enormous pressure to change. The COVID-19 pandemic has increased online purchasing, which has placed additional pressure to change on logistics sector workplaces. Most of the work in the sector cannot be performed remotely, which is why the pandemic has introduced numerous challenges in the organisation of work, among other things. The work in the logistics sector includes time pressure and seasonal fluctuations which increase the experience of stress and mental strain among employees in particular (Rudd 2020). Physical strain of work, supervisor's limited opportunities to affect work, time pressure and being busy have adverse impacts on supervisory work and the well-being of personnel as a whole (Härkönen et al. 2015, 43–48). Similar change pressure and challenges were also identified in the

current "SafeInLog – Work safety-based productivity and well-being in inhouse logistics" project on occupational safety and the resulting increased productivity and well-being at work in in-house logistics.

The development project was launched in March 2020 and will continue until the end of October 2022. The project consists of the following packages: an occupational safety survey with recommendations; a situational analysis of personnel productivity; an analysis and follow-up of a Quality of Work Life survey; as well as company visits, which include an initial survey on well-being at work, peer learning tours, development plans and follow-up. The project includes producing an e-guide on safety at work and a digital tool for observing and assessing safety risks, building an assessment model for the impacts of occupational safety in in-house logistics on the economy and the quality of work life, and developing a peer-to-peer learning tour model of companies concerning well-being at work.

Challenges in and positive factors of in-house logistics work

In-house logistics means the handling of materials and products within a plant or warehouse, for example. It includes stages such as goods receiving and identification, shelving, pick-up, transfers to production, packaging and shipping of goods and materials. From the perspective of the supply chain, in-house logistics plays a key role in achieving profitability and the desired level of customer service. The development of in-house logistics and related competence improvement can impact the effectiveness and quality of operations (Ahlqvist & Koskela 2020, 26–27; Lahtinen & Pulli 2012, 84).

Typically, in-house logistics tasks are performed by employees of different ages and often of different cultural backgrounds. In general, the surveys conducted in the SafeInLog project indicate that despite their different backgrounds, employees get along with each other well, the overall atmosphere in workplaces is good, and employees enjoy being at work. However, there are also challenges.

In-house logistics operates at the junction of streams of goods and transport flows. This creates special requirements for occupational safety and industrial security. The risk of accidents in in-house logistics has been observed to be higher than average due to the labour intensity of functions related to in-house logistics (internal transports, material handling, warehousing), the demanding physical work, shift work, varying working conditions and workforce turnover (Rudd 2020; Lahtinen & Pulli 2012, 85–89). Occupational safety

issues in in-house logistics are highlighted in small companies in particular, where limited resources prevent the companies from investing in occupational safety as systematically as larger companies.

According to Härkönen et al. (2015, 40), the satisfaction of logistics sector employees with their current job was weaker than in other sectors. Similarly, the employees' health status was considerably poorer than that of employees of the same age in other sectors. Work was burdensome and stressful, physically and mentally. There were also fewer opportunities to influence matters impacting oneself than in many other sectors.

Well-being at work status of in-house logistics employees as observed in the SafeInLog project

Thirteen SME sector companies that have in-house logistics operations participate in the SafeInLog project. The sectors of the companies range from the wood industry to the service and retail sector. The majority of the companies are small (11–49 employees), but the participants also include a few medium-sized and large companies.

A primarily electronically implemented Well-being at Work survey was conducted in all the involved companies at the beginning of the project. Completing the survey in paper format was also an option in three companies. The House of Well-being at Work was used as an orientation to provide a comprehensive view of well-being at work (Figure 1).

The Well-being at Work survey consisted of 53 questions that covered the different floors of the house. Usually each company's entire personnel responded to the survey. Some companies targeted certain departments or units only. The response rates per company ranged from 44% to 99%. The number of respondents to the survey totalled n=516. Of the respondents, men accounted for n=324 (67%) and women n=163 (32%), and the share of those who selected the option "Other gender" was n=7 (1%). Warehouse employees accounted for n=251 (63%) of the respondents, while the number of other employees among the respondents was n=149 (37%), warehouse supervisors n=37 (54%) and other supervisors n=32 (46%).

The survey results provided a comprehensive view of the well-being at work status of both the companies and the personnel carrying out in-house logistics work.

In addition to the physical strain of work typical of the sector, the survey highlighted also mental strain, being busy, work backlog, and the lack of opportunities to influence one's own

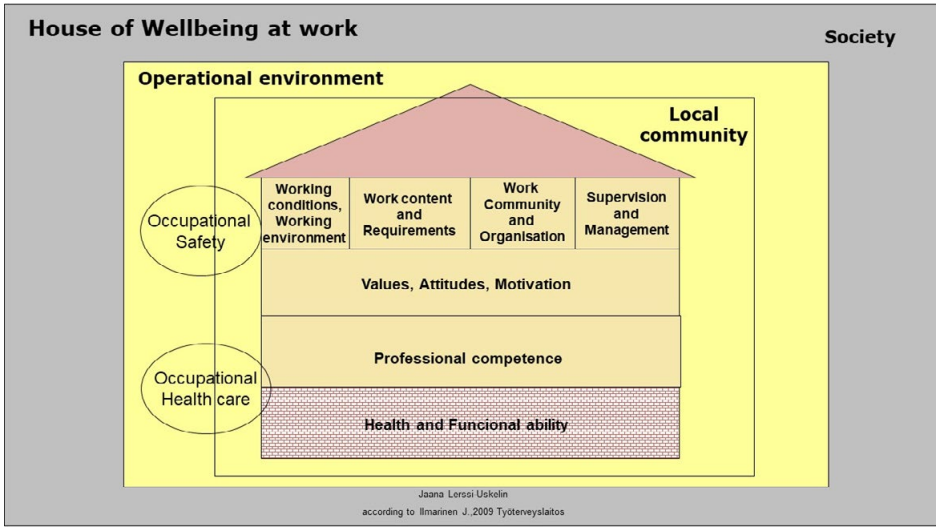

Figure 1. House of Well-being at Work. (Picture: Jaana Lerssi-Uskelin)

work and to participate in the development of work. However, the accident risk that is typical of in-house logistics was relatively low, and the accidents that had occurred were relatively minor. Only 9% of the respondents had had an accident during the last three years. A low or negligible accident risk was reported by 60% of the respondents.

In particular, warehouse employees reported that work involved physical strain. Work was considered to be fairly or very straining by 37%, whereas only 10% of the other employees found their work physically straining. According to the latest work life barometer, in general, 38% of all wage earners in Finland found work physically straining (Keyriläinen 2020, 109). There can be several reasons behind the physical strain of work. The most typical reasons are heavy lifting, difficult or uncomfortable work positions, repeated monotonous movements, a disorganised work environment, a lack of space, and several physical factors in the work environment (vibration, moisture, heat, cold, draught, poor lighting, noise). Being busy also causes physical strain, and accidents or their

threat increases the feeling of being physically strained (Lehto et al. 2015, 38–40). In in-house logistics, the work of warehouse employees is considered physically straining, but not above the general level in Finland.

In the Well-being at Work survey (Figure 1), the mental strain of work was emphasised among supervisors in particular. Work was found fairly or very stressful by 48% of warehouse supervisors and 53% of other supervisors. Among all survey respondents, 22% considered their work fairly or very mentally straining. There was very little difference between men (22%) and women (23%). According to the latest work life barometer, in general, 63% of all wage earners in Finland found work mentally straining (Keyriläinen 2020, 113). Typically, being busy and the resulting challenges (no time to perform work to one's own standards, no time to be thorough, no time for breaks) were reasons given for mental strain at work. A faster pace of work, a threat of violence, harassment and bullying, competitiveness in the workplace, conflicts between employees, poor work organisation, dissatisfaction with supervisory work, lack of support from the supervisor, as well as a restless work environment and noise, increased mental strain (Lehto et al. 2015, 33–38). Although supervisors experienced less mental strain than wage earners in Finland overall, their mental strain was more than twice as high as the mental strain experienced by employees.

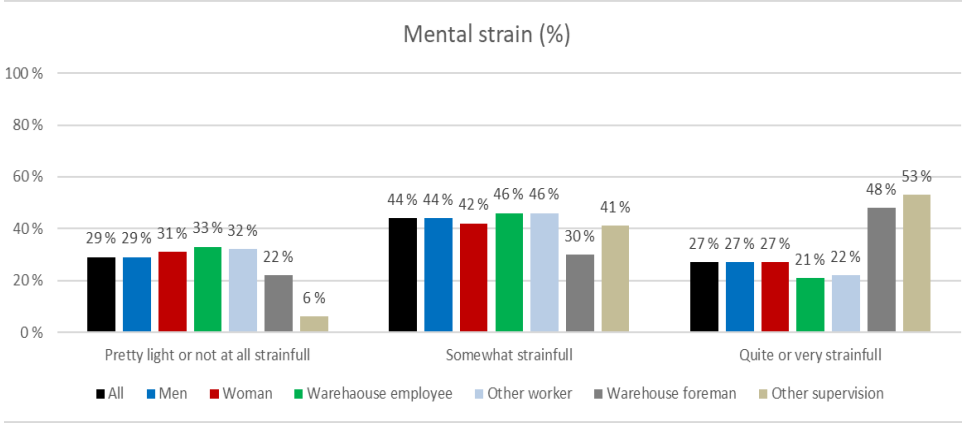

Figure 2. Mental strain of work. (Picture: Jaana Lerssi-Uskelin)

Among all respondents, 46% were busy fairly or very often, while the figure among supervisors was 56%, and among employees 44%. In other words, the results are slightly below wage earners' general experience of being busy. According to the work life barometer, 67% of wage earners felt they were busy at work daily or weekly (Keyriläinen 2020, 107).

A work backlog was experienced in warehouse work in particular. It was found that work became backlogged fairly or very often by 46% of warehouse employees and 46% of warehouse supervisors. Among all employees, women experienced a work backlog more than men.

Opportunities to influence matters affecting oneself were found to be minimal by warehouse employees in particular. The opportunities were considered fairly or very minimal by 25% of them.

The companies participating in the project apply their employees' experience and competence fairly well in the development and planning of the operations. Concerning this matter, 63% of all respondents agreed strongly or moderately. However, 27% of warehouse employees felt that their competence and experience were not applied in the development of the operations.

Although the experience of warehouse employees and supervisors in in-house logistics is that their work is busy, it is less so than among wage earners in Finland in general. The opportunities of warehouse employees to influence their work and the application of their experience and competence to their work still seem minimal, as it was previously as well, according to research conducted by Härkönen et al. (2015, 47).

Positive aspects reported in the survey included a good work atmosphere, good cooperation with co-workers, and assistance and support received from co-workers. The level of contributing to one's work was also good. Of all the respondents, 84% said their contribution in terms of their skills and resources to their work was very or fairly considerable. The work atmosphere was found to be always or usually relaxed and comfortable by 82% of all the respondents, in addition 60% said the work atmosphere offered encouragement and supported new ideas. According to 93% of all respondents, cooperation with co-workers functioned very well or fairly well, and 85% felt that they received assistance and support from co-workers very often or fairly often.

Finding together solutions to the challenges of well-being at work

The project includes peer-to-peer learning tour in regional companies concerning well-being at work. For that purpose, the participant companies

have been divided into groups of 3–5 companies. The companies take turns arranging an introduction and orientation visit to their facility for the representatives of the other companies in their group. The idea behind the tour is to learn from others, share good operating methods, and receive and offer peer support in well-being at work and in matters concerning occupational safety. In addition, the visits aim to help the participants learn participative new ways of operating in the workplace.

In addition to the tours, the project includes supervisor workshops that offer peer support and opportunities to discuss good operating practices to make operations more systematic. The workshops aim to boost supervisors' interaction skills – in other words, their understanding of and skills in measures, practices and support networks that are worth harnessing. An added boost to supervisory work also improves the impact of the measures taken.

Sustainable competitiveness requires investing in both technology and people

The SafeInLog project aims to enable sustainable development paths for the participating companies. The goals of the UN's Agenda 2030 for Sustainable Development (United Nations 2015) include achieving a higher level of economic productivity through diversification, technology transformation and innovations, as well as promoting development-driven practices which support productive operations, creativity and innovation. In view of these goals, the quality of work life (QWL) is also analysed from the Well-being at Work survey conducted in the project. The quality of work life is an index (0–100%) that describes employees' experiences of well-being at work. Measuring the quality of life provides company management and supervisors information about which issues should be focused on to improve well-being at work and performance (Kesti & Pietiläinen 2019).

Well-being at work is also viewed as a factor of production, i.e. how human performance affects the company's profit. The connection between well-being at work and the economy is illustrated in the project by viewing the measured quality of work life, in other words, the performance of people, as a factor of production by linking it to the company's personnel and financial figures (Kesti & Syväjärvi 2015). In human resource management and organisational interaction, a psychological agreement forms the foundation of cooperation between people. When one can trust one's supervisor and co-workers, different thoughts, ideas and opinions can be expressed and discussed, and people also have the

courage to bring up problems. This fosters a social atmosphere based on trust, which promotes increased well-being at work and improved performance, and enables innovations (Paloniemi et al. 2010, 26–28).

A company's operations can also be viewed from the perspective of a customer. When an employee's well-being at work is balanced, and they feel they can influence and share ideas about their work, the impact on customer experience is also positive**.** The employee has resources, ideas and creativity to solve customers' problems and exceed their expectations (Kesti 2010; Kano et al. 1984).

Investing in people

The median value of the QWL-index in Finland is 60% (Savusalo 2017). The quality of work life in the companies of the project was 65% in average. As a sample, this is a good result, even though society is in the middle of a pandemic. In some companies, the pandemic has had a considerable impact on their operations and has probably weakened well-being at work compared to the time before the pandemic, because temporary layoffs and increased financial uncertainty naturally also affect the survey result. On the other hand, some of the companies have been able to maintain a high QWL index despite the challenges in the sector and the operating environment.

In the QWL analysis, the results are viewed in accordance with the motivation theory, and there can also be a focus on the experiences of individuals in addition to the overall results. The quality of work life consists of three motivation factors, all of which impact the individual simultaneously. The foundation of everything is physical and emotional safety (coping, psychological agreements), which is a necessity for and a basis of well-being at work and an employee's performance. Performance is improved by collaboration and identity (competence, processes, a sense of togetherness), as well as objectives and creativity (joy and meaningfulness of work). (Kesti et al. 2016). Anonymous information on how different individuals experience single motivation factors will help the supervisor focus on the correct interaction practices in their team. In the majority of the project companies, the development needs were specifically associated with ensuring the foundation (physical and emotional security). Although the companies are above the Finnish average in terms of the motivational factors collaboration and identity, objectives and creativity), they should continue to invest in these factors to make full use of their human performance. In all participating companies, the work atmosphere was good, which is worth fostering.

Well-being at work and safety are important for companies' ability to function

The quality of work life also reflects the occupational safety culture. The basics have an impact here as well: Being tired may be a risk factor for a forklift operator, or working in a hurry may result in mistakes that have a serious impact on business., if a supervisor is too busy to listen to their employees, important information about for example issues in the flow of work or other problems may be missed, which may affect not only cohesion but also occupational safety. Poor cohesion may result in employees not bothering to notify co-workers of a floor being slippery (near miss situations), for example. A strong physical and emotional security factor creates resilience against stress, which helps avoid some of the blunders caused by stress.

Rigidly pursuing effectiveness jeopardises creativity

In part, supervisors can influence the sense of being busy through their own actions. Systematic supervisory work as well as the understanding of and skills in interaction measures, practices and support networks help make the measures effective.

However, securing the employees' well-being at work is not a duty for just the supervisors but for the company's management system as a whole. The results of the project indicate that many companies put excessive weight on effectiveness. When taken to the extreme, the philosophy of effectiveness jeopardises productivity. Excessively staring at performance indicators diverts one from managing people, which weakens the quality of work life. This model of management results in a "QWL glass ceiling", which stops the development of the quality of work life at a certain level, and work communities are unable to thrive (Kesti 2021).

Improving quality of work life and the economy go hand in hand

In the pursuit of sustainable competitiveness, QWL alone is not sufficient, since important factors in terms of the company's profit also include the company's mission, business logic and financial result. When the foundation of the quality of work life – well-being at work, security, processes and competence – are in order, the company can work to promote development-driven practices that support productive operations, creativity and innovation in accordance with the Agenda 2030 goal (United Nations 2015).

The operational value of an established company consists of revenue and profit, and increasing them will

also increase the company's value. How revenue and profit are valued depends on the sector. A company's business logic can be considered solid when the company generates profit, and growing revenue can improve profit and increase the market share. The business operations can be analysed by means of the human capital productivity function (Kesti & Syväjärvi 2015).

The human capital productivity function (see Figure 2) includes all the essential factors of production that explain the elements of the company's business logic and production. The factors of production are also linked, and their internal relationships explain the difficulty of growing the value of the company. Causalities progress chronologically so that a measure or event is followed by the impact, which can be either positive or negative. The fact that growing one factor of production tends to weaken the others becomes a strategic challenge.

A company can increase revenue and profit by improving its business coefficient for effective working time and revenue relation (the K factor). Revenue can be increased by changing the business logic (a strategic innovation) or by means of new products and services (R&D innovations). Product and service innovations require investments in product development, which may take several years, and taking calculated risks. Examples of a change in the business logic include a more extensive

Human capital productivity function

R=K*L*TWh*(1–Ax)*QWL

R = Revenue [€]
K = Business coefficient for effective working time and revenue relation [€/h]
L = Labor capacity in full-time equivalent FTE [pcs]
TWh = Theoretical yearly working time [h]
Ax = The auxiliary working time of the total theoretical working time (vacation, absence, family leave, orientation, training, HR practices, and HRD) [%]
QWL = quality of working life (0–100%), indicating the utilization of intangible assets
(1 – Ax) = (100% – Ax) = The time share available for actual work (time spent at work) [%]
(1 – Ax) * QWL = Effective working time share from the theoretical working time [%]

Example:
The progress of causal connections

Improve K coefficient >
QWL declines >
Effective working time decreases >
Invest in HR development >
Auxiliary working time increases >
Actual working time decreases >
HR development generates effectivity >
QWL improves >
Effective working time increases >
HR development can be reduced >
Auxiliary working time decreases >
Actual working time increases >
Effective working time increases and the benefits of the K coefficient can be fully utilized

Figure 3. Human capital productivity function. (Picture: Kesti & Syväjärvi 2015)

use of the subcontracting network, which generates more customer value through subcontractors. In this case, obtaining sufficient compensation for the subcontractors' billing in profit will be a challenge. Measures that improve the generation of customer value, will result in organizational change needs and competence issues, and these have a tendency to weaken the quality of work life experienced by personnel. This may be indicated by various process disturbances, personnel conflicts and increased blunders. In other words, weakening quality of work life means reduced effective working time, which in turn prevents the utilization of the human resource productivity function. Development investments will reach their full capacity to generate profit only when the quality of work life has been fixed.

Increasing the number of personnel is an investment in increasing revenue. However, proper orientation of new employees temporarily increases the structural time spent and reduces the effective working time available for customer work. If the company's personnel development is effective, the quality of work life will gradually improve, which increases effective working time, resulting that the personnel will reach their full revenue-increasing capacity.

Some ways to increase a company's value were described above. In all of them, success is measured by means of the quality of work life (QWL). If QWL is poor, the company has not managed to establish sustainable competitiveness or is still on the path to achieving it. Weakening quality of work life is part of the change, since it is a logical continuation of a measure that launches the chain of causalities of change, which increases the company's value.

A more detailed examination of sustainable competitiveness requires a long-term review of the quality of work life, personnel data and financial figures over couple of years. The review is carried out using a scale in which the X axis shows the QWL index, and the Y axis is the profit per full-time equivalent (a person-year). A fourfold table is created in the scale, with each square of the table indicating the primary development need for achieving sustainable competitiveness (see Figure 3).

Currently, the SafeInLog project has access to the actual QWL results from one survey, which is why only a snapshot of the profit capability is currently possible, and the progress will be reviewed as the project proceeds (see Figure 4).

In the fourfold table shown, 80% of the companies in square 3 could progress to square 2 if their QWL increased to more than 70%. This means that these companies' profit-making capability is in order, but personnel productivity

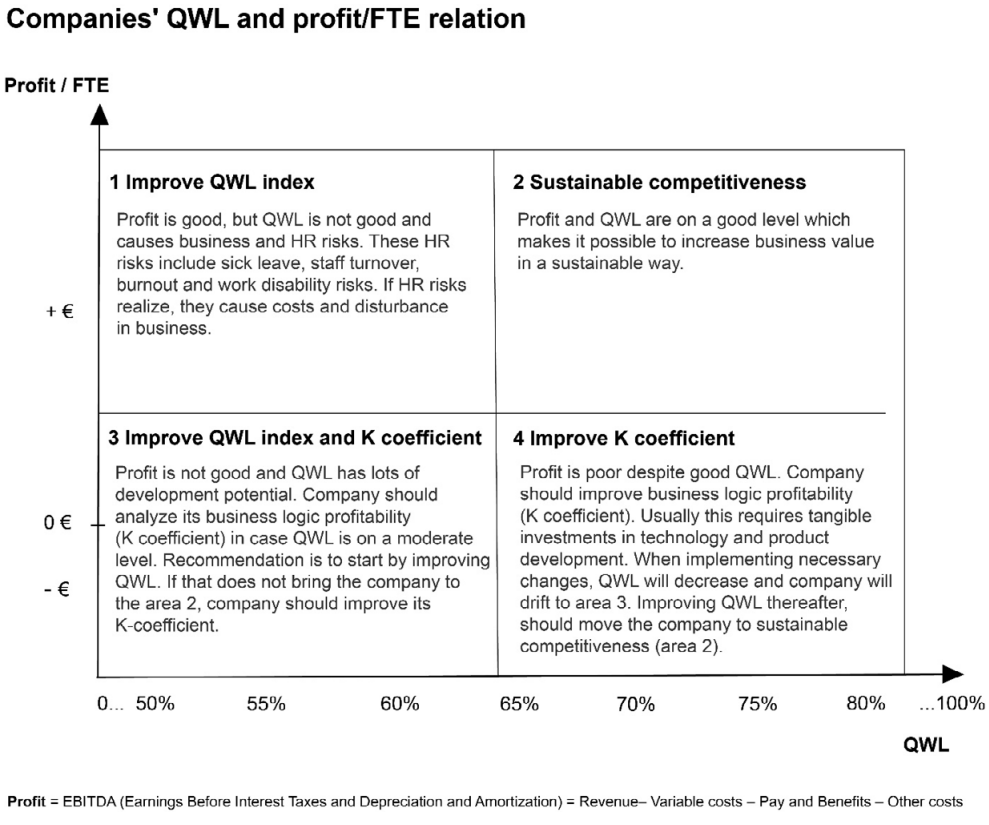

Figure 4. If profit is poor, the company should improve its QWL index and/or K coefficient. (Picture: Katja Mälkki, Marko Kesti)

is poor due to the low QWL index. Correspondingly, among the companies in square 4, an improvement in the QWL to the level of 75% would only progress one company to square 2, and the rest would remain in square 4. In other words, these companies would need to improve the capability of business logic to generate profit, since a QWL improvement alone cannot increase profit sufficiently. When the company in square 4 improves its business logic (the K coefficient), the QWL naturally weakens, and the company drifts to

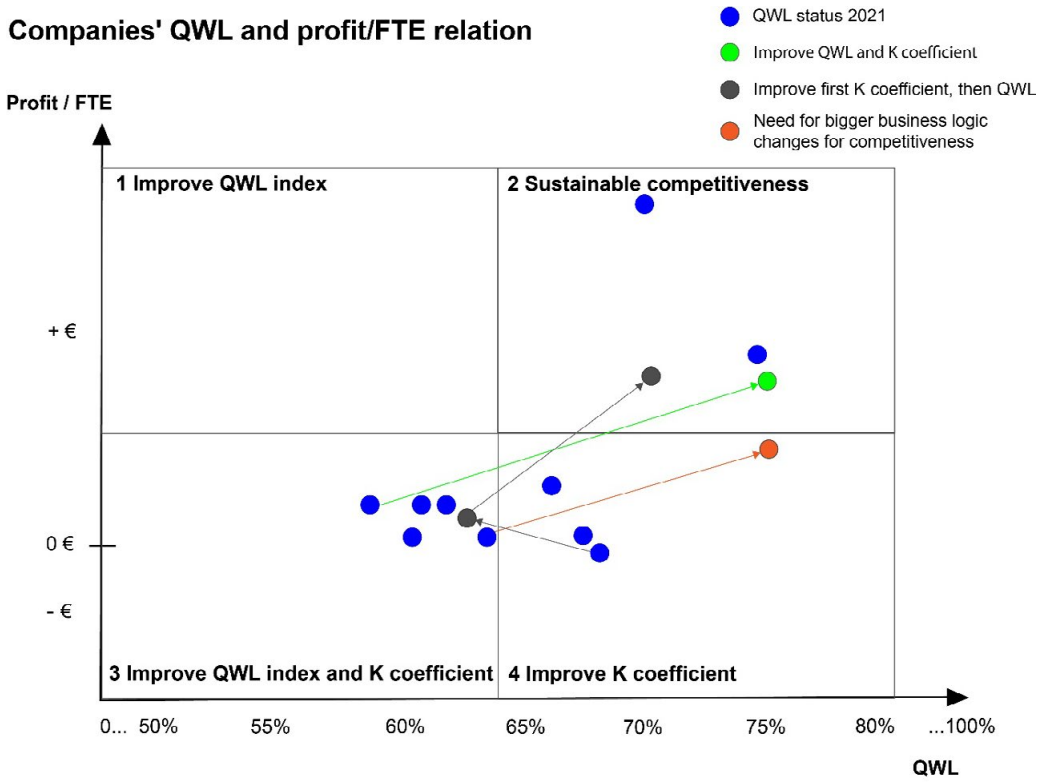

Figure 5. Examples of different business opportunities for the companies in SafeInLog project. (Picture: Katja Mälkki, Marko Kesti)

square 3. From there, the company can still progress to the sustainable competitiveness square 2 by improving the quality of work life (QWL). The quality of work life is in order, and the capability to make a profit is good, in 20% of the project companies.

In the same manner as in the Agenda 2030 programme (United Nations 2015), the objective of the measures in the SafeInLog project is also to help the participating companies achieve a higher level of financial profitability and to promote, among other things,

creativity and innovation by making organisations' hidden ideas and their development and improvement opportunities visible through analyses and their results.

Summary

The companies participating in the project are connected by in-house logistics, in which employees work at the junction of streams of goods and transport flows. The work of an in-house logistics employee is physically straining. However, somewhat surprisingly, the mental strain experienced by warehouse supervisors was double that of the warehouse employees. When supervisors are overloaded, they are unable to carry out their supervisory duties effectively, meaning the employees and the work community also suffer. Work in the warehouse is indicated to be backlogged, and employees feel their opportunities to influence their work are minor. However, in all companies, the work community seems to be the strong point, and the work atmosphere and the support provided by co-workers were emphasised as positive aspects. The QWL results indicated a similar trend, since physical and emotional security were below the recommendations in all companies, but cohesion, competence and joy of working were above them. According to the results, the situation in work communities seems better than suggested by the research carried out by Härkönen et al. (2015). Nevertheless, it is noteworthy that there was variation in the responses with regard to both well-being at work and personnel productivity.

Supervisors being systematic in their own work may help reduce both supervisors and employees feeling of being busy, and good supervisory practices are therefore examined closely in the peer working groups. The company visits concerning well-being at work aim to find perspectives and operating methods for implementing organisation-wide improvements in well-being at work.

Being busy and mental strain may also increase due to an excessive requirement of effectiveness, which emphasises performance indicators instead of personnel management, and personnel are not seen as a strength but a resource or a cost item. When pursuing sustainable competitiveness and profitability, a company should invest not only in technology and equipment but also in people and their well-being. In the project companies, managing QWL proved an important strategic factor that was worth developing, and the resulting benefits should be taken increasingly into consideration and applied in the development of business operations. Sustainable

competitiveness can help grow the company's revenue and in long term increase the number of jobs in companies as well.

The project objective of sustainable competitiveness and profitability can be achieved by making proportionate and timely investments in business logic, quality of work life, well-being at work and occupational safety. Developing the in-house logistics in the participating companies can influence the effectiveness and quality of operations, and the improvement may have a key impact on the achievement of profitability and customer satisfaction. The ultimate level of development and results will hopefully be indicated in the results of the follow-up surveys at the end of the project.

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Part 3

Health Promotion and Smart Self-Care

Jonna Sirviö

Artificial intelligence in social care and healthcare SMEs in the Päijät-Häme region

The current discussion concerning artificial intelligence (AI) and the possibilities it offers is lively, but defining AI is not that straightforward. General terms often used in the discussion concerning artificial intelligence include deep learning and machine learning. The concept of artificial intelligence covers an extensive range of technologies based on machine learning and algorithms, and these technologies can be used to prepare forecasts based on data, make daily tasks easier, and identify patterns, similarities and recurrences and deviations occurring in them. In recent years, AI has developed in leaps and bounds, and systems have offered new ways to pursue financial benefits. Fundamentally, the technology of AI is mathematics, programming and statistics (Kananen & Puolitaival 2019, 27).

One of the objectives of the AI Mill project of the LAB University of Applied Sciences is to increase information about artificial intelligence and sensor technology, and find new ways to apply them in SMEs in the well-being and social care and healthcare sector, as well as to produce experience-based information for companies. The AI Mill project combines the well-being, social care and healthcare sector, circular economy and technology. The benefits and possibilities of AI are recognised in companies, but applying it and understanding its business applications are still limited. Nevertheless, companies are interested in AI, sensor technology and machine learning, although implementation and understanding their areas of application remain limited (Merilehto 2019, 13–15).

The impact of artificial intelligence on business is undeniable. It offers benefits such as the reduction of errors, increased productivity, improved quality and personnel being able to focus on value-generating work. In the long

run, the costs of work are also reduced. Artificial intelligence can also be used to develop and create completely new kinds of business operation. Until now, the greatest impacts it has provided have been seen in industrial automation, and productivity in industry has indeed been increasing for decades thanks to AI-based automation. Decision-making systems based on artificial intelligence and the possibilities provided by AI in the management of industrial production planning and production chains have emerged parallel to automation (VTT 2017, 2–3).

According to the "Tuottoa ja tehokkuutta Suomeen tekoälyllä" (Enhancing Finland's productivity and efficiency with the help of artificial intelligence) study conducted by VTT Technical Research Centre of Finland in 2017, Finland may benefit from artificial intelligence if we identify our strengths, our focus areas, and the measures we should take. According to the study, among Finland's strengths is the fact that we welcome technological progress, and our overall attitude towards the emergence of artificial intelligence is positive. Other strengths listed include a high level of education and the close cooperation between businesses and research. However, Finland should direct resources to fields which are our strongest points, and where we have a clear competitive edge (VTT 2017, 4).

In the AI Mill project, we conducted a Webropol survey on the utilisation of artificial intelligence in the organisation among well-being and social care and healthcare sector companies, as well as circular economy companies in the Päijät-Häme region between 20 April 2020 and 10 May 2020. According to the companies who responded to the survey, the utilisation of artificial intelligence is still minimal compared to the possibilities AI offers. Artificial intelligence is used more in the circular economy than in the social care and healthcare sector. This article discusses the survey results of social care and healthcare sector SMEs, the companies' expectations of artificial intelligence, and its possibilities, risks and ethics.

A link to the survey was sent by email to 30 social care and healthcare sector SMEs in the region. The survey excluded operators in the public and third sectors, as well as micro enterprises. The survey received 21 responses. The response rate was 71%.

Minimal utilisation of AI applications in job duties

The respondents were familiar with AI as a concept, but its use in their daily job duties was fairly minimal. According to the respondents, AI was associated with different kinds of application but not seen as an activity that made daily tasks easier. Half of the respondents

said they did not use AI-based applications or software (Table 1). However, they acknowledged the need to utilise artificial intelligence in the comprehensive care of patients and in activities that supported the ability to function, such as in the provision of remote services, and in observing and monitoring the ability to function by means of sensor-assisted technology. At the same time, 28% of the respondents said they did not consider AI to provide added value for their business operations, while they thought it saved time and increased safety. In the survey, saving time was the main justification for the implementation of AI applications, software and equipment. The respondents also answered an open-ended question about their views of utilising artificial intelligence in the future: "What functions could an AI application or device carry out in the future, and what kind of added value could it bring to your organisation?"

EXAMPLES OF RESPONSES:

"Currently, it probably isn't AI as such, but in principle, it could extensively apply data collected from use."

"I don't know about added value, but they do save time and increase safety."

"As the number of the elderly is increasing, I am sure remote care and technology innovations will be part of our jobs. For example, observation and customer interaction through sensor technology are probably the next features to become a reality."

"I don't really have an answer, because artificial intelligence is an unknown field for me."

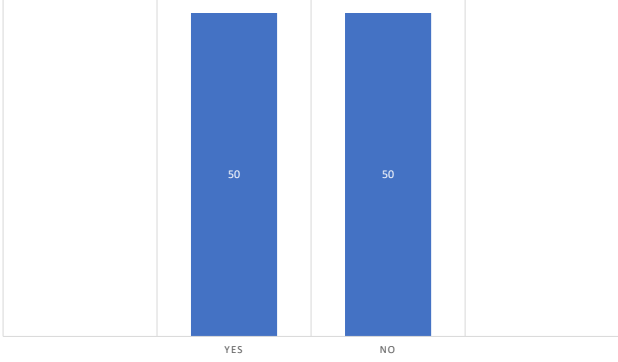

Figure 1. Artificial intelligence use in organization. (Picture: Jonna Sirviö)

Possibilities and risks of utilising AI

Utilising artificial intelligence in business operations requires the type of operating environment and the functionality in which the solution will be used to be considered. The existing operating environment and operating models should also be taken into account, as well as the company's data capability to successfully apply AI. Artificial intelligence solutions will change operating methods throughout the organisation, and the impacts of AI will be visible across the board. It is therefore important to understand the interconnectedness of different job duties, and how interpreting data and applying the interpretation affect one's own work and that of others. It can therefore be said that utilising artificial intelligence is teamwork that involves the entire organisation and requires multidisciplinary cooperation (Kananen & Puolitaival 2019, 55–56).

There should always be sound justifications for implementing new technological solutions, just as for any other new operating method. We asked the respondents why they had implemented or wanted to implement an AI application or device in the organisation. We provided them with the following answer options: saving time; saving money; reducing routine work; improving the customer experience; reducing human errors; managing and classifying data (Table 2). The biggest reason was saving time, with 83% respondents finding it important. The second most important reasons (50%) for utilising artificial intelligence were managing and classifying data and cost savings, but cost savings were also considered the main obstacle to implementing artificial intelligence. Reasons for utilising AI that were related to customers and employees, such as improving the customer experience, and reducing human errors and routine tasks, were not considered to be that important with regard to implementing artificial intelligence. Using AI to reduce human distortions was not considered at all important by the respondents; none of them selected this option.

Implementing an artificial intelligence solution always involves risks, which should be mapped at the beginning. Privacy protection and information security in the social care and healthcare sector have been topics in the nationwide public discussion. The operations in the social care and healthcare sector are governed by several laws and decrees which must be complied with. However, 50% of the social care and healthcare sector companies in the Päijät-Häme region considered the automation of work and decision making to be the greatest risk (Table 3). The level of risks related to privacy

protection, information security, data collection, general acceptability of AI, matters related to equality and non-discrimination, as well as of financial risks, was considered similar, as cited in 33% of the responses given. Artificial intelligence decreased creative thinking, according to 17% of the respondents.

We also wanted to examine the respondents' opinions of AI in greater detail by presenting them with statements, which the respondents were asked to assess . The scale to be used was 1–5, in which 1 was Disagree, and 5 was Agree. The other answer options were placed between these two extremes. Item 3 on the scale means Does not agree or disagree.

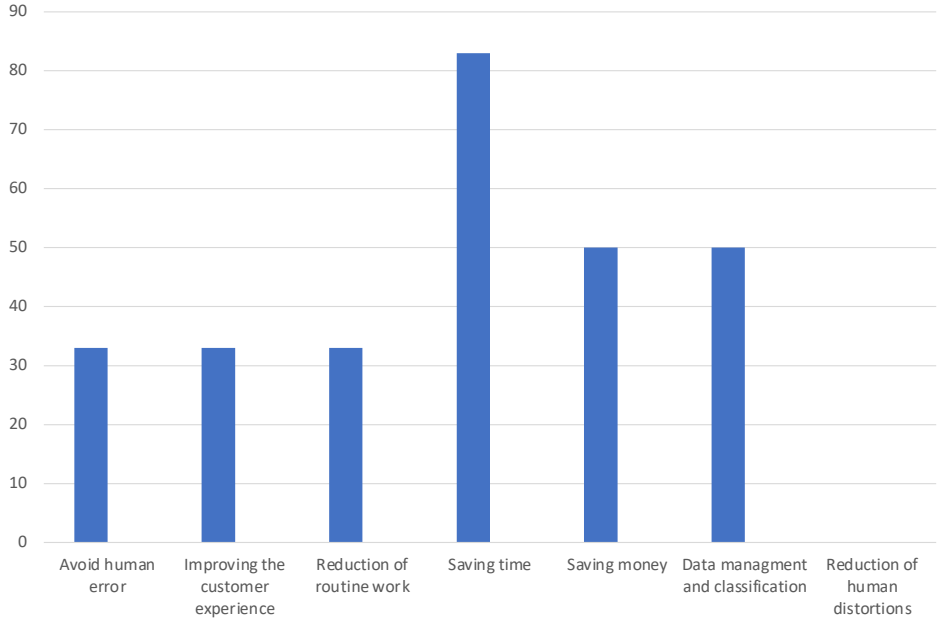

Figure 2. The reasons why you have adopted or want to deploy an artificial intelligence application or device in your organization. (Picture: Jonna Sirviö)

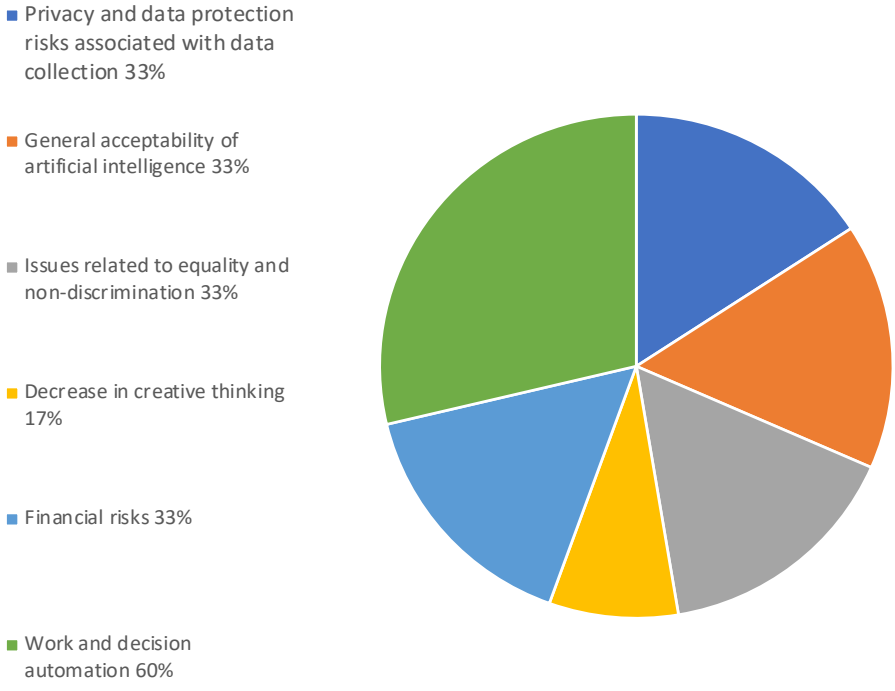

Figure 3. Risks in the deployment of artificial intelligence systems. (Picture: Jonna Sirviö)

The average of responses to the statement "The potential of artificial intelligence technology is not sufficiently exploited in my organisation" was 4.7, which is close to item 5, Agree. Some respondents felt that artificial intelligence technology had already changed their job description. The average of this response on the scale was 3.5, which can be interpreted to mean that several companies have not integrated AI technologies in daily tasks. By contrast, attitudes towards using AI technology in the organisation were very positive, and the average of the responses to this statement was 4.8. In the statement concerning reliance on AI technology, the response average was 4.2 (Table 4).

Decisions made by AI applications and responsibility

The responsibility for artificial intelligence is also being discussed. Who is responsible for the decisions made by AI? It is a significant challenge to define who is responsible for any erroneous decisions made by a system using AI and the ensuing injuries or damage. Therefore, a hypothetical question that

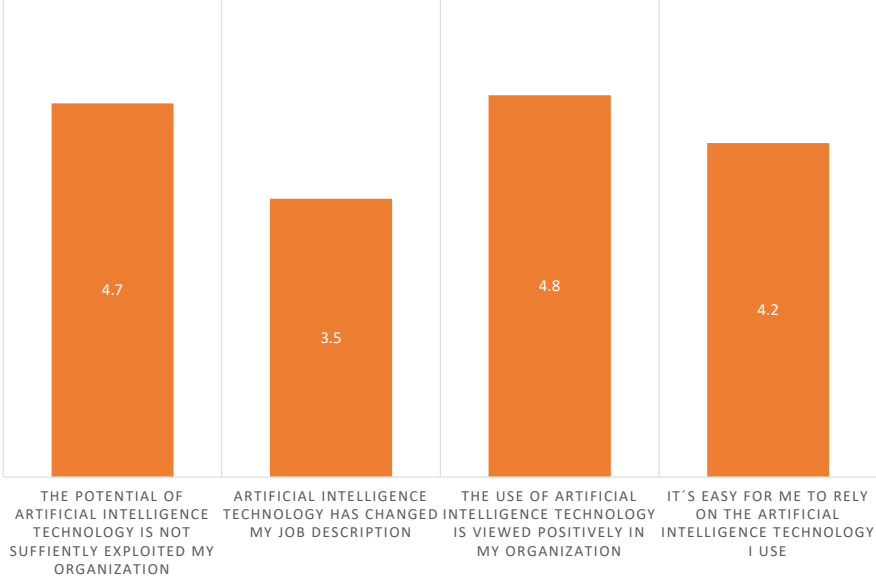

Figure 4. Respondents' views on artificial intelligence technologies in the organization. (Picture: Jonna Sirviö)

is often asked in these discussions is,: if a self-guided vehicle is a party to a collision or injures a human being, who is responsible and who is liable to pay damages to the owner of the vehicle or the person who sustained the injury? Is the responsible party the manufacturer of the vehicle or the developer of the software? If the manufacturer of software, an application or a system bears no responsibility whatsoever, does it mean that the product is not that interesting to manufacture or to create quality products and services, which is a factor that could, for its part, reduce people's trust in technology? On the other hand, regulation that is too tight might stifle the development and generation of innovations.

The question "What party do you consider to be responsible for the decisions made by AI applications?" aimed to examine the respondents' opinions on who bears the responsibility for the decisions made by AI. There were three answer options: the technology developer; technology user; and technology subscriber (Table 5). According to the respondents, the technology developer (67%) should bear the bulk of responsibility for the decisions made by artificial intelligence.

Artificial intelligence and ethics

The discussion concerning artificial intelligence and ethics is lively in society and on a global scale. The development and utilisation of AI involves several ethical questions. The discussions have mainly revolved around privacy protection, humanity, dignity and safety, as well as how all of these are considered.

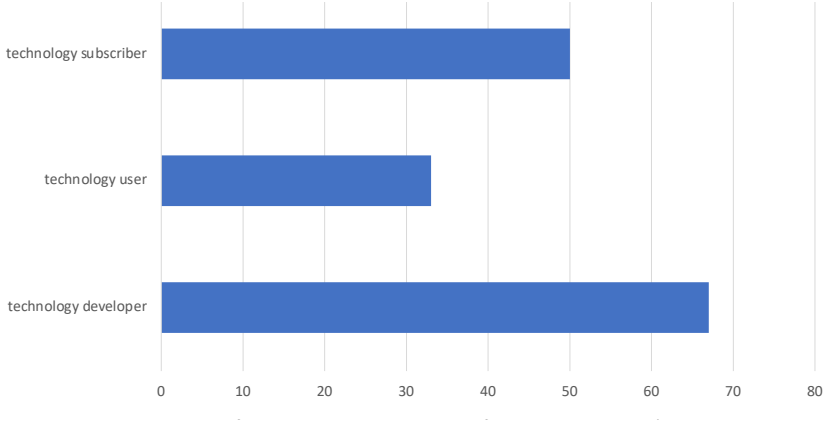

Figure 5. Responsibility for decisions made by artificial intelligence. (Picture: Jonna Sirviö)

It seems that the implementation of AI technologies gives rise to new challenges and problematic situations that cannot always be anticipated. The utilisation of artificial intelligence should also always be viewed from the financial, social and ethical perspectives.

With regard to the ethics of AI and, more broadly, of technology, it is essential that the discussion is open and that decisions are made on what is right and what is wrong; which values are promoted; and what kinds of standard should be complied with; that the meaning of different principles with regard to the design and use of technology is specified; and that the ethics of AI and technology are exposed to public discussion. This will also force us to examine what kinds of threat can be prevented by defining ethical principles concerning technology and on the other hand, what these principles can enable. Thus, the ethics of AI is divided into three categories, which represent a variety of power relationships. These categories are data ethics, utilisation ethics and programming ethics. Data ethics and programming ethics are subcategories of utilisation ethics. Utilisation ethics answers the question concerning which and what kinds of value are being pursued and sought through the utilisation of AI, as well as how utilising AI will affect an individual, a community and society (Koivisto et al. 2019).

We therefore need more information on how creating, marketing and using different technologies affect manufacturers, service providers and users. One of the sub-areas in the project is assessing the social and ethical impacts. As AI continues to develop, we will need clear rules that will help us increase openness, transparency and methods to consistently assess the social and ethical impacts on the individual and the environment.

We included an open question on the ethics of AI and the related issues in organisations: "Please describe issues related to ethics from your company's perspective."

Several respondents expressed their concern about responsibility and a situation in which AI made a wrong decision resulting in an injury or damage. Ethics from the customer's perspective and the availability of services were also highlighted.

Examples of responses:

"Who is responsible if relying on artificial intelligence/technology results in an accident?"

"AI must not result in the customer feeling that they no longer receive services or encounters that involve conventional interaction with a professional or a peer."

"The 'personification' of an application?"

"I believe that, when used correctly and with clear ground rules, artificial intelligence is a great helper, but it should not operate independently. A human must always be involved in decisions made by AI."

Summary

The survey was conducted in April–May 2020, coinciding with the COVID-19 pandemic, which placed extra pressure on and increased the workload of the well-being, social care and healthcare sector. In spite of the trying times, the response rate to our survey was high, even though we did need to send reminders to the participating companies. The survey was sent to 30 companies. We received responses from 21 companies, and the response rate was 71%.

In summary, challenges related to artificial intelligence technologies and information security as well as competence may slow down the application of AI in practical work. AI applications can help develop well-being services which support the promotion of well-being and health, active ageing and safe living at home, as well as enabling smart self-care, in other words, collecting information on one's own health and well-being. The companies that responded to the survey had a positive attitude towards artificial intelligence, and they acknowledge the benefits AI provides in their operations. However, the knowledge of the possibilities offered by AI still needs strengthening and guidance to ensure the threshold to implement AI applications in the companies will be lowered, and the companies will see the benefits as possibilities.

The concept of artificial intelligence technology has existed for a long time, but practical applications will increase in the near future. The increase in the utilisation of AI in organisations will result in completely new kinds of application that we cannot yet predict. In the AI Mill project, we believe that new development areas and applications will be found for AI in cooperation with organisations, and the daily utilisation of AI in business operations will become more widespread. Increasing information and knowledge in companies is a key factor in the development and implementation of artificial intelligence. By coming together to expand our knowledge of what artificial intelligence means, and what can currently be accomplished with it, we will help companies identify potential areas of application for AI in their operations. As AI becomes more common, the operations of companies will change. Listening to companies, involving them in development and increasing information are therefore important. The LAB University of Applied Sciences is a higher education

institution that supports working life innovations and as such, it plays an extensive and important role as an enabler of the development and implementation of artificial intelligence in the region's companies.

The AI Mill project supports sustainable development of companies in the social care and healthcare sector in accordance with sustainable development goals by promoting a healthy lifestyle and well-being and developing innovative and creative solutions that support health and well-being. The project promotes development-based practices in artificial intelligence and sensor technology, which support business operations, job creation and entrepreneurship. With SMEs, we are developing technological solutions and enabling the creation of new operating methods by utilising the development environment.

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Anna Lahti, Sami Makkula, Jukka Karjalainen

Increasing the agility of pilot projects

The Machine Vision project has been a good opportunity to observe and support change processes related to customer experience, the evolution of working methods and organisational changes in the social care and healthcare services sector. These change processes are closely linked to the development of technology and to digitalisation, which is accelerated by the higher speed of data transfer, the implementation of artificial intelligence and the need to make work more efficient. They are also based on a genuine pursuit of customer-orientation and more streamlined services through accessibility and usability. In this sense, the public social care and healthcare sector is therefore catching up with private healthcare services regarding quality, and services will be developed in future in closer cooperation between the public and private sectors in the Päijät-Häme region, among others.

The COVID-19 pandemic has also contributed to this change. The global crisis that broke out during the Machine Vision project is paving the way for remote work, remote guidance, and remote monitoring. This is also discussed in the Päijät-Häme Emergency Plan, which emphasises the development of new growth areas through pilots in technological and digital applications and in preventive healthcare services (Päijät-Hämeen Liitto, 2020). Examples of such pilots in the region include new homecare applications, which are also being developed and tested in cooperation with higher education institutions. Services related to the variety of such test bed operating methods help operators in the social care and healthcare sector carry out pilots more agilely and cost-effectively. Companies offering new technologies also receive assistance in providing targeted products and services to meet well-being and health needs.

Pilot services

The LAB WellTech co-creation environment, which was launched at the LAB University of Applied Sciences in the spring of 2021, offers services to assess the potential of technological

innovations, or existing services, to succeed in the arena of social care and healthcare services. The environment has been developed in continuing cooperation with social care and healthcare sector operators and technology companies. The development environment is being shaped through testing cooperation models, carrying out further development and responding to customer feedback. The objective is to create people-centric innovations in accordance with the LAB strategy. The measures strengthen regional competence and the creation of new jobs (LAB 2021). In a workshop organised by the Machine Vision project, potential customers of the co-creation environment expressed their wishes concerning the environment's operating method and services. The customers found it important to be able to receive support for measuring customer value, ensuring a sense of community, promoting sales and for coaching-related matters (Figure 1).

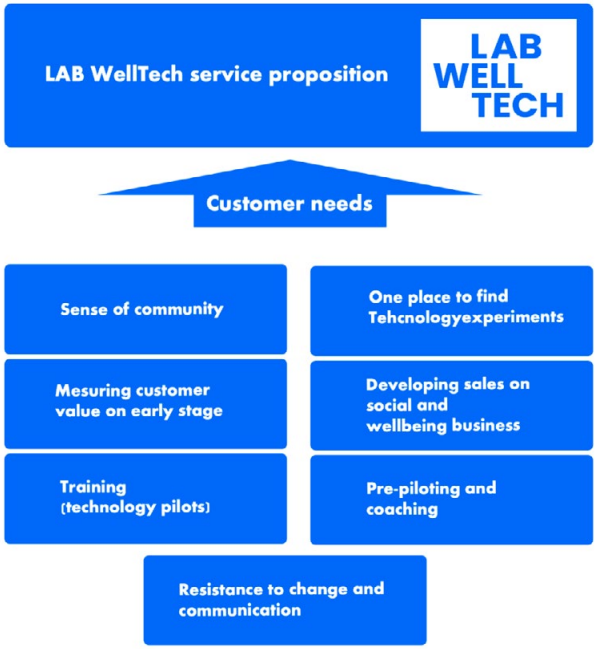

Figure 1. What co-creation environment customers expect of the LAB WellTech services. (Picture: Sami Makkula)

The changing concept of service design

The Machine Vision project has developed well-being technology prototypes which take user-friendliness into account. The importance of user-centredness and ways to carry out user-centred development have been among the topics of discussion. The project has also produced concrete application prototypes, which improve health and well-being and may have a potential to shape the service design work.

In recent years, operating methods related to service design have taken priority in the development of various products or services. Service design as such is a broad and complex concept, which aims to describe the user-centred or human-centred design process. Even though development has fully integrated this concept and competence only during the last 20 years, the idea of an interactive relationship between products, services and people is fairly old. At the beginning of the 20th century, philosopher and psychologist John Dewey contributed to the creation of the concepts of *interaction* and *experience,* and their relationship with development work. He laid the groundwork for the service design philosophy, in which new solutions can be developed through the assessment of trials and experience (interaction). As these ideas accumulated and servitisation simultaneously increased in society, the concept of service design emerged among designers in the 1980s (Future of Service Design, 2020). Its focus areas were the development of immaterial services based on the experience of people and the design of physical artefacts, or touchpoints, derived from it. Initially, the physical settings of service environments, such as furnishings, signage, or the milieu, were the targets of development. Later, the focus of service design shifted to the development of customer experience, organisational culture, and strategy. Service design, design thinking and user-centred design have therefore taken a dominant position in the generation of new innovations. Service design has become a driver that influences strategic decision making, including the operative course of action visible at the customer end.

From user-centredness to anticipating individual needs

The original ideas about observing interaction and measuring experience have remained at the core of user-centred development. These research methods have defined the direction of the evolution of products and services. However, this is now being transformed. Are artificial intelligence and the personalisable services that apply it changing our view of user-centredness?

The core of service design work is analysing customer groups, or customer and user profiling, which helps create group descriptions based on customer insight. Although motive-based profiles are accurate descriptions that can be used in direct design, they are at best just generalisations and averages. However, if we want a profile that is as accurate and truthful as possible, it should focus on an individual. For example, as users of well-being and health services, as individuals, we make personalised decisions and have individual needs. In other words, to ensure good user-centredness based on empathy, artificial intelligence may help us more than we think (Future of Service Design 2020). Big Data or My Data continuously track our behaviour and carry out personalised profiling. Big Data refers to the accumulation and use of vast repositories of data, such as storing individuals' daily habits concerning music listening, film watching or Internet use. My Data refers to data about a person collected and managed by the person themselves, such as data concerning one's well-being. The toolbox of the service designer of the future should therefore include skills related to artificial intelligence.

An example of this is the "Smile Catcher" prototype, which our project has been promoting, and which aims to automate the measurement of customer experience. This application uses facial expression recognition to find out how people or groups of people feel. It may be important in user groups in which traditional profiling or customer understanding may fail or is unreliable. It can be used with the elderly or young people, who are often difficult to engage. Using facial expressions to infer feelings may also provide additional data to enrich customer understanding. For example, interviews and the data derived from them should always be interpreted by comparing them to other data. This could be assisted by facial expression recognition, supported by artificial intelligence and machine vision, which assesses the emotional reaction evoked by interaction.

Concrete results through co-creation

Successful end results are achieved through co-creation. A number of multidisciplinary workshops and hackathons were organised during the Machine Vision project. These workshops generated nearly 40 new application ideas in which machine vision can be applied to improve well-being. The ideas were processed further jointly by the region's companies, students, and social care and healthcare sector operators. The goal was to determine how various solutions meet needs identified in the

region, such as the labour shortage in nursing and strengthening competence. The solutions were tested in a number of authentic user environments by observing and strengthening customer understanding through interviews. Data compiled from the results were presented in various events and publications. In this manner, the data can be used by social care and healthcare sector operators and technology sector companies, and this will further increase the understanding of using machine vision in the promotion of health and well-being.

CASE Washing hands

Early childhood is the most effective time in terms of education concerning health habits and reinforcing motivating factors. At that age, the child develops the ability to understand the importance of health habits such as washing hands. Studies have shown that using creative methods in teaching hand hygiene in early childhood is effective in terms of learning health habits. Various teaching methods involving gamification and new technological methods have been applied, and the effectiveness of the methods have been studied (Suen & Cheung, 2020).

The COVID-19 pandemic raised interest in seeking a solution that would recognise the level of hand hygiene achieved when washing hands. The idea was to use machine vision to review the time spent on washing hands. Children were selected as the target group, and the goal was to find out what motivated them to wash hands and whether gamification increased the time spent. In addition to the kindergarten and a company partner, contributing to the development of the idea was a nursing student from the LAB University of Applied Sciences, who observed and interviewed the children at the beginning of the project to determine how the children washed their hands and to what level of hygiene. The time spent on washing hands and the level of hygiene achieved were highlighted in the observations. Without adult supervision, the children simply quickly rinsed their hands under running water (10 seconds, on average). On the other hand, children could get distracted and just held their hands under running water without using any soap. The children did not find washing hands important but just went through the motions and did not like queueing.

After the observation, interviews and collection of visual materials, a prototype (Figure 2) was developed with the company partner. The prototype helps children understand how long hands should be washed by recognising when the hands are in the washing station. The elephant talks to

the child, telling them what the goals of the time spent washing hands are, encourages them and indicates if they move their hands away from the washing station. Feedback on the progress is provided through smiling, the eyes and verbal comments. The prototype was tested for two weeks in a kindergarten setting in April 2021. The impact of the prototype on the time spent washing hands and the level of hygiene achieved was observed, and the children were interviewed again. The caretakers' experiences of the benefits of the prototype were recorded.

The impact on the level of hygiene achieved and the time spent on washing hands was remarkable. The time spent on washing hands alone increased by 20 seconds. The children became more motivated to wash their hands and less bothered by queueing. As the solution was a prototype, the equipment did not function 100% reliably. The day care centre staff felt that a fully reliable system could free time spent on supervising children for other tasks, and that their own well-being at work would improve due to the reduced need to repeat instructions. Testing the prototype in the kindergarten motivated the users, kindergarten staff and technology developers to come up with ideas for a perfect device to recognise hand washing. At the same time, they identified various environments where the idea could be applied in future.

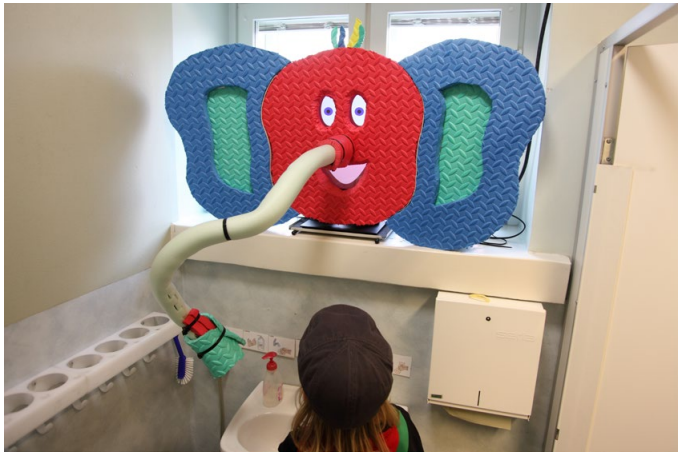

Figure 2. A prototype of a handwashing recognition solution. (Picture: Jan-Erik Sandelin)

CASE Hand sanitiser

The importance of proper hand hygiene has increased due to the COVID-19 pandemic, in particular, and the use of hand sanitiser has increased in public areas where washing hands with water is not an option. As the pandemic is affecting the development of companies' business operations, we joined a company partner to work out how to boost the use of hand sanitiser in public areas. Our partner's agility in the development of new business models enabled us to determine how machine vision could be applied to motivate people to use hand sanitiser. The area of interest was a hospital environment where the use of hand sanitiser by both personnel and people visiting the hospital had an impact on the prevention of infections.

Motivating factors affecting the use of hand sanitiser were first determined by observation and a survey targeting people who visited the hospital. The observation revealed that hand sanitiser use is influenced by whether the people visiting are familiar with the area, whether they arrive alone or with children, and what other activities they encounter when they first enter the area. According to the survey respondents, the factors motivating them to use hand sanitiser included those related to the hygiene and appearance of the equipment and the consistency of the sanitiser.

Figure 3. How to motivate customers to use hand sanitiser with visual information. (Picture: Anna Lahti)

Machine vision was applied in determining the level of hand sanitiser use and in the related visual communication (Figure 3) in the hospital setting. The equipment installed in the lobby observed how many visitors used hand sanitiser. A hand sanitiser dispenser equipped with a display was set up in the lobby and provided visitors with real-time information on how many times the hand sanitiser had been used.

Applying machine vision in counting the number of visitors and the information obtained, combined with the data provided by the smart dispenser on the number of doses dispensed, strengthens the methods of information management in the public sector. At the same time, observation strengthens user understanding concerning what factors can increase the use of hand sanitiser by visitors and thus prevent infections spreading.

CASE Instrument maintenance

In the project, machine vision experts have sought to find areas of healthcare and well-being where people's health and well-being could be improved through technology. The project participants wanted to learn about the instrument maintenance process of parties offering local healthcare services, because practical instrument maintenance involves numerous steps in which manual work by personnel plays an important role.

Instrument maintenance is a key support service for patient care. One of the basic tasks of instrument maintenance is to clean surgical instruments after use to cost-effectively render them reusable without compromising patient care (Karhumäki 2017).

The process involves a multitude of steps and is managed by an electronic system which records the progress of the instruments within the process. The process steps include cleaning, disinfection, packaging, sterilisation, and eventually, returning the instruments to their intended use. Instrument maintenance is governed by directives, EU regulations, and the instrument manufacturer's instructions regarding instrument cleaning, sterilisation and maintenance. Usually, instrument maintenance takes place in designated areas by healthcare professionals who specialise in instrument maintenance, or instrument technicians (Karhumäki 2017).

Depending on the size of the care facility, the instrument maintenance process handles a large number of items and instruments used in the examination and treatment of patients, and each item or instrument has a specific purpose. The size of surgical instruments varies from a 500-gram orthopaedic mallet to microsurgical instruments weighing just a few grams. The instruments are usually packaged on instrument trays specific to each surgical speciality such as orthopaedics, internal surgery or vascular surgery, and the quantity and type of instruments therefore vary widely.

The instrument maintenance process involves considerable volumes of human work, ranging from the mechanical cleaning of instruments to the visual assessment of instrument

Figure 4. Orthopaedic instrument trays in instrument maintenance after a procedure. (Figure: Jukka Karjalainen)

condition and the repair of damaged instruments. In addition, packaging instruments on trays or in sterilisation pouches is fully manual. The instrument technician uses an electronic checklist that includes the instruments to be placed on a specific tray.

Piloting machine vision technology in the instrument maintenance process

As a result of several visits to instrument maintenance stations and discussions with instrument maintenance experts, process areas were identified in which machine vision technology would make the process more effective. The basic idea was to use machine vision technology to make the daily tasks of the instrument maintenance centre's personnel easier.

Based on the results, the experts in the Machine Vision project and the specialists from the technology company participating in the project embarked on developing a prototype of an application which could detect the quantity and type of surgical instruments on an instrument tray arriving from the operating theatre. The method aims to produce up-to-date information on whether all instruments used in

the procedure have arrived from the operating theatre in the instrument maintenance centre. This requires that the system applying the machine vision technology first recognises the correct instrument tray and can then use this information to verify whether all the instruments that belong to the tray in question are actually on the tray.

The instruments to be used in a procedure in an operating theatre are counted before and after the procedure to ensure that no instruments have gone missing during or after the procedure. The counting of the instruments is usually performed by an instrument nurse who is part of the surgical team, and it may involve a considerable risk of human error, since several dozen instruments may be used, depending on the procedure.

The first prototype tests the operation of the method and its suitability for instrument recognition. The plan for further development is to produce information on the quantity and type of instruments that is even more real-time by using machine vision to recognise and count the instruments even before the procedure begins and immediately after the procedure, while the patient is still in the operating theatre. In addition, the further plans include developing the method based on instrument recognition to enable the instrument technician working at the instrument maintenance centre to apply machine vision in the instrument packaging stage, so that the system indicates whether the correct instruments were packaged on the tray. This method would provide fully real-time information verified by technology on the location of the surgical supplies and instruments throughout the process.

Fail fast

In the future, there will be opportunities in the social care and healthcare sector to increasingly apply well-being technology and new interaction research methods. An increased need of services and the evolving technology will help services become more efficient. On the other hand, the implementation of technology is directed by the customer experience and the employees' good experiences , and this will require that development is based on better customer understanding. All this requires a work approach that is experimental and includes pilot projects. Due to the broadness of the health and well-being sector, the primary goal cannot be to change the entire system but to focus on its smaller components. Experiments should target limited sub-areas, and pilot projects should be bold and agile. Fail fast, be brave and communicate your new inventions.

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Pirjo Tuusjärvi, Arja Sara-aho, Hannele Tiittanen, Annamaija Id-Korhonen

Multidisciplinary teamwork promotes learning and innovations

The NICCoLLa project aims to improve education in the field of social and health care, engineering, and ICT. The purpose of the curriculum development is to increase students' knowledge of the use, implementation, design and development of innovative technology solutions and ICT in the health and well-being sector. (Tuusjärvi et al. 2020.) An important part of the development of the course content has been students' participation in the process.

One of the key activities carried out to achieve this goal are intensive study programmes (ISPs) for students from project partner countries (Finland, Spain, Netherlands) and different fields of education. Alongside the development of the curriculum and course content, a key part of an ISP is to promote the students' ability to work in multidisciplinary teams to innovate user-driven technological solutions in the field of health and well-being.

The first ISP of the NICCoLLa project was organized by LAB University of Applied Sciences. Due to the COVID-19 pandemic, classroom teaching and travelling were prohibited and because of that, the ISP was implemented online. The two-week intensive programme was based on challenge-based learning. Challenge-based learning is a pedagogical approach where complicated real-life problems are given to students to be solved (Malmqvist et al. 2015). Such learning supports collaboration between higher education and working life, where students, teachers and working life professionals develop innovative solutions in answer to clients' needs.

- The aim of the two-week ISP was that after the programme students are able to:
- recognize the differences and similarities in the use of digital services and well-being technology in social and health care in the project partner countries,

- identify future technological solutions and innovations for social and health care,
- analyze the ethical aspects of health and well-being technologies, and
- apply service design and co-creation methods in the development of technological solutions for social and health care.

During the ISP, students worked in multidisciplinary and multicultural teams and attempted to produce potential solutions to the real health and well-being challenges they were given at the beginning of the ISP. To solve the selected challenges, the work of the student teams was based on a service design method, and they adopted a co-creative perspective during the process.

Solving real-life challenges

The student teams sought to solve the challenge case by following the four stages of the service design process, referred to as the double diamond model (Naar et al. 2018). The four stages are: discover, define, develop and deliver (Figure 1).

The first phase was to **discover** the problem area by gathering as much diverse information as possible about the problem, empathizing with the

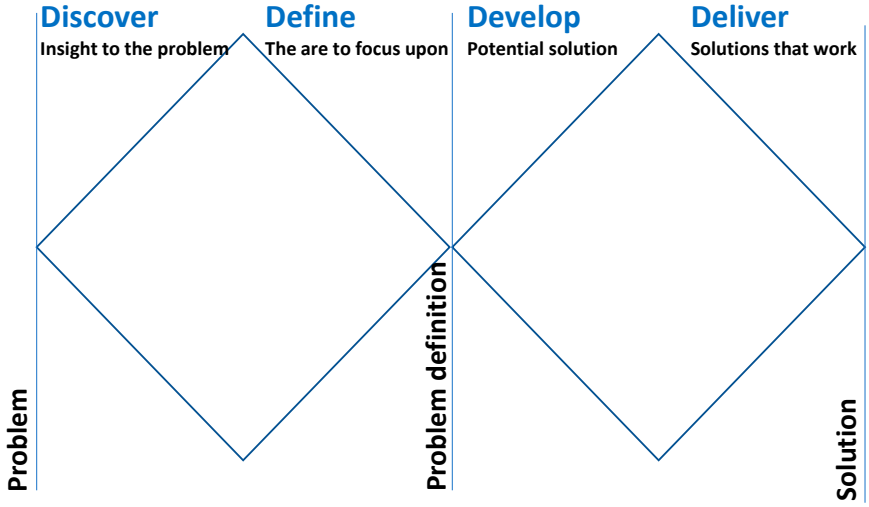

Figure 1. Double diamond model. (Picture: Naar et al. 2018)

needs of the target group for which a new solution was being developed.

At this point, the student teams were given a very broad description of the challenge cases, and they needed to find as much information as possible on the problem. It was important to see the world through the eyes of different people involved in the case: the patient, the clinician, the caregiver, or other stakeholders in the system. The aim was to seek information and the needs of target groups to serve as inspiration for new ideas.

There were eight challenge cases from which the student teams chose four challenges to solve. These were:

To support medication taking by elderly persons and remind of medical appointments,

To improve quality and comfort in long hospital stays, reducing stress, pain, and uncomfortable treatment,

To find new technologies for improving the independence level at home of people with some degree of need concerning specific control and assistance, and

To monitor blood glucose levels for elderly users.

The second step in the process was **defining** (making sense of) all the possibilities identified in the discovery phase. It may happen that the identified problem needs to be redefined, expanded, or contracted based on the gained information and new ideas. The goal at this stage was to create a clear understanding of the challenge case and the agreed problem. Additionally, visualization was used to highlight how the different parts of the service link together (Figure 2).

For example, a stakeholder map visually shows who is involved in a particular service and how they are connected to each other. A consumer journey visualizes the path of how the user experiences the service, including the user's interactions and feelings.

The third stage in the process was **development.** The aim was to generate a solution which could be a prototype in the form of text and visualization, describing the solution. The fourth phase was **delivery.** The student teams planned how to evaluate the solution and how to launch the developed solution. Some teams wrote a blog to deliver their solutions.

Multidisciplinary co-creation and learning processes

As the student teams had a common challenge to solve, different disciplines offered different points of view and competences to solve the challenge. Technological students contributed competence in the development of technological solutions, and students of social and health contributed their competence concerning user

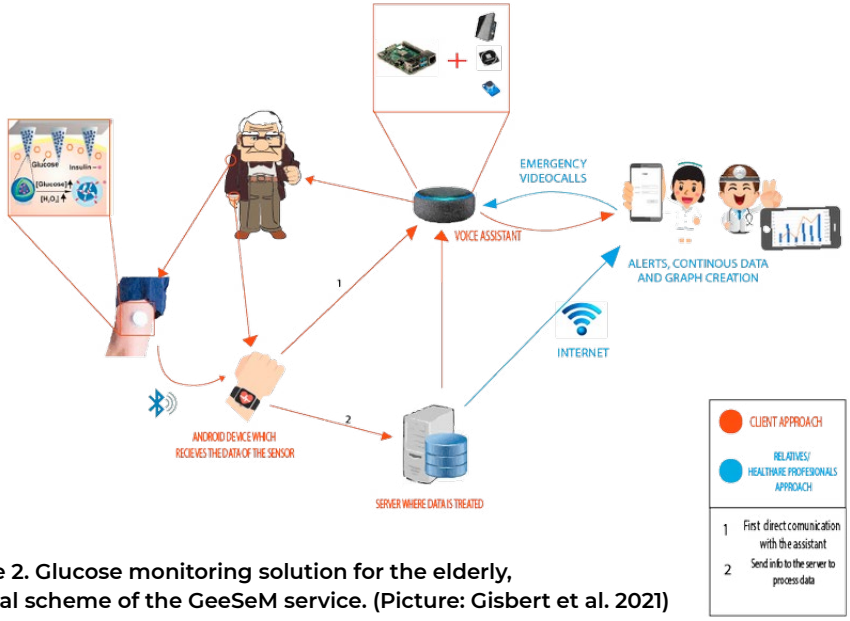

Figure 2. Glucose monitoring solution for the elderly, general scheme of the GeeSeM service. (Picture: Gisbert et al. 2021)

perspectives and social and health care. The student teams worked using a co-creation approach when designing the challenge solutions.

Co-creation is essential in the development of health and well-being technologies. The process includes a description of the value chain, the service or care production process, a description of the current activities from the clients' perspective as it occurs now, a description of the target situation, including what the client really needs and how he or she experiences the process. (Korte et al. 2020).

Co-creation is empowering and pays attention to the voice of each participant. It also has a unique influence on the participants, the knowledge created, products and services developed, and the potential for their implementation. Co-design uses the tacit knowledge of the participants. The co-creation process ensures collective ownership of outputs created and makes them visible (Langley, Wolstenholme, Cooke 2018). The co-creation approach is based on five principles, which are: 1) equal participation, 2) recognising different aims of participants, 3) finding common aims and interests. 4) from ideas to concrete doing, and 5) license to act differently and fail also. Suitable places and counselling, timing, manuscript, and planned processes are also necessary. Emotions during active process should be accepted, respected, and encouraged.

In processes promoting health and well-being it is important to notice that the language used matters. When we want people to engage positively in their self-care and to work with professionals on their journey to recovery and good health, it is important to choose positive language instead of negative blaming words. Additionally, engaging people matters, the place matters, and the vision and value matter, as well as creativity and fun (Davies et al. 2013).

Customer value-creating activities should be identified together with each partner (i.e., medical staff, companions and other customers) in their service value network. Each type of customer co-creation activity should have a positive effect on the core value of service delivery, including the perceived service quality and service satisfaction (Kim 2019), Co-creating something together with patients and service providers has a greater impact on the perceived service quality and service satisfaction. It is crucial to add value to the services offered to the elderly patients to avoid vulnerability and to recognize customer characteristics in promoting of well-being in the context of health care (Jiyoung 2019). Key elements in the value co-creation for advanced technologies in health care services include ease of access, credibility, and the intention of patients to participate in value co-creation in terms of personal, social, and economic experiences. The realization of the value co-creation promotes satisfaction, and recommendation of services (Lee 2019).

Student feedback on multidisciplinary teamwork and a real-life challenge

The students found the ISP week and the challenge-based learning interesting because they were able to develop a real project from start to finish. In the teams, students had different and daily changing roles, such as chairing for the day, responsibility for communication, documenting and reporting on their daily work. According to the feedback, the daily change in the roles strengthened the members' commitment to the teamwork.

Working in multidisciplinary teams taught the students to see challenges that they may face in real working life, and this also received positive feedback. According to feedback from technology students, the opportunity to work with social and health care students increased their understanding of clients' ability to use and benefit from the technological devices or digital applications when developing such solutions. In addition, discussions in multidisciplinary teams and solving challenges with technology, increased the interest of social and health care students in new technology.

"The course stimulated and created a zeal to learn more about technology."

"Everyone had an opportunity to take up active roles which was a very good idea. This improved our commitment."

According to students' feedback, they enjoyed the multidisciplinary teamwork and were ready to increase it.

In the first phase, it was challenging for the group to define customer needs and possible solutions to the given challenges. The students searched for information on the challenges which they had private-specific experience of (e.g., grandparents or patients), or had an interest in respect of their field of study (e.g., technological opportunities). Therefore, the students would like the teachers not only to ask if the tasks were done, but also to provide ideas and a wider perspective to the challenge.

The teachers were available to the students daily, visiting the groups and supporting students' work. However, even more feedback during the ISP week could have improved the students' work and a named team mentor for each team during the entire working process could have been beneficial.

According to the student feedback, online learning can be an effective and beneficial way of learning, but some sort of interactive virtual gamification could also be included in the study programme. In the time of the pandemic and studying mainly online, students put forward the idea that during e-learning, they could get together through a real-life game to improve their learning and interaction with each other. As Serdyukov (2021) notes, learning in an online environment disrupts social relationships. Therefore, all opportunities to promote student interaction during online work should be taken into use.

Overall, the implementation of the ISP weeks online and the chosen learning processes received positive feedback from students. The students were willing to put more effort into learning online if they found it interesting and challenging enough.

Conclusions

The implementation of the first intensive study programme of the NICCoLLa project shows that challenge-based online learning promotes active learning processes in international teams. Challenge-based teaching and learning is an excellent pedagogical approach to challenge the students and include real-life cases in the course. In addition, a multidisciplinary approach and international perspective makes it attractive and motivating for higher education students to broaden their areas competences. Multidisciplinary working, discussions, sharing ideas and

understanding different viewpoints are essential when the aim is to solve complex tasks and to innovate new solutions for working life needs.

The experience of the ISP will be utilized in the next task in the NICCoLLa project, which is to prepare six, five-credit Massive Open Online Courses (MOOCs), for a total of 30 ECTS. The content of the courses combines technology, care, and well-being. These will address, for example, future technologies in social and health care, ethical issues in technology, patient safety and the development of new technological solutions with professionals and clients or patients.

In the future, MOOC courses will provide an opportunity for students to study independently, regardless of time and place. In this sense, teachers developing MOOC courses will face challenges. The challenge includes how to include real-life cases in online learning processes and, also, how to create such interesting and engaging online courses, that they manage to get students interested in the technological solutions used in social and health care.

The NICCoLLa project will have a broad impact on social and health care in the future. This will be achieved by promoting education that facilitates the development of the technical skills and competences of social and healthcare professionals to provide digital services to clients and to guide them in the use of different devices. Also, by improving the expertise of engineers to develop new technological solutions and digital services for patients and clients in social and health care. The development of education of “future-proof professionals” will also facilitate the application and adoption of new well-being technology to promote client well-being. In addition, future social and health care professionals, as well as engineers, will need to be competent to innovate social and health care technological solutions and take into account the ethical aspects of health and well-being technology.

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Mari Kokkonen, Sari Kokkonen, Anne Suikkanen

Towards future competence in support of customers living at home

The share of the elderly population in Finland is increasing, and the need for social and health care services is growing at the same time. By 2030, at least one in every four residents in many municipalities will be aged 75 or older (Ministry of Social Affairs and Health 2020). Although most elderly people can live at home independently or with minor assistance, the need for help increases particularly during the final years of one's life. Home care customers in future will be increasingly elderly, and there will be increasing numbers of elderly people with multiple ailments requiring assistance.

According to the quality recommendation of the Ministry of Social Affairs and Health, digitalisation and the use of technology provide the means to build an age-friendly Finland. Technological solutions and the utilisation of artificial intelligence can improve the well-being of older people, enhance the functioning of the service system and reduce costs. This requires the strengthening of employees' skills, a change in working methods and technical support in the workplace community.

The elderly vary greatly in terms of their ability to function and their technical skills. There is therefore a need for a variety of services and technological solutions aimed at older people that support and complement each other. Technology's potential to respond to the service needs of elderly customers should always be investigated in connection to the assessment of service needs. In addition, there is a need for competence in assessing the cost benefits of technological solutions (Ministry of Social Affairs and Health 2020).

It is also important for customers and their close relatives to be involved in the development of new operating models that exploit technological solutions and to assess their effectiveness from their own perspective. It is important to pay attention to interaction and encounters,

which should be respectful and good in every respect. A lack of support is often the greatest hurdle to overcome in teaching the elderly how to use technology. Enough support must be made available for both the purchasing of devices and learning how to use them.

It is important for the elderly that the need for services is assessed with them. To form an overall picture of an elderly person's life situation, as well as their goals, resources and challenges, their thoughts and wishes must be heard. When service packages are customised according to customers' individual needs and brought together in a considered manner, they become customer-driven and cost-effective services of a high quality.

The AATOS project produces information and expertise for home care services, making use of gerontechnology and digitality, thereby increasing the autonomy of the customers and staff. Enhancing the competence of staff working in home care lies at the core of the development.

Competence as a force that brings about change

Future challenges in health care require new operating models and methods. Competence development is the single greatest force bringing about change in society. Education produces competence, the impact of which is visible in a capacity to change practices, operating models or mindsets in working life, for example (Arene 2020).

The staff's competence development is in a key position in the development of the quality, flow and customer benefit of services, as well as the service system. It is important to assess the benefits of technological development and the resulting cost effects. Changing operating methods and the increasing use of technological solutions and digitalisation require an increase in the independence of employees and the autonomy of their work, as well as significant competence development. This also has a bearing on the staff's well-being at work and job retention. The staff's competence development strengthens the retention of customers' ability to function as well as their inclusion, safety and independent activity.

The competence needs and wishes of nursing staff and supervisors in South Karelia's home care

A survey carried out among practical and registered nurses, as well as their supervisors, gauged their perspectives on the current state of their competence and training needs.

The topics in the questionnaire aimed at practical and registered nurses focused on people skills, the changed operating environment of home care,

the efficiency of work as well as competence in well-being and welfare technology.

A total of 25 employees responded to the questionnaire. The respondents felt their own competence within the operating environment of home care was good. People skills were also perceived as good, and the efficiency of the working method very good. The respondents found their overall competence in well-being good, and they were able to cope with stressful situations very well, also having the ability to solve them.

The competence needs of the nursing staff in home care pertained to an increase in IT skills and various clinical skills. The respondents also thought about the concrete impact that digital solutions had on the autonomy of customers and employees.

Learning about new things was largely seen to take place in the form of experiments and practical tasks while working in small groups. At its best, learning new things can prove helpful in solving concrete problem situations.

The questionnaire aimed at the supervisors in home care investigated their perspectives on the current state of the leadership skills and competence needs. Nine supervisors working for the South Karelia Social and Health Care District (Eksote) and two supervisors working in private home care responded to the questionnaire. The current state of leadership skills in the questionnaire was assessed with the help of Sydänmaanlakka's leadership skills tree (*johtamisen osaamispuu*; Sydänmaanlakka 2015, 154–160). The leadership skills tree is composed of five branches: general skills; people skills; leadership skills; efficiency skills; and well-being skills.

As a whole, the supervisors in home care considered their competence strong. According to their assessment, they have a good grasp of the operating environment and how to efficiently operate in it. They feel that they know how to organise the work and share tasks, as well as how to work in line with the strategy whilst implementing that strategy in practice. Operating amid change and the knowledge and use of digital services are also under control, but it is perceived that there is less competence in them. While the capacity to take care of one's own well-being, particularly in terms of physical performance, is at a good level, it is still significantly weaker than skills in the other branches.

With regard to learning new things, the supervisors hope for a community spirit, joint discussions and functionality. Content-wise, the respondents brought up issues related to HR management, such as challenging situations, support for coping at work, resolving conflicts

between people, recruiting difficulties and issues related to legislation, collective agreements and HR systems. The supervisors also hoped to update their skills in gerontechnology. They hoped for a readiness for the management of continuous changes and the application of consistent common policies. Hopes in terms of learning new things included up-to-date data, innovations and fresh motivation.

The AATOS project's interventions for competence development: Coaching for home care staff

The planning and objectives of coaching

The coaching of home care staff was a key measure in competence development. The content of the coaching was guided by the AATOS project's objectives on autonomous work and the sharing of skills in welfare technology. The responses given to the survey by Eksote's home care nursing staff and supervisors brought up topics related to well-being at work and the handling of challenging matters. These were included in the coaching, in addition to the topics yielded by the AATOS project. Once the content had been determined, it was discussed with the supervisors and management of Eksote's home care and nursing. Some specifications to the content were made on the basis of the discussions.

Communication on the coaching aimed at Eksote's home care and private home care companies began in early 2020. When the coronavirus pandemic changed the whole of society and how meetings were held, the coaching plan was changed to take place entirely by virtual means. During the coaching, the schedule was changed so that the first session planned for August was skipped altogether. This was especially influenced by the fact that moving employees from their basic duties in Eksote's home care proved difficult during the pandemic. The dates and times of the coaching were agreed in the spring of 2020, which was also when registrations for the coaching took place.

Of the 27 Eksote employees who signed up for the coaching, three worked as registered nurses in home care, 17 worked as practical nurses, and seven in supervisory positions. There were seven participants from private home care companies.

The learning outcomes, content and coaching methods of the coaching had been formed before the implementation was moved to an online environment due to the pandemic.

The learning outcomes were for participants to:

- be able to identify the change in home care work and the factors that influence it
- be able to carry out autonomous work and self-management
- have the ability to share knowledge and skills in home care
- be familiar with and apply gerontechnology in home care
- be able to face and solve challenging matters within the workplace community
- take care of their own coping at work and support the success of others at work

The principles and implementation method of the coaching

The coaching aimed to apply the model of knowledge creation (Nonaka and Takeuchi, 1995), which is comprised of four interacting phases of tacit and explicit knowledge. The goal was for those coached to share knowledge with each other, which would allow this knowledge to coalesce into new knowledge. The coaching followed the basic principles of dialogue: direct speech, waiting, listening and respect

The coaching began at the end of September 2020 and continued until March 2021. It entailed a total of six three-hour meetings, held approximately once a month. The topics of the meetings were autonomous work, sharing knowledge and skills, welfare technology (partly in cooperation with the *Hyvinvointiteknologia tutuksi* webinar), challenging issues in the workplace community, coping at work and, during the final session, a summary of the coaching themes.

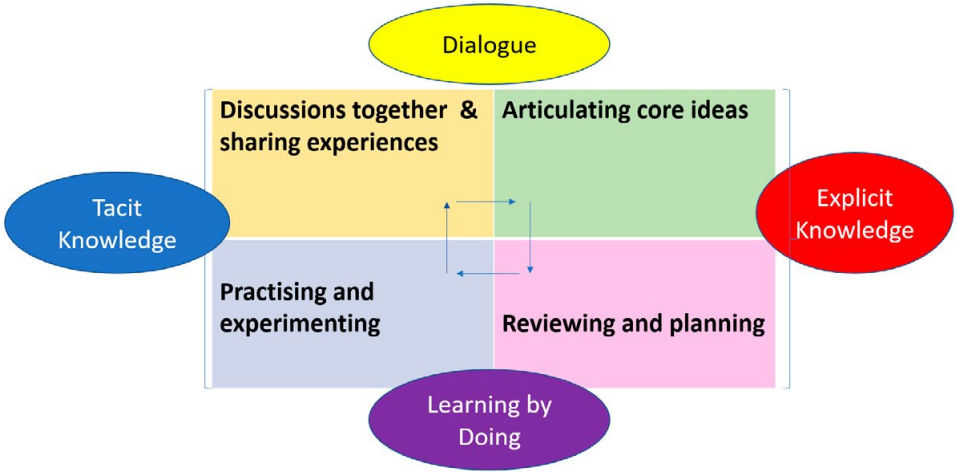

Figure 1. Adapted from Nonaka and Takeuchi. (Picture: I. Nonaka, H. Takeuchi 1995)

The attendees of each meeting consisted of either all participants together or divided into three teams, each of which was composed of 12–14 participants. The topics were typically covered with everyone present, while the discussions were held in the teams. Each team had two coaches who took turns in keeping the conversation going and notetaking. The meetings were structured in three parts. First, the participants discussed what they had tried and learned in terms of the topics discussed in the previous meeting, and which of them remained in practice. The new topic was then introduced and discussed. This part took up a lion's share of the three-hour meetings. Finally, the participants set their sights on the future: which topics discussed on that day would be taken into practice and how. The notes on the team meetings were uploaded to the online environment of the coaching, as was the other coaching material.

Key conclusions drawn from each coaching session

In the coaching sessions, the participants discussed each session's theme, bringing up key conclusions drawn from it.

The autonomous work coaching session revealed how important it is to consider one's own work meaningful. The work must be meaningful for an employee to have the capacity for autonomous work. The members of the workplace community must be committed and work together for a common goal for autonomous work to be successful.

In the coaching session on knowledge and competence sharing, the participants brought up a culture of conversation at the workplace. Common ground rules are important and committed to. These also include ideas and experiments, and the experiences they yield are shared in the workplace community. A workplace community must be able to identify strengths, and who is skilled and competent in what. Weekly meetings with a free-flowing agenda enable the sharing of knowledge and competence in practice.

The *Hyvinvointiteknologia tutuksi* webinar and coaching session offered a wealth of new information about technological solutions in care services. The participants in the coaching realised that they already had a wide variety of technological means at their disposal that supported their work. The session and discussions made it apparent that the technological change has been rapid, and that the old ways would not return. Technology facilitates nursing work in many different ways. When the work changes as a result of the adoption of technology, it concerns the entire workplace community. No one

can separate themselves from it; rather, it becomes part of everyone's work.

In the coaching session on challenging issues in the workplace community, the participants were tasked with producing descriptions of challenges and conflicts in the workplace community before the session. During the session, the participants discussed challenges arising from excessive workloads and continuous scheduling pressures. In such situations, employees focus solely on mandatory tasks, and encounters with customers easily become perfunctory duties. The quality of the care may suffer, and aspects of a customer's care and well-being may be overlooked. Continuous interruptions due to which important tasks cannot be completed were also deemed a challenge. Complying – or rather not complying – with common ground rules causes conflicts within a workplace community.

In the coaching session on coping at work, the discussion focused on the characteristics of a healthy employee or workplace community. According to the participants, well-being at work is visible in an employee as friendliness, enthusiasm about the work and a high level of motivation for one's duties and the development of the work. In terms of the defining characteristics of a healthy workplace community, the participants mentioned an encouraging, helpful, open and conversational culture. The well-being of a workplace community is maintained through a positive attitude and humour. Shared coffee breaks and conversations at the water cooler reinforce well-being at work.

Feedback and evaluation

The participant's feedback on the coaching was gathered during the last session with the Mentimeter tool, in which everyone gave their feedback anonymously on their computer or mobile phone. The participants were asked to answer two questions: Which aspects in the AATOS coaching have been good or effective and which have been poor or ineffective? All comments received concerned the first question, and there was no feedback at all on poor or ineffective aspects. The expert teachers and inspiring coaches were considered good. This also applied to the monitoring of Axitare and the use of Menti in the coaching. The information received on new technological devices was also felt to be beneficial. Of the individual coaching sessions, the participants found the sessions on well-being at work and the facing of challenging issues particularly important. The coaching provided the participants with new means by which to promote well-being at work and handle conflicts, which they also intended to apply in practice. On a

general level, the coaching sessions gave rise to discussions and thoughts on the functioning of workplace communities. The participants thought that the coaching discussed a wide range of perspectives and aspects, also providing summaries of the issues discussed. Attention was paid to shortcomings in workplace communities, and solutions to them had been discussed together. The coaching served to bring the participants together and acted as a conversation opener. It enabled discussion between people working in different units, which is a prerequisite for future goal-oriented cooperation.

The teachers from Saimaa Vocational College Sampo and LAB University of Applied Sciences, who served as the coaches, took a more critical approach to the success of the coaching. Content-wise, the coaching corresponded to the planned implementation, with the exception of the first session, which was supposed to take place at the end of August. That session would have been necessary to orientate the participants to the topics of the coaching and the change in home care, as well as for them to get to know the other participants. The theme of autonomous work in particular may therefore have remained obscure for the participants. Continuous changes were made to the coaching's planned implementation method flexibly and in a participant-driven manner. While the discussion in some sessions remained half-hearted, in other sessions, it was even spirited. Especially topics raised by the participants themselves – challenging situations in the workplace community and well-being at work – lowered the threshold for taking part in the discussion. Solutions which did not require the participants to voice their comments and opinions to a large group proved the most effective. Some of the participants shared a computer and held group discussions on the session's topic during the coaching. This benefited the smaller groups, even though the discussions were not documented, and the other participants or coaches were unable to take part in them. The video recordings worked well, as did the Mentimeter during the session on well-being at work. The changes to the coaching and their necessity were discussed in meetings held by the coaches after each coaching session, and corrections were made on the basis of the analyses. The mutual cooperation of the coaching team worked excellently. The coaching improved as it progressed. In particular, the coaches learned about operating in a digital working environment, and how to engage people within it. The pandemic and the resulting shift to digital coaching had a major impact on the implementation method. The scarcity of dialogue led to the use of new

learning methods, and people were able to get more out of the coaching than was at first believed.

Study unit for students of LAB University of Applied Sciences

A study unit on technology and digital solutions as support for the elderly living at home was organised for the health care and social services students of LAB University of Applied Sciences in the form of a pilot project worth five study credits in January–March 2021. The study unit's participants consisted of social services and nursing students. The fact that the participants were at very different stages of their studies posed a challenge for the study unit's planning and implementation. The study unit was carried out online, and students were able to complete it entirely according to their respective schedules.

The content aimed to respond to the key skills which future professionals in the field of social services and health care will need when working with elderly people living at home. Ethical questions related to social and health care services have long been a subject of discussion. According to a guide published by The National Advisory Board on Social Welfare and Health Care Ethics (ETENE; 2010), older people are a very vulnerable customer group. Because of this, matters related to information security and legislation require skills and understanding from future professionals. The study module also included factors affecting an elderly person's living at home and daily coping, given that some of the students had no previous competence in the subject matter. An ample supply of diverse technological and digital aids is available, and as part of the study unit, the students familiarised themselves with a variety of applications and technical aids, and materials discussing them. The preparation of a customer-driven sourcing process, its various phases included, was also part of the study unit in the form of a summative assignment.

The study unit's ethical section made the students think about their own approach to and previous conception of elderly customers and technology. According to the students' own descriptions, their approach had become more positive. In addition, technology was seen as a good alternative for supporting older people's ability to function and their independent living at home. The students also brought up the fact that the study unit provided information on the wide variety of technological solutions and services already available, although only a few such services were available for home care customers.

The students' overall feedback on the study unit's implementation was highly positive. The subject's applicability to

and implementation as online studying received thanks, and both the content of the study materials and their presentation method were deemed good. The students felt they received a great deal of entirely new information, and that the study unit was interesting. The study unit's structure was thought to be to the point and to support learning. The study unit's materials were made available to students in stages, and this was deemed a good and clear implementation method. The study unit's implementation also received very positive feedback because it was possible to complete according to each student's own schedule.

Master's theses at the university of applied sciences

Three UAS master's degree students at LAB University of Applied Sciences wrote their theses to promote the goals of the AATOS project. The UAS master's theses were worth 30 study credits, and they were completed in the autumn of 2020.

In Johanna Kohonen's master's thesis "The introduction support of age technology in domiciliary care" (2020), the development work was carried out in cooperation with the employees of home care in the project's pilot areas, Taipalsaari and Savitaipale. The utilisation of gerontechnology and support for the introduction and adoption of the technology, as well as the inclusion of elderly people and their next of kin, employees' role in the introductory process, and the wishes and needs of the customers or their next of kin in terms of technical devices were investigated in collaborative learning cafés.

The development work covered the creation of a theoretical model for employees to rely on in the adoption of home care technology, and the finding of functioning operating methods and practices that assisted home care staff in their work with regard to technology. The theoretical modelling was composed of a technical, cognitive, informational and social structure. The modelling focused primarily on the staff, or employees, as well as the customers and their relatives, who became the principal users of the technology. The usefulness and justified use of the technological devices were found to be crucially important, due to which open information on the technology and its use was needed. Employees also need support and motivation if the technology is not to be abandoned after small setbacks. Customers had both positive and negative experiences of the technology, yet many of the customers would be very willing to try various devices in the future.

LAB University of Applied Sciences' students Anne Kautonen and Rauni Tuononen (2020) wrote the UAS thesis

"Utilising Research Data on Welfare Technology in District Nursing". The study aimed to examine how digital solutions in district nursing influenced the work autonomy of nurses. Other objectives included gathering information on digital solutions in district nursing and identifying the benefits they bring to organising home care for the elderly. The data was collected in a literature review in which the content was analysed from three perspectives: digital solutions that support nurses' work autonomy; digital solutions that help old people to live at home; and the management of digital solutions.

Based on the results of the literature review, technology was found to have already become a crucial part of nursing and district nursing. The technology is being developed rapidly, based on the wishes of both service providers and users. The nursing staff find the technology very useful, although it feels unpredictable when it does not work properly. According to the study, digital solutions will create new ways to perform district nursing in the future. The digital solutions will also enable customers to get more involved in their own care.

Summary

Increasing and anticipating the skills needed by social welfare and health care staff are key in a rapidly digitalising operating environment to obtain the best possible benefit from new solutions for a customer and their next of kin. When the objective is to create social welfare and health care solutions that are most beneficial in terms of both an individual and society, technological solutions that allow elderly people to live at home are, at their best, precisely these.

The change in the operating environment challenges employees working in different jobs. Care workers at the customer interface need information about new technology and the capacity to apply them for the benefit of the elderly. They should also know how to guide customers in their use. Supervisors are tasked with supporting employees in the change and organising work in a new way. Here too, they should take advantage of technological solutions and strengthen the employees' autonomous work. Autonomous work does not come into being by itself. It requires an operating culture which includes strong commitment, the sharing of knowledge and skills, and permission to experiment. A coaching approach to leadership by supervisors and clear job descriptions reinforce this operating culture. Special attention must be paid to the promotion of well-being at work and support for coping at work to ensure that the old and new structures and practices during a phase of change

do not place overlapping pressure on employees. Healthy employees are best for the customers.

The inclusion of customers is a key objective in policy strategies on ageing. Inclusion is guaranteed by the Act on Supporting the Functional Capacity of the Older Population and on Social and Health Services for Older Persons and by the Quality recommendation to guarantee a good quality of life and improved services for older persons. Inclusion is a subjective experience. It arises from a positive feeling of being accepted and a sense of solidarity. Participation in different events or groups alone does not support the inclusion of an old person, but may be an important way to achieve inclusion.

It is the task of municipalities to support the inclusion of the elderly at different stages of their lives, the aim being to provide all older people with an equal opportunity for a good life. The principles of promoting inclusion include respectful encounters, the voluntariness of participation and planned individual solutions for customers. When an elderly person is respected, appreciated and is in touch with other people, their sense of inclusion grows stronger. Inclusion is belonging and being heard. The inclusion of an elderly home care customer is promoted by the person's own resources, participation in self-care and self-determination. The customer's social relationships, the appreciation they receive and a living environment they find safe increase the experience of inclusion. Factors preventing the inclusion of an elderly person are a restricted ability to function, loneliness, pain and the deterioration of health.

Support for elderly people living at home, taking advantage of welfare technology in everyday life and social inclusion are also strongly attached to the key strengths and objectives of the RDI activities of LAB's Faculty of Health Care and Social Services.

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Part 4

Efficient Service Chains

Annamaija Id-Korhonen

Multidisciplinary competence required in the development of digitalisation in the social services and healthcare sector

In the UUDO project, launched in the spring of 2021, 14 universities of applied sciences jointly provide a specialisation programme, worth 30 study credits, entitled "Multidisciplinary competence in the development of digitalisation in the social services and healthcare sector". The first implementation will begin in June 2021, and the next during 2022. During the project, a total of 275 students in 14 universities of applied sciences will participate in the programme. The project will also produce open study materials with the aim of supporting the use of digital social and healthcare services and to strengthen development competence. The programme includes instruction in both Finnish and English. The COVID-19 pandemic has forced organisations providing social and healthcare services and education services to move extremely quickly to reorganise their operations and offer services online. The new ways of working and the remote services require a new kind of competence from personnel. Digitalisation is fundamentally changing the work practices in the social services and healthcare sector. The project helps to update the competence of the social services and healthcare sector personnel to meet the competence requirements set by the digitalisation of work, and to enable unemployed social services and healthcare sector professionals with a relevant degree to return to work. For example, the project supports the transfer of digitalisation professionals currently working in the design and retail sectors to development positions in the digital services provided in the social services and healthcare sector.

Digitalisation of social care and healthcare services

In accordance with the Sustainable Growth Programme for Finland (2021), productivity is strengthened through digitalisation and access to health and social services is improved. Reforming the services through increased digital services includes the following goals: 1) improving equality in service access, as well as the timely delivery and continuity of services; 2) shifting the emphasis to preventive and proactive work; 3) ensuring the quality and effectiveness of services; 4) promoting a multidisciplinary approach and the interoperability of services (Achte 2021). Digital services will be offered before contacting a client to support client service, during the assessment of the situation, and during planning, implementation and follow-up. The services may include self-care, websites, social care and healthcare portals, well-being and health coaching, assessment of symptoms, the Omaolo symptom assessment service, the My Kanta health record service, the 116117 medical helpline service, chatbots, electronic appointments, electronic service solutions, medical examinations, preliminary information forms, remote connections, remote consultations, assessment of the need for remotely provided services, treatment, care and rehabilitation, remote measurements, support for self-care, client service systems and ERP systems (Achte 2021).

The objectives in accordance with the Ministry of Social Affairs and Health's digitalisation vision for 2025 (2016) are described below. The development of the social care and healthcare services will be client-centred. They will be offered as entities that make sense from the client perspective and that meet the client's needs, regardless of time and place. Digital services will also be made accessible and easy to use for special groups, making them available to all citizens. Digital services will be available even if a person does not own any terminal devices or have Internet access. The person will receive support in the use of digital services, and when needed, services will be available in other formats as well with the help of personal service coordinators, for example. Citizens, companies and employees will be requested to provide the same information only once. The information provided once will be available for different services with the client's permission when needed. The digital services will be provided securely, and they will comply with the necessary privacy protection requirements. When information is shared, confidential information will be distributed only to the parties concerned. The use of unnecessarily complex steps will be eliminated, and the client will receive

benefits promptly (Ministry of Social Affairs and Health 2016).

The generic skills needed in the social services and healthcare sector professions that will be in the highest demand in the future include an ability to see the big picture, multicultural skills, cooperation skills, ability to work under pressure, as well as communication and interaction skills. The digital skills needed the most in social services and healthcare sector professions are those related to assessing information, digital literacy, sharing information digitally and digital collaboration. The competence to apply digital tools in the social care and healthcare services, the increase in clients' digital competence, and the guidance provided to clients in the use of electronic services or functions are growing in importance in all social services and healthcare sector professions. The user-friendliness of the digital skills and accessibility are particularly important in the social services and healthcare sector. Digital devices or services should be user-friendly and easy to use, as well as possible to manage with rudimentary digital skills. Encountering customers and focusing on their care is more important than digital skills (Leveälahti et.al. 2019).

Objectives of the specialisation program

The specialisation programme being developed in the UUDO project addresses the professionals' need to guide and support citizens in the digital environments of the social services and healthcare sector. The COVID-19 pandemic is challenging society to find increasingly flexible hybrid service solutions – in other words, to combine digital and more traditional ways of operating.

1. The project will produce a specialisation programme focusing on information management, digital services and service design in the social services and healthcare sector. The participants have Bachelor's degrees in different fields. The specialisation programme will generate a new kind of multidisciplinary competence for the service structure reform, which is topical in the social services and healthcare sector.

2. The development assignments in the specialisation programme will help share competence related to information management, digital services and service design in the social services and healthcare sector with partner organisations, increasing the opportunities of working communities to benefit from open study materials concerning the

digitalisation of the social services and healthcare sector. The open study materials produced in the "SotePeda 24/7" project also enable the development of digital competence in the social services and healthcare sector for those members of the working community who do not participate in the specialisation programme.

3. Identifying and recognising digital competence in the social services and healthcare sector will be promoted for the personnel of working communities by developing an open badge system that supports competence management (UUDO-hankehakemus 2020).

The network of parties who implement the programme will provide nationwide training while considering regional characteristics in the development of digitalisation. The goal is to provide the students, who represent several sectors and employment situations, with flexible opportunities to study either remotely or in a hybrid format, which consists of both contact and remote studies. The educational organisations will offer students guidance and support in the planning of suitable content. Development assignments that integrate with working life will be agreed jointly with the student and the relevant workplaces. During the project, the students will assess their progress continuously. The implementing organisations will be responsible for the continuous assessment of the quality of the training (UUDO-hankehakemus 2020).

Co-creation and service design

Co-creation brings together citizens, companies, and the third and public sectors to identify needs and solve problems related to services. Co-creation focuses on the customer – in other words, the users of the service – and develops services through cooperation between several actors. At best, co-creation develops smoothly running customer-centred service processes that take individual needs into consideration and improve the availability of the public service. The implementation of co-creation can be seen as a gradual process that offers tools for cooperation between several actors and for the development of customer-centred services. Co-creation requires encounters as equals, perseverance in conducting research and proceeding towards the unknown, the integration of goals and resources fairly, project management and an authentic customer environment for developing a solution (Kauppinen et al. 2020).

Co-creation is necessary in the development and deployment of care and well-being technology. The deployment

process includes the description of the value chain, the production process of service or care, the description of the current operations from the customer's perspective, and the description of the target situation, including the customer's needs and their experience of the process (Korte et al. 2020).

Co-creation is empowering, and the voice of each participant is heard in it. It also has unique effects on the participants, includes knowledge of the development of the products and services produced jointly, and of their potential for implementation. The participants' tacit knowledge is applied in co-creation. Co-creation ensures collective ownership of the outputs developed and makes them visible (Langley et al. 2018).

The activities that produce added value for customers and the service value of such activities in a network were identified jointly with service development participants. The participants included healthcare service experts, partners and other customers. Each co-creation activity had a positive effect on the core of the service provision, including the perception of service quality and satisfaction (Jiyoung 2019). Among the most important elements of the co-creation of healthcare technology are ease of use and customer value, and the willingness of customers to participate in co-creation and contribute to it with their personal, social and economic experiences. Added value in service development is manifested as satisfaction with the service, a joyful attitude and users recommending the service (DonHee 2019).

National further education

The project is nationwide and includes 14 universities of applied sciences: Savonia University of Applied Sciences; Seinäjoki University of Applied Sciences; Oulu University of Applied Sciences; Metropolia University of Applied Sciences; Häme University of Applied Sciences (HAMK); VAMK – Vaasa University of Applied Sciences; LAB University of Applied Sciences; Satakunta University of Applied Sciences; Diakonia University of Applied Sciences; Turku University of Applied Sciences; Lapland University of Applied Sciences; Tampere University of Applied Sciences; and Novia University of Applied Sciences (UUDO-hankehakemus 2020).

The universities of applied sciences are located in different parts of Finland. Some are in large cities; others are in the centres of sparsely populated regions. The networked structure helps achieve the project objectives by applying regional expertise in a versatile manner and by taking into account the needs stemming from the characteristics of different areas. From the perspective of continuous learning, it

is also important to address the challenges that a sparsely populated area faces with regard to the competence of the workforce. Digital methods that make remote studies possible are perfectly suited for students who live far away from the educational institution. Therefore, equal opportunities to study are also fulfilled with regard to the student's geographical location, since these studies can be taken from anywhere in Finland. (UUDO-hankehakemus 2020).

In accordance with the strategy of LAB University of Applied Sciences, we want to create sustainable innovative solutions which promote people's well-being. (LAB University of Applied Sciences 2021). In accordance with the profile of LAB University of Applied Sciences' Health Care unit, we educate social services and healthcare sector reformers who lead the way in the digital and technological well-being solutions that we transform into people-centric service innovations in cooperation with our partners (LAB Hyvinvointialan profiili 2021). The role of the LAB University of Applied Sciences in the project is to lead the work in one of the work packages. This work package develops regional cooperation in the development of digitalisation, produces a study process for the development assignment and the practices for a personal study plan. Another task of LAB University of Applied Sciences is to jointly produce with the Oulu University of Applied Sciences a two-credit study unit on management by information in the social services and healthcare sector, to be provided as one of the optional study units.

Education implementation

The stages of implementing the programme are as follows: In stage I, a curriculum will be prepared for the specialisation programme, and in stage II, regional student admissions will be carried out (twice). In stage III, the programme implementation will be carried out twice , and in stage IV, students' competence and the education implemented jointly will be assessed. The UUDO project's consortium of 14 universities of applied sciences is built in part on the network of the "SotePeda 24/7" project (2018–2020) . The project has defined competence needed in the provision and development of digital services in the social services and healthcare sector within 12 competence areas. Based on these competence areas, the UUDO project implements a specialisation programme on multidisciplinary competence in the digitalisation of the social services and healthcare sector ("Monialainen osaaminen soten digitalisaatiossa") (30 credits) (UUDO-hankehakemus 2020).

The UUDO project also uses open

study materials previously produced by the consortium under the CC BY SA 4.0. licence. These study materials are used in the specialisation programme. The open study materials are available in the AOE.fi service, and the MOOC studies created can be accessed through DigiCampus (digicampus.fi). The MOOC study units are also available as open UAS studies to the employees of the cooperation partners. The curriculum includes the following content areas: electronic services in social services and healthcare, information management, service design and optional contents, as well as a workplace-centric development assignment.

The project operates at the regional and national levels. The programme enables the regional development of digital services in the social services and healthcare sector through the development assignments given to the students. The development assignments will give rise to development communities that consist of representatives of work communities, supervisors and employees, as well as customers who use the organisations' services. The operating environment of the development assignments will be provided by the partners. The network enables brainstorming, information sharing and further networking on a national basis around the social care and healthcare services digitalisation and its development. The universities of applied science in the project network also strengthen regional cooperation networks with local private and public sector employers and other cooperation networks (UUDO-hankehakemus 2020).

The study environment that makes use of remote connections and online learning environments is well suited for students who live in rural areas. The target groups of the specialisation programme include professionals who need competence in the use and development of digital services in the social services and healthcare sector, including 1) employed professionals who have a degree in social services and healthcare (for example, nurses, social services professionals, physical therapists, and others), as well as 2) professionals in other sectors, such as design or business, who work in the social services and healthcare sector, 3) unemployed jobseekers in the aforementioned sectors, or 4) employees who may be losing their jobs and those considering a change of career (UUDO-hankehakemus 2020).

Students will participate in the planning at different stages of the specialisation programme. They will assess their competence development, and the education network will enable the implementation of a flexible personal study plan . The students will participate

in the selection of the development target according to their competence preferences and desired future employment path. The specialisation programme will be assessed from the perspectives of flexibility and diversity, taking into account the education needs in different parts of the country. The students will give feedback on the programme, and this feedback will be viewed against the students' competence profiles, how their competence has strengthened, and how well the programme is aligned with working life. The assessment in the project will be carried out by multiple actors in cooperation with customers and workplaces. The digital operating environment will enable continuous participation in the assessment (UUDO-hankehakemus 2020).

The programme is planned through co-creation in the form of six work packages, each of which has a designated role in the planning. The work packages are responsible for the planning activities, and the responsible universities of applied sciences jointly design the study units, and prepare the materials, as well as the implementation and assessment of the shared DigiCampus platform (digicampus.fi). Ten students guided by tutor teachers of their respective educational institutions have been selected in each participating university of applied sciences. The tutor teachers confirm the personal study plans of the students of their respective universities of applied sciences and facilitate the development assignments that the students complete in groups (UUDO-hankehakemus 2020).

Results

Regional actors and higher education institutions have been increasing their cooperation within the operating area of the 14 universities of applied sciences with regard to competence assessment and career counselling for the unemployed and those considering a change of career. A total of 275 students have completed the 30-credit specialisation programme implemented nationwide in the UUDO project. The number of credits completed in the open UAS studies related to the digitalisation of the social services and healthcare sector is 1,500. Various actors in the communities that have formed around the development assignments have assessed their competence and completed a total of 1,500 open badges. As a result of the development assignments (275), digital services in the social services and healthcare sector are being developed through service design. The specialisation programme has enabled 20 people in the process of changing their careers to find new jobs. The network cooperation and the open learning environment in the specialisation programme have

strengthened, which gives the unemployed participants and those studying while working the opportunity to learn wherever and whenever suit them best. Self-assessment supports the strengthening of the students' competence. Managers in the municipal sector have gained tools for competence management. (UUDO-hankehakemus 2020).

The specialisation programme's participants will become users, counsellors and developers of digital services in the social services and healthcare sector. A graduate of the multidisciplinary programme will apply their own professional role to integrate their competence in the development of existing and new, more people-centric service processes in the social services and healthcare sector. In addition to the specialisation programme's participants, other members of the working community will receive information about flexible new opportunities to promote their learning. The established nationwide network will be one of the platforms for sharing good practices. Articles will be published on the development assignments, and the "SotePeda 24/7" project's social media accounts will be used to disseminate information (for example, the project's Facebook group has nearly 800 members, and its Twitter account has more than 300 followers) (UUDO-hankehakemus 2020).

The assessment of the results achieved in the project will focus on the impact of the activities on alleviating the shortage of talent and improving the regional availability of a skilled workforce. The following will be assessed: 1) the student's competence, the number of participants and the study credits and open badges completed; 2) the quality of education; and 3) increased employment opportunities and student employment. The assessment methods include quantitative and qualitative assessment, self-assessment, peer evaluation and the evaluation of the enduring effects of education. The methods used to collect data are questionnaires, interviews and collecting registration information. The information will be provided by people who participated in the training, representatives of the organisations providing education and workplace partners. The registration information will be collected from the education organisation and working life (UUDO-hankehakemus 2020).

A plan has been prepared in the project for the assessment of follow-up and impact using validated indicators. The following perspectives will be taken into account in the assessment: increased competence among the programme participants; experiences gained in the programme, and the workplace-centric implementation and quality of the development assignments; employment; the

development of measures promoting employment and innovations; the planning and implementation of education through education design; a guidance plan that supports self-direction; and extensive regional network cooperation in the promotion of employment through information management (UUDO-hankehakemus 2020).

The interventions implemented in the project, which apply the online pedagogy of developing education and competence and target the unemployed and those who may be losing their jobs, will support the availability of a skilled workforce in social services and healthcare organisations. The universities of applied sciences that are partners in the project are experienced and committed higher education institutions that engage in RDI development. The commitment of workplace actors to the project was ensured in the agreement stage of the specialisation programme (UUDO-hankehakemus 2020).

Further development

In June 2021, the co-creation of the programme had been underway for three months. The first implementation began in June 2021. The good practices of the universities of applied sciences have been applied in the planning. Integrating different operating methods and planning new shared ones has posed challenges to the working groups in establishing shared operating methods. The feedback received from the first implementation will be applied in the further development of the studies in the next implementation. The plan is for the universities of applied sciences to work together to continue the training provision after the project. The programme produces competence that strengthens the development of digital services in the social services and healthcare sector in the regions of the universities of applied sciences. Cooperation with regional projects related to the topic includes the integration of student groups' development assignments in these projects. Sustainable development is taken into account in the online studies by including open study materials produced previously by the network in the studies. Using the previously created network makes the provision of the studies cost-effective. The specialisation programme will help create a new kind of digital services competence in the social services and healthcare sector based on working life challenges, as well as including new parties in the development cooperation. This will help increase the number of participants in higher education and develop new kinds of continuous learning paths.

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Tarja Korpela, Päivikki Lahtinen, Matleena Takaluoma, Anne Timonen

The Iooi method in the assessment of the impact of training in the "Safety and risk management in the social and healthcare business" project

The COVID-19 pandemic is creating competence needs. The "Safety and risk management in the social and healthcare business" project was launched against the backdrop of the coronavirus pandemic, classified as generally hazardous, that spread around the globe from China in the spring of 2020 and is caused by the novel coronavirus.

This is not the first time that communicable diseases and pandemics have spread around the world. In recent decades, we have perhaps been lulled into thinking that this kind of health threat would no longer be possible in the modern world, at least not in countries with a high level of hygiene. Nevertheless, an unprecedented and unpredictable health risk materialised in 2020. The crisis escalated quickly, and working communities were unable to prepare for it and respond to it by means of making changes to HR management and operating models. Personal protective equipment required in the prevention and treatment of the pandemic were not available to healthcare personnel in adequate quantities. The coronavirus pandemic, currently in its second wave in 2021, is not only a serious national health threat but also a crisis in Finland's business life. It has caused considerable financial hardships in different sectors due to loss of income and temporary layoffs. The pandemic has changed the patterns of both work and study and has had an extensive effect on the well-being and health of people of all ages. (Honkatukia et al., 2021; Kestilä et al., 2020, 4–7).

The "Safety and risk management in the social and healthcare business"

project (European Social Fund ESF) is a continuation of LAB University of Applied Sciences' "VERSOTE – Verkostoituvat sote-yritykset" project on the networked social services and healthcare companies (European Regional Development Fund ERDF), which ended in 2020, and continues to address the need identified during this project to increase competence, knowledge and skills regarding health security, self-monitoring, and the functional management of risks. The target group of the project consists of the management, entrepreneurs and personnel of micro enterprises and SMEs in the Päijät-Häme region as well as their cooperation partners. The partners include employees of public sector organisations as well as other providers of social and healthcare services in the private and third sectors.

The social services and healthcare companies providing nursing and care services in the Päijät-Häme region need competence in order to anticipate, prepare for, and develop health security operating models which enable them to improve their response to various crises. This requires that service providers continuously assess the risks of and self-monitor their operations (Husso & Henriksson, 2019). Crises and emergencies typically complicate the operations of companies, and it is of the utmost importance that companies implement information-based practices that have impacts.

The impact of operations had become one of the success factors in social and healthcare services and a strategic objective even before the COVID-19 pandemic. The requirement of cost-effective operations directs both private and public social services and healthcare towards activities in which the effects and impact of one's own operations are known. In practice, impact assessment has proven to be a challenging task. The Iooi method is a practical method that can help verify impact. This article describes the Iooi method and its application to the assessment of the impact of training provided in the "Safety and risk management in the social and healthcare business" project.

Assessing the impact of education and training

The impact of education has been discussed in Finland since the 1970s (Kauppi, 1984). It has been studied by means of various modellings with the aim of understanding the complexity of the concept. The model presented by Kirkpatrick (1967), generally applied in literature, views educational outcomes from the perspectives of the objectives of the work process, an individual and the education process. In this model, education is viewed as a dynamic

process of learning and teaching that transforms work practices. Another approach is practice-based theorising (Gherardi, 2001), in which educational outcomes are viewed from the perspective of the transformation of working life practices, and in which the transformation is based on the learning by an individual. In the context of assessing the impact of education, it has been proposed that assessment should be carried out from the operating environment (Räkköläinen & Meriläinen, 2014, 6) and it should simultaneously target the individual, organisation, network, and the national level or other larger regions (Nurmi & Kontiainen, 2000, 30).

Although it would be interesting and useful to view an individual's learning process and, on the other hand, teaching as the basis of the impact of education, we have excluded these from this article and instead focus on one model of assessing the impact of education provided in the social services and healthcare sector.

The concept of impact in the social services and healthcare sector

When education is provided in the social services and healthcare sector, the definition of impact from the perspective of the operating environment of social and healthcare services should be considered. Based on literature, the definition of impact generated specifically for the social services and healthcare sector is ambiguous. Pitkänen et al. (2020, 17) summarise the concept of impact as a notion of achieving change. The impact would be the change achieved by a service in the client's condition, which is typically assessed through well-being, quality of life, health, and the ability to function. (Also Nenonen, 2020, 47; Heliskoski et al. 2018; Klemola, 2015, 48). Customership and client are challenging concepts to understand, since they can be viewed as agency from the perspective of different operating environments (Valkama, 2012, 68) and, on the other hand, the same service may include several simultaneous customerships (Korpela, 2017, 91). Nevertheless, the impact philosophy of the social services and healthcare sector can be applied to education when the objective of education is to transform work practices in a manner that improves the well-being, ability to function, and health of the members of the working community, clients and stakeholders. As a rule, the clients of education organised for the social services and healthcare sector in the university of applied sciences include employees, supervisors and directors who work in social services and healthcare sector companies, organisations or in the third sector. Sometimes a joint municipal authority, other organisations, or

companies for whom education services are being provided are also called clients.

The starting point of assessing the impact of education and training in the social services and healthcare sector is the competence and strengthened agency pursued in the education and training. In line with Kangasniemi et al. (2018, 12), we understand competence as vocational competence in which the participant's knowledge, skills, attitude, and self-efficacy form a whole that the professional applies in their work. Thus the assessment of impact targets the competence of the education or training participant in developing the operations of the working community and, further, in bringing about positive changes in the operations. Impact is manifested as the benefit generated by change and highlighted in the daily life of the client (the education or training participant) (Pitkänen et al. 2020, 17); in other words, in the activities of an employee and their working community. Often, it is possible to demonstrate impact in practice only after a sufficient period of time, even several years, has elapsed from the education or training (Heliskoski et al., 2018, 15; Räkköläinen & Meriläinen, 2014, 6).

To reliably demonstrate the causality of education or training and the benefit it provides entails uncertainty (Pitkänen et al., 2020, 19; Kettunen, 2017, 9; Dahler-Larsen, 2005, 5). The more time elapses from the measures taken, the more variables are involved (Kettunen, 2017, 9), and these variables, for their part, strengthen or weaken the results pursued by the objectives of education or training. Such variables may include steering by the authorities, which imposes obligatory changes to operating practices; other interventions with similar objectives that change the operations; activities of supervisors or management; demands of clients or their next-of-kin; or pressure from the media, which forces working communities to change their practices. Aistrich (2014) points out that despite the uncertainties, an assessment should extend beyond merely listing the impacts, because otherwise no information is generated on the actual benefits of the operations. An essential aspect of demonstrating impact is to provide an overall view of the relationships between input, output, outcome, and impact. This causality is known as an impact chain or the Iooi method or model (Heliskoski et al., 2018, 5).

Viewing impact by means of the Iooi method

In 2012, Birgit Riess described the theoretical foundation of the impact chain, or the Iooi model (in German, Der iooi-Method) in her article. The model is based on the need, emphasised in

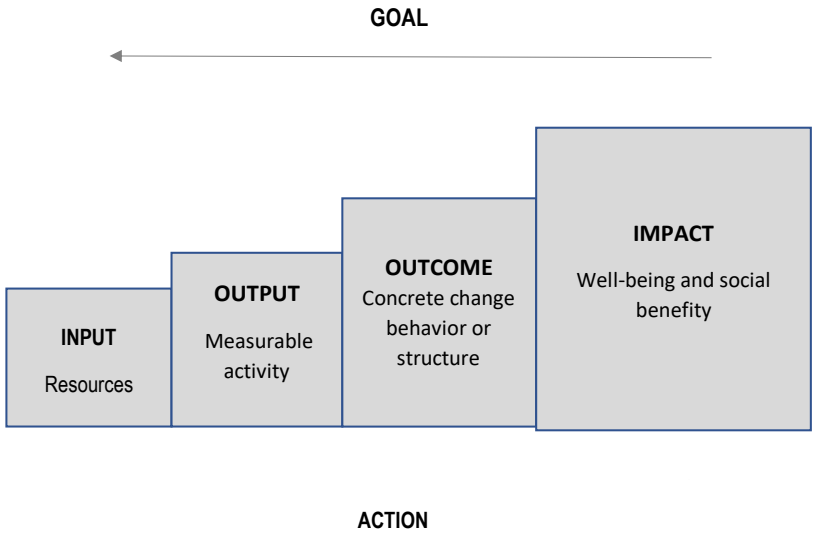

Figure 1. The impact ecosystem model. (Picture: adapted from Heliskoski et al., 2018, 5)

the 1990s, to produce services based on assessment data. The Finnish Innovation Fund Sitra has applied Riess' model (Figure 1) to view the impact of the Finnish social and healthcare services. (Vataja et al., 2019, 119, 332) and implemented the model in the Finnish social services and health care specifically in the Impact Accelerator project in 2015–2017 (Heliskoski et al., 2018, 21).

The Iooi model stands for input (resources), output (action, activity, service), outcome (effect, change) and impact (benefit) (Riess, 2012, 4). Input includes all the resources required by an activity, such as work performed by people, competence, facilities, equipment, materials, and information systems. The costs incurred by producing the activity can be calculated by means of resources. Output includes all activities produced by means of the resources. The activities can also be referred to as intervention when the activity pursues a change in the behaviour of the targeted individuals. (Heliskoski et al., 2018, 5; Kettunen, 2017, 16). Education is a typical form of intervention.

The Iooi model described by Riess (2012) can be applied in two ways: The first way is to start from the input, or resources, in which case the resources define any activity and the resulting effects and impact. The second one is to begin with social objectives and to plan the resources required based on the desired changes and the activity

required to achieve the changes. The first method is suitable for describing the impact of one service, such as an educational intervention. The latter model is more feasible in more extensive measures, which various projects typically represent. (Heliskoski et al., 2018, 5).

Saila Tykkyläinen has prepared a licensed modelling of Riess' method. She calls her model the Social Impact Evaluation Canvas. (Vaikuttava yritys). The model is a structured method for creating the factors of causality that result in impact and for linking the indicators that produce assessment data to these factors. (Vaikuttava yritys). The assessment data obtained through measurement is considered a key element of demonstrating effects and impact when these are linked to the objectives of the output being described (Torkki et al., 2017; Jääskeläinen et al., 2013, 11). On the other hand, Vedung (2017, 2) proposes that impact refers to a meticulous post-assessment of input,

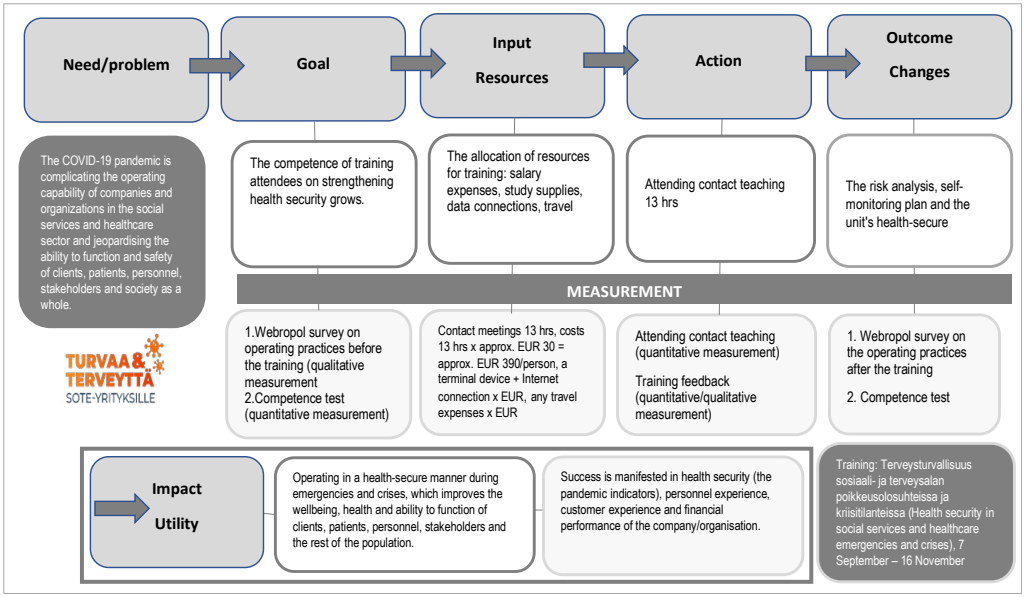

Figure 2. Impact causalities in the training provided in the "Safety and risk management in the social and healthcare business" project. (Picture: Tarja Korpela)

benefits, output and effects, which cannot necessarily be verified through a single measurement but, rather, a logical causality should be established.

Using the Iooi method to assess the effects and impact of education provided in the project

We will apply the Iooi method and Saija Tykkyläinen's Social Impact Evaluation Canvas to model the impact assessment of the education provided in the "Safety and risk management in the social and healthcare business" project.

In the autumn of 2021, the project will implement the 5-credit "Terveysturvallisuus sosiaali- ja terveysalan poikkeusolosuhteissa ja kriisitilanteissa" (Health security in social services and healthcare emergencies and crises) training programme. The programme participants include both social services and healthcare professionals who work in social services and healthcare sector companies and Master's degree students in the health sector education at LAB University of Applied Sciences. We call the programme participants learners. In the planning stage of the programme, we prepared an impact chart demonstrating causalities, as shown in Figure 2. With regard to learning, the chart focuses on the level of an employee participating in the training programme, and, with regard to benefits, the focus is on the employee's working community.

The training need is described in the project plan. The global COVID-19 pandemic has caused a serious health threat to all citizens and, in particular, to those professionals treating COVID-19 patients and the population, which, when contracting the disease, will burden our healthcare system. COVID-19 has weakened the quality of life for the elderly. (Valtakunnallinen sosiaali- ja terveysalan eettinen neuvottelukunta ETENE, 2020.)

The goals of the training programme were presented as competence descriptions in accordance with the University of Applied Sciences' Master's programmes. Figure 3 depicts the competence goals in terms of knowledge, skills, management, development and innovation activities as well as the content of training:

Competence includes knowledge-based competence, meaning that the learner applies the concepts and knowledge base of health security in the learning assignments included in the training. Skills competence is demonstrated by the learner assessing the unit's current self-monitoring plan and viewing it from the perspective of the current COVID-19 pandemic. After preparing a risk analysis, the learner can present proposals for changing the operating practices in the working community. Competence in development

COMPETENCE AREA	LEARNING OBJECTIVE	CONTENT OF TRAINING
Knowledge	The learner applies the concepts and knowledge basis of health security	Knowledge basis: health security, risk management and a self-monitoring plan, inclusive methods, managing the working community during crises and emergencies
Skills	The learner prepares a risk analysis and a company's self-monitoring plan for a pandemic	A risk analysis during the COVID-19 pandemic, a self-monitoring plan that takes the COVID-19 pandemic into account
Management, development and innovation	The learner produces measures to improve health security	A concrete action plan to improve health security in a company or an organisation during the COVID-19 pandemic

Figure 3. Knowledge-based objectives and content of training. (Picture 3: Tarja Korpela)

and management is demonstrated by preparing a concrete action plan for the work unit, with a focus of engaging personnel and increasing health security.

The resources required for the training (input) refer to the inputs of the companies in training. In this description, the resources include only those factors that incur costs to the employer, such as the salary costs during the training programme, study supplies, data connections and travel. The project training is free of charge for companies. The salary costs can be calculated from the salary expenses incurred by attending contact teaching. This training programme includes 13 hours of contact teaching. If the participant's hourly wages including indirect labour costs is EUR 30/hr, the total costs are EUR 390/person. In addition, the costs of a potential substitute employee and other costs incurred by terminal devices and network connections and any travel expenses to the training location should be considered.

The action (output), in other words, implementing the training, is described in Figure 4. Contact teaching includes (online) lectures and guided work in

7 SEPT 2021	28 SEPT 2021	19 OCT 2021	2 NOV 2021	16 NOV 2021
KICK OFF Expert presentations Training launch	**WORKSHOP I** Expert presentation on risk management during the COVID-19 pandemic, preparation of a risk analysis for the company	**WORKSHOP II** Expert presentation on risk management during the COVID-19 pandemic, preparation of a risk analysis for the company	**ONLINE LECTURE** Management and supervisory work in emergency conditions and ways to support personnel inclusion	**WORKSHOP III** Companies' prioritised action plans transformed into development measures for units during the COVID-19 pandemic Action plan for engaging personnel and strengthening health security during the COVID-19 pandemic

Figure 4. The schedule and content of the training programme on health security in social services and healthcare in emergencies and crises for companies and organisations. (Figure 4: Korpela and Takaluoma)

workshops. The teaching methods include lectures, workshops and dialogue. Master's degree students in the University of Applied Sciences will prepare a prioritised action plan on the development measures during the COVID-19 pandemic for the participating companies.

The effects of the training programme will be assessed by means of indicators. The indicator used is a Webropol survey carried out at the beginning of the programme on the work practices related to health security in companies participating in the programme. At the end of the programme, the same survey will be conducted again with additional statements concerning health security competence. The open questions included in the survey will be analysed in accordance with the content analysis presented by Tuomi and Sarajärvi (2012, 91–93). The information provided by the statements describing competence will be analysed by means of indicators. This will provide information on the change in competence on both a personal and a working community level, as assessed by the participants themselves. The training feedback to be collected will provide information on the participants' satisfaction with the training. The feedback will be collected through the Webropol survey format used in LAB University of Applied Sciences' continuing education activities.

The assessment of the benefits of the training will be based on the following conclusion: When the training goals are reached, the companies participating in the training will be better equipped than before the training to withstand the COVID-19 pandemic and any other crises and emergencies. A work environment with a good level of health security will have a positive effect on the epidemiological indicators that describe the pandemic, or the number of patients requiring intensive care and hospitalisation and the number of those who succumbed to the disease (Salminen & Voipio-Pulkki, 2020). Rissanen et al. (2020, 11–12) have estimated that strengthened health security during the COVID-19 pandemic will have a positive effect on the well-being of all citizens and, particularly, on the workload and occupational safety of social services and healthcare personnel and, subsequently, on the opportunity to provide services. Since the pandemic has indirect and direct effects on the health, ability to function and well-being of the clients of the social and healthcare services, measures that support health security can promote the functioning and quality of the service system in the social services and healthcare sector (Rissanen et al., 2020, 13–43). Investing in health security in companies is manifested as a good personnel and customer experience which has a direct impact on the company's productivity (Jääskeläinen et al., 2013).

Assessment of the usability of the Iooi model in the project and educational activities

The Iooi method has been used in the assessment of impact in the training provided in the "Safety and risk management in the social and healthcare business" project. Deployed by Sitra, this method has been implemented widely in the social services and healthcare sector as a basic method for viewing impact. Applying the method to demonstrate the impact of services and operations is covered extensively in literature, whereas no national literature references could be found concerning the way we use the method to assess the impact of education in the social services and healthcare sector.

We have found the method to be useful for describing the effects and impact of education. The Iooi method provides a structured model that offers a straightforward, process-like contemplation tool. The method is can be used in planning education and in communication when training content is being created and the training module is being marketed to social services and healthcare actors. The model can also accommodate the costs of organising the training, which enables

the companies participating in the training to use the model as a tool for assessing the impact of costs. The Iooi model demonstrates the importance of measuring the activities and the related choice of indicators. It is possible to measure numerous aspects of training, but relevant indicators are those that demonstrate the change linked to the objectives and the benefits provided by this change. In particular, the model directs the user to examine the causalities of education and training and to assess the effects and social impact of education and training. Thus, the model supports the social impact objective set by the Ministry of Education and Culture (2015, 11): increasing the well-being of citizens.

Although the Iooi model has a clear logic, applying the model requires a theoretical knowledge of the phenomenon being described and a command of quantitative and qualitative research methods so that reliable assessment data can be obtained from the measurements. There is a great deal of uncertainties associated with how realistic the model we describe is, such as the reliable verification of benefits over the long term or during a potential next pandemic. Nevertheless, we agree with Actrich (2014) and Dahler-Larsen (2007, 25) that just describing the causality will direct the operations towards impact-orientation and make visible the objective of education to provide social impact.

The "Safety and risk management in the social and healthcare business" project strengthens the important task of LAB University of Applied Sciences to promote the health, well-being, and ability to function of citizens. The project, created and implemented in cooperation with companies, safeguards the operations of competent personnel in crises and emergencies that are unpredictable in the future as well. The workplace-centric project will build networked activities between companies, including competence sharing and supporting entrepreneurship. LAB University of Applied Sciences' research, development and innovation activities, for their part, support networks that focus on promoting well-being and help companies succeed in providing social and healthcare services.

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Knuuttila Pirjo & Ivanoff-Lahtela Päivi

Towards Working Life – Fluently Graduating from Future-Oriented Work Placements

HARKKA – Training together to tackle tomorrow's health challenges is a national project that includes eight university partners. The project partners are KAMK University of Applied Sciences, LAB University of Applied Sciences, Lapland University of Applied Sciences, Oulu University of Applied Sciences, Tampere University of Applied Sciences, Savonia University of Applied Sciences, University of Lapland and University of Oulu.

The purpose of the EU funded HARKKA project (2018–2021) is to ensure students' fluent pathway to working life by developing training practices and future-oriented environments. The common challenge to the universities and the service system is to provide qualitative education, and to ensure adequate learning and training possibilities. Rapidly developing science and technology provide new and innovative possibilities and knowledge for health promotion and service development. The professional and interprofessional competences are needed to ensure patient oriented, safe and qualitative healthcare services (OAMK 2020).

The project activities have been divided into five work packages. Their objectives are listed in Figure 1. The LAB University of Applied Sciences was

Figure 1. From training to working life in changing operating environments in the health sector. (Picture: HARKKA project)

in charge of the "Mapping the current status of work placements" and "New models of work placement guidance" work packages.

Mapping the current status of work placements

The project began with a survey and assessment of the current status of the work placement environments through a survey tool in May–June 2019. The survey's objective was to describe the work placement environments used in higher education in the healthcare sector nationwide and the development challenges identified in them from the perspective of work placement coordinators.

The survey's questions covered three main themes: 1) the work placement environments used currently; 2) work-based learning in work placements; and 3) work placement guidance. For the purposes of the survey, work placement environments included development projects, simulation environments, gamified environments except for gamified virtual environments, mobile healthcare services and remote services in the healthcare sector. The survey received responses from 58 work placement coordinators from 14 different degree programmes in the healthcare sector. The respondents represented degree programmes in medicine and dentistry, nursing and physiotherapist education, among others. The results of the survey were used as baseline information later in the project.

Based on the results, simulation environments were the most commonly used work placement environments in higher education institutions (70.7%). Development projects were the second-most commonly used environments (36.2%). During the HARKKA project, the decision was taken that learning environments modelling reality such as simulation, as well as virtual and gamified environments, could not replace the clinical teaching required in the directive on the recognition of professional qualifications (2013/55) but could supplement it (Sosiaali- ja terveysministeriö, 2020). According to the responses, work carried out in simulations was an important method of learning to apply theoretical information before proceeding to the supervised work placement in healthcare sector organisations. It was reported that working in a simulated environment especially developed manual skills related to substance competence, as well as decision-making and interaction skills.

The survey indicated that the higher education institutions lacked harmonised operating methods for work-based learning and year-round work placement. Paid work-based learning was offered in nearly all (93.1%)

universities of applied sciences that responded to the survey. In some universities of applied sciences, work-based learning took place in both work placement and theoretical studies; in others, it was an option in work placement only. Perceived obstacles to work-based learning included the arduousness of the process for the student and the unwillingness of some workplaces to participate in work-based learning. Of the work placement coordinators who responded to the survey, 60.3% said that their university provided students with year-round opportunities for work placement – in other words, the students could complete supervised work placement and/or work-based learning in the summer. The perceived obstacles to year-round work placement included the availability of work placement opportunities, arranging supervision during the summer, the curriculum structure and the planning of teachers' schedules.

Responses to the question concerning supervision practices in work placement indicated that students mainly received supervision individually (81%). Student pair supervision was used least (5.2%). Multidisciplinary supervision of work placement was also minimal.

Practices concerning the activities of the teacher supervising work placement differfrom one higher education institution to the next. According to responses, the teacher visited the work placement location once (32.7%) or 2–3 times (19%) during the work placement period. The majority of supervision was conducted by phone or via video conferencing. The teacher's role was considered to be that of a big picture manager and a pedagogical expert. The teacher also plays a central role as an enabler of cooperation with workplaces.

Based on the survey of the current status, the development needs of work placement included strengthening the supervision competence of work placement supervisors, the availability of work placement opportunities and the creation of national models for work-based learning, among other things. In addition, the HARKKA project developed multidisciplinary work placement and piloted new work placement environments.

Cooperation with workplaces in the development of supervised work placement

During the last five years, there has been a considerable focus on the development of supervised work placement in the healthcare sector. The network of healthcare education in universities of applied sciences in Finland published the quality recommendations for work placement in 2020. The recommendations describe the duties of

the student, supervising teacher and the university of applied sciences in the implementation of high-quality work placement in healthcare sector education (Jokelainen et al. 2020). The student supervision quality recommendations targeting work placement organisations were published in 2017 by the national development network for student supervision (Opiskelijaohjauksen laatusuositukset 2017). The goal of the recommendations is to harmonise the ways of implementing work placement and to ensure student learning in supervised work placement. The provision of high-quality work placement requires close cooperation between the student, the work placement supervisor, the supervising teacher and the university of applied sciences. For smooth cooperation between the actors, a knowledge of the responsibilities and rights of those participating in the process is required.

A significant portion of the development of expertise, growing into the profession and workplace skills in healthcare sector education takes place in a (supervised) work placement that promotes one's professional skills. The task of the universities of applied sciences and other educational organisations is to ensure that graduates entering regulated healthcare sector professions have the skills required to work in the profession. One of the tasks of the university of applied sciences is to organise training related to student supervision for the professionals supervising work placement for the student. Two cooperation meetings for work placement supervisors were organised by the LAB University of Applied Sciences in the HARKKA project in 2019–2020. Corresponding cooperation meetings were organised in the operating areas of all the universities of applied sciences that participated in the HARKKA project. The goal of the meetings was to strengthen the supervision competence of the work placement supervisors, and the cooperation between work placement organisations and the university of applied sciences.

The first cooperation event organised by the LAB University of Applied Sciences was held in November 2019. The event was attended by 15 work placement supervisors from different units of the Päijät-Häme Joint Authority for Health and Well-being. Nursing students shared their experiences of supervised work placement and proposed development measures for the implementation of work placement periods. In the workshop portion, the workplace representatives came up with new ideas for the implementation of work placement in the healthcare sector, the supervision practices applied in work placement, and work-based learning. Joint orientation for

students representing various professional groups was proposed to develop multidisciplinary work placement. A prerequisite of successful multidisciplinary supervised work placement was work placement periods taking place at the same time. Cooperation in the planning of work placement periods with the university of applied sciences was emphasised. Increasing digital supervision methods required thorough orientation of work placement supervisors, obtaining the required equipment and a positive attitude. The supervisors had some experience of using Skype, Zoom and Teams. Work-based learning was considered a good solution for completing supervised work placement. Work-based learning had enabled units to recruit students to employment relationships that began after they graduated. The recruited students, who had used their employment relationships for work-based learning, had been very motivated and committed to the learning outcomes.

The cooperation meeting held in November 2020 targeted supervisors who applied the model of learning by taking responsibility (the VOO model) in supervisory work. The workshop was attended by 10 work placement supervisors. The meeting included a pilot of an assessment tool for work placement supervisors, and the attendees shared their experiences of work placement based on the VOO model. In addition, they examined opportunities to develop the VOO model in work placement. Among the main development areas identified were the availability of multidisciplinary work placement opportunities for students and closer cooperation with the university of applied sciences.

In addition to the cooperation meetings, several training sessions and workshops on developing supervision were organised for the supervisors. For example, the HARKKA project organised student supervisor training in cooperation with the home rehabilitation services of Päijät-Häme Joint Authority for Health and Well-being. The training was attended by 28 physiotherapists and occupational therapists. The training included learning and developing practices for supervising work placement with the help of case studies, and the participants also familiarised themselves with the digital supervision of a work placement.

The rejection criteria for vocational work placement in physiotherapist education were prepared jointly by the HARKKA project, the Suomen Fysioterapiakouluttajat association of physiotherapist educators and the network of people responsible for physiotherapy work placement in Finland's universities of applied sciences. The criteria were published in February 2021.

The rejection criteria for work placement had not been included in the work placement quality criteria for the health sector published in 2020, and a need to define them was identified. The criteria were defined based on a survey of the existing assessment criteria. People responsible for work placement in physiotherapy education in seven universities of applied sciences responded to the survey. According to the survey, several learning assessment methods related to work placement and different supervision platforms were being used. All universities of applied sciences that participated in the survey had documented the approval criteria for work placement (Knuuttila et al. 2021b). Among the universities of applied sciences that responded to the survey, only LAB University of Applied Sciences had documented the rejection criteria. They were included in the practices of the Lahti campus, where they were used in the social services, nursing and physiotherapy degree programmes.

Pilot of an assessment tool for work placement supervisors

The HARKKA project produced an assessment tool for healthcare professionals who supervised work placement. The assessment tool included 27 items related to the supervisor's activities, and the supervisor assessed them on the scale of "Realised", "Realised in part", "Not realised". In addition, the form had a section where the supervisor could enter their personal development goals.

The assessment tool was piloted in connection with the workplace cooperation meeting organised in Lahti in November 2020. The cooperation meeting was attended by ten work placement supervisors who applied the model of learning by taking responsibility (the VOO model). According to the supervisors, they did not assess and develop their supervision skills sufficiently during the supervisory activities. Some of the supervisors had completed the supervisor training organised by the university of applied sciences. The supervisor training had mainly provided tools for the guidance of the student's learning objectives, understanding the overall curriculum and handling problem situations in student supervision. The training had not included the assessment of the supervisor's own supervision skills. Reviewing their own supervision skills was considered important by the work placement supervisors. They found the piloted tool an easy way to assess their own supervision skills and development objectives related to supervision.

In the pilot for work placement supervisors who applied the VOO model (N=10), distinct themes could be identified on the basis of the response statements "Realised", "Realised in

part" and "Not realised". The supervisors were well aware of their responsibility and importance in advancing the student's learning. In addition, they were very familiar with their organisation's practices related to student supervision. Supervision resources and enabling learning for the student were aspects of supervision that were realised in part. According to the respondents, they were not given enough time to provide supervision. On the other hand, the supervisors felt they needed more methods for promoting learning for the student. Training to provide student supervision and the consistent activities of the working community received the poorest ratings in terms of realisation.

A study by Teuho et al. in 2017 covered the experiences of healthcare sector students in supervised work placement. The experiences were partly negative. Negative experiences were related to supervision practices, attitudes and the supervision skills of supervisors, as well as the learning environment. According to the supervisors in the pilot for supervisors applying the VOO model, the aspects of supervision realised least were related to these factors. The work placement supervisors said they needed supervisor training to be able to offer high-quality supervision. Nursing directors and managers played an important role in the planning and organising work placement processes. The duties of nurse managers or directors of nursing included resource allocation for student supervision, the development of consistent operating methods and cooperation with educational organisations (Pohjamies et al. 2018). According to Luojus (2011), the most important factor affecting the supervision of the student's work placement is the personal supervisor characteristics of the person who supervises work placement. Among other thigs, the supervisor characteristics consist of the person's personality traits and values, as well as their attitudes towards student supervision. A work placement supervisor whose supervision characteristics are strong provides goal-oriented supervision, gives the student continuous feedback on the progress of learning and applies different kinds of assessment methods during the work placement period.

Digital applications for supervised work placement

One of the findings of the data collected in HARKKA project's workshops on working life was that the implementation of various digital applications was considered an opportunity to increase the effectiveness of cooperation between the educational institutions and the work placement locations. In vocational work placement, cooperation between the student, teacher and

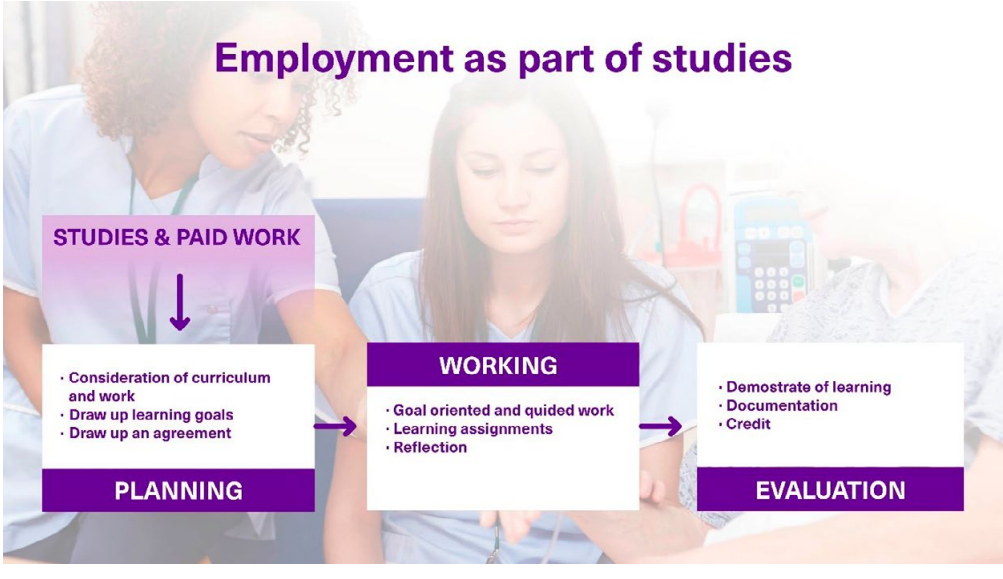

Figure 2. From training to working life in changing operating environments in the health sector. (Picture: HARKKA Project)

supervisor was important to ensure the high quality of a work placement. As remote supervision increased, new solutions were needed for this three-way cooperation.

At the end of 2020, the nursing programmes in the Kajaani University of Applied Sciences (KAMK) and LAB University of Applied Sciences (LAB), and LAB's physiotherapist degree programme conducted a survey on the experiences of students and teachers in the use of the Workseed service in the remote supervision of work placement. Workseed is a cloud-based LMS (Learning Management System) application aimed at vocational institutions, universities of applied sciences and companies for work placement supervision. Students, teachers and work placement supervisors can use Workseed on their mobile devices. The application includes features that support the student's progress and learning development during work placement, such as an assessment book. The assessment book may include preliminary assignments to be completed before work placement, personal learning objectives, and interim and final assessments (Workseed 2021).

At the end of work placement periods, students (n=24) and the supervising teachers (n=12) were asked to complete

a Forms survey on the use of Workseed. Both teachers and students welcomed the use of a digital application in work placement supervision. Both students and teachers considered the feature of visually tracking the progress of learning and assessing the work placement periods a positive feature. Workseed's assessment book was deemed helpful in guiding the student in the management of the work placement process. Workseed received a wealth of development suggestions, many of which were implementable. The publication "Harjoitteluohjauksen digitaaliset ratkaisut" (Knuuttila et al. 2021a) provides more information on the feedback provided on Workseed by both students and teachers.

Workseed is well suited as a digital application for work placement supervision. However, it should be kept in mind that no learning environment as such "generates" learning, but a teacher or supervisor plays an important role in how the pedagogical opportunities offered by the environment are harnessed (Huhtala & Tapani 2020, 10).

Work-based learning

In universities of applied sciences, an established part of students' studies is to work in paid positions. The practices in different sectors and different universities of applied sciences vary. The term "work-based learning" is used to describe the practice of students working in paid positions as part of their studies. Clarifying and defining the concept of work-based learning became one of the objectives in the HARKKA project. Another objective was to prepare a process description for work-based learning. The starting point of work-based learning is the seamless integration of education and employment in the student's learning process.

The development began with learning about the work-based learning practices of different universities of applied sciences. The methods they used to implement work-based learning varied widely. In some, work-based learning was extensively applied throughout the year; others were only just beginning to apply it. For the most part, work-based learning targeted supervised work placement, but some universities of applied sciences had also integrated work-based learning in theoretical studies.

The HARKKA project defined work-based learning as follows: Work-based learning refers to obtaining competence required by one's degree in an employment relationship during the studies. Work-based learning is a process in which the required competence is identified, competence is developed in a goal-oriented manner, and the acquired competence is demonstrated.

The development outcome was a

description of the process of work-based learning. The universities of applied sciences could use this process when planning and developing their own work-based learning process (Figure 2.)

The objective of the universities of applied sciences is to educate skilled personnel for the changing needs of working life. There is a growing shortage of healthcare sector professionals in the labour market. Work-based learning enables the student to progress in their studies in a personalised manner and to smoothly enter working life. Work-based learning in an employment relationship offers the student an opportunity to increase their knowledge and skills while earning a living. In the healthcare sector, students generally work as substitutes towards the end of their studies, and they often seek substitute positions in fields that also interest them with a view to their careers as future healthcare sector professionals. After their work-based learning periods, many students continue working in the same workplace. During work-based learning, the employer has the opportunity to get to know the student working as a substitute, and continuing the employment relationship in the form of an extended substitute position or a permanent employment relationship is smooth and benefits both parties.

The supervision and assessment practices developed in the project for healthcare sector work placement promote a smooth transitioning from education to employment for students. Among other things, increasing the opportunities to year-round work placement through work-based learning helps students graduate and enter working life sooner. The pilots implemented in the project developed new work placement practices such as work placement in multidisciplinary teams and digital supervision of work placement.

Among the new work placement practices that were piloted was the balcony workout. In the balcony workout pilot, physiotherapist students in part-time work placement organised exercise sessions for the elderly in the summer of 2020. The aim was to provide the elderly with exercises that supported their functioning and prevented falls. The experiences gained in the pilot were applied to the operating model of the balcony workout that was generated as part of a thesis. Balcony workouts for the elderly based on the operating model were also organised in the summer of 2021. The balcony workout work placement highlighted the students' motivation to conduct development work and the opportunity to use alternative methods to practise promoting the functioning and well-being

of the elderly (Matilainen 2021).

Work placement in multidisciplinary teams was piloted in the cooperation between Vetrea, HyTeLab and the HARKKA project. In this work placement, a five-member team from the LAB University of Applied Sciences initiated multidisciplinary cooperation at the VetreaElo Veikko housing services unit for the disabled by applying their competence in their respective fields of education in the assessment of and support for functioning. The student team included physiotherapist, nursing and social services students. In this pilot, learning to use the giant Yetitablet device and instructing the residents and personnel of the housing services unit in the use of the tablet was an important multidisciplinary experience of the application of technology and gamification in rehabilitation (Knuuttila et Tuusjärvi 2021).

The intention of the HARKKA project is to respond to the future changes in the service system. Increased multidisciplinary cooperation, the use of digitalisation and new technology competence have been developed in accordance with the project's objectives. From the perspective of sustainable development, the digitalisation of work placement supervision promoted in the HARKKA project will help eliminate overlaps in the tasks of teachers and students. In addition, completing vocational work placement in an employment relationship will improve the students' financial situation and enable them to enter working life sooner.

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Service Innovations for Health and Well-being is one of the strategic focus areas of LAB University of Applied Sciences. The research, development and innovation activities of this focus area aims at enhancing sustainable health and well-being of individuals and communities in holistic and effective ways.

This publication provides insightful perspectives on the promotion of health and well-being in different contexts by presenting examples of ongoing or recently ended Research, Development, and Innovation (RDI) projects which are implemented and carried out in this focus area in collaboration with other partners and stakeholders.

This publication seeks to disseminate knowledge of these RDI projects and expand dialogue of sustainable health and well-being between LAB University of Applied Sciences and its partner universities, NGOs, companies, and other stakeholders. With this publication we wish to inspire us all to explore further the multifaceted issues of health and well-being.

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