Kati Peltonen & Anita Hartikainen (Eds.)

LAB Health Annual Review 2022

The Publication Series of LAB University of Applied Sciences, part 53

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LAB Health Annual Review 2022

LAB University of Applied Sciences

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Part III

Data and technology for wellbeing

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Kati Peltonen

Providing wellbeing and positive impact on society through University-Business and Community Collaboration

One of the key challenges, both globally and in Finland, is how to ensure healthy lives and promote wellbeing at all ages. Global health risks and emergencies such as Covid-19 have shown the critical need for better preparedness for emerging situations. The pandemic unveiled the weaknesses and bottlenecks of existing health and wellbeing infrastructure, causing an enormous amount of suffering, psychosocial distress and indirect health damage, but at the same time also boosted innovations and the uptake of digital health services. It also stimulated a proactive behavioural shift towards individual health management. Driven by digital transformation, the future of health will increasingly focus on prevention and the promotion of health and wellbeing than treatment-based reactionary care. With greater access to health information, people are increasingly taking more accountability for their own and their family members' health and wellbeing (Batra et al. 2019).

This shift also calls for a more comprehensive and systemic approach to the promotion of health and wellbeing. A systemic approach is defined as "*a collection of different elements (or things) which together produce results unachievable by the individual elements on their own*" (Royal Academy of Engineering, 2017), which means it is crucial to understand the complex linkages between health and wellbeing, as well as to foster cross-sectoral collaboration to increase human and planetary health and reduce inequalities. For example, according to studies (e.g. Braveman & Gottlieb, 2014), the social determinants of health (SDH), referring to the non-medical factors that influence health outcomes such as conditions in which people are born, grow,

work, live, and age, can account for 30 to 55% of health outcomes. It is therefore crucial to create living and working environments and neighbourhoods that promote health and safety, increase social and community support, and enhance equality, educational opportunities, employability opportunities, and wellbeing at work, and increase access to and the quality of integrated social care and healthcare services.

LAB Universities of Applied Sciences (LAB), as well as all Higher Education Institutes (HEIs), play a significant role in promoting the vitality and wellbeing in their regions. In Finland, this role arises from the fact that based on the Universities of Applied Sciences Act (932/2014), universities of applied sciences are expected to provide higher education for professional expert tasks and duties based on the requirements of the world of work and thus provide new experts who, through their own professional skills, work in different positions as innovators and developers of working life and business activities, not forgetting the emergence of new competence-based business and entrepreneurship. Along with teaching, all the universities of applied sciences, and therefore LAB, are expected to carry out applied research, development and innovation activities that serve not only education in universities of applied sciences, but also promote industry, business, and regional development, taking the region's industrial structure into account. In practice, this means that LAB, as well as its counterparts, with business, industry, public service organisations, NGOs, cities and municipalities, and other stakeholders actively explore effective ways to address and respond to societal and economic challenges.

Acknowledging the responsibility to provide a positive impact on society, LAB University of Applied Sciences has adopted a systemic and life cycle approach to the promotion of health and wellbeing. LAB Health is one of the strategic focus areas of LAB University of Applied Sciences, directing both research, development, and innovation (RDI) activities and education. The mission of this focus area is to effectively promote overall wellbeing by developing sustainable wellbeing service innovations and solutions. The key RDI platforms in this focus area are 1) wellbeing from physical activity, living environment and tourism, 2) social inclusion, working life, and safety in everyday life; and 3) data and technology for wellbeing. Each of these platforms addresses the issues and challenges of health and wellbeing from different perspectives. This work is not done in isolation or in university ivory towers, but very

much at grassroots level and embedded in practice through university–business and university–community collaboration with various stakeholders, also involving students in development work.

This publication consists of 19 articles that disseminate how RDI collaboration with companies and communities is carried out in practice, and what kind of positive impact on society the projects have provided. The authors of the articles are experts on health and wellbeing from different faculties 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. I wish the readers insightful and enjoyable reading moments!

Lahti, 30 August 2022
Kati Peltonen,
RDI Director, LAB Health

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01

Wellbeing from physical activity, the living environment, and tourism

Kirsi Kiiskinen & Kirsi Purhonen

PARASTA ITÄÄ!
– Phenomenon-based and multi-disciplinary co-creation of wellbeing

The phenomena that affect the wellbeing of people are often complexities that may develop rapidly and that routine solutions cannot fix. They can be compared with wicked problems described in research, which, due to their complex nature, are difficult to grasp and for which only limited information is available in advance. The understanding grows when wicked problems are viewed from different angles and broken down into smaller entities, and when the volume of information increases. Instead of individual problems or needs, this kind of phenomenon-based approach observes entities, in other words, phenomena, which offers an opportunity to find new operating methods. The more complex a phenomenon is, the more information, understanding about the information and discussion between different actors are needed. The phenomenon-based approach is a way to anticipate wicked problems, find solutions that promote the wellbeing of people and identify the changing service needs of the region. It should be embedded as part of the establishment of functioning service entities and service chains (Tiirinki et al. 2018).

"Phenomena transcend sector boundaries and challenge actors stuck in their silo thinking. Phenomena challenge expertise as well. An expert is required to have more willingness to learn, understand and navigate the perimeters of their own competence",

says Riitta Maijala, Vice President for Research at the Academy of Finland. When changes are rapid, the ability to work together with various experts to establish a common, shared understanding and situational awareness

is called for. To some extent, examining changes taking place in expertise also invokes fears that are associated with the disappearance of the appreciation of in-depth expertise and with new required skills. Different kinds of expertise will be needed in the future, and this requires transcending professional boundaries, good interaction and learning from the work of others. Thus, expertise and new kinds of professionalism should be reassessed (Vanhanen 2020, 31; Akkerman & Van Eijck 2013, 60–72; Jensen 2020) and one's own professional thinking should be challenged horizontally (Popov 2019, 366) and culturally. Uncertainty can be controlled by working together, interpreting expertise more comprehensively than is currently the case, and through futures-conscious continuous learning (Hilden & Jokela 2019).

Phenomenon-based learning offers an opportunity to combine learner-oriented and progressive inquiry as well as cooperative learning and learning that transcends subject boundaries. In phenomenon-based learning, experiences and everyday thinking are the starting point for studying and learning about the phenomenon at hand through various subjects and disciplines. Therefore, the phenomenon should be sufficiently diverse and challenging from the perspective of learning (Tarnanen & Kostiainen 2020). For phenomenon-based and cooperative learning to take

place, it must be possible to elaborate the academic tribal cultures constructed via the philosophy of science of education (Ylijoki 2003, 66–67) and the related information to others, and the information must be cross-pollinated with the information cultures of other professionals (Purhonen 2017).

This article is based on the **PARASTA ITÄÄ!** project and the underlying long-term programmatic development work and reflection in the VOIMALA model on co-creation in different regions and professional networks around specific regional phenomena.

The VOIMALA model behind the PARASTA ITÄÄ! project

For ideas, PARASTA ITÄÄ! project taps into the experiences gained from the **VOIMALA model**, developed in the North Savo region for more than ten years. The VOIMALA model is based on phenomena which are examined in a people-centred manner on the basis of the interests of each region. The purpose of the model is to make people the focus of co-creation and to create new, interprofessional competence by working together and taking the needs of individuals into consideration. The VOIMALA model applies creative methods, which have helped form a new, multi-sectoral and innovative way of collaborating for co-creation in a network. These creative innovations and operating methods were implemented through the VOIMALA coaching, which has provided more depth for the multi-sectoral network of professionals. The operating method of the VOIMALA coaching has required several coaching rounds, assessment of the model and systematic justification of the added value related to the model. The participants in the phenomenon-based co-creation have included experts, stakeholders and decision-makers from various sectors. The professionals chosen to join the co-creation networks were selected separately for each phenomenon at hand and each target group.

The objective was to increase inclusion and equality and to promote comprehensive wellbeing. This resulted in well-timed services that are people-centred and take the individual's needs into consideration, and savings (PARASTA ITÄÄ! 2022). The results of the development work in the VOIMALA model are distributed, developed and applied in the PARASTA ITÄÄ! project in new regions, and the model is also disseminated nationwide. It is about a social change in the operating culture and structures: a new way to think, act and lead!

The objectives and outcomes of the VOIMALA model are:

- to develop lifelong learning and guidance
- to generate vitality, competitiveness, appeal and retention through new competence
- to find a new way of working combined with creativity, strengths, the purpose of work and the quality of working life
- to provide comprehensive well-being of clients and employees
- to achieve sufficiency of skilled labour force and employees' commitment
- to avoid overlaps and making operations more effective
- to generate savings.

In addition to the VOIMALA coaching, the VOIMALA model itself includes a strategic idea targeting organisations about managing the cooperation model and supporting the activities of employees in multi-sectoral cooperation networks. For professionals engaged in practical work and the organisations in the region to be able to join the VOIMALA model, the organisations, supervisors, and professionals must identify the contradictions introduced by the analytics of managing expertise and the boundaries of activities, objectives, and the basic mission (Foucault & Kilpeläinen 2008; Rose 1999) and unlearn them.

The systematic development of multi-sectoral cooperation calls for long-term, programmatic development work. Therefore, the project also aims to motivate and support new regions in developing multi-sectoral cooperation that is tailored to their needs and pushes the envelope. Multi-sectoral practices require plenty of development, motivation and research. Professionals and organisations defining work as multi-sectoral does not automatically make it so, but the essential aspects involve the inclusion of a person or client who is at the centre of the phenomenon and their role as an equal actor among the professionals (Helander 2022; Purhonen 2017, among others).

The starting point of developing the VOIMALA model is social, phenomenon-based and system-based co-creation. The model brings together networks, organisations, management, supervisors, and employees to perform effective work at the interfaces of professions for the benefit of the client.

Table 1 depicts the objectives and related impacts of the model.

Table 1. The PARASTA ITÄÄ! programme objectives and impact levels.

Objective	Impact level
to promote employee competence, meaningful work and resilience, as well as to increase multi-professional cooperation and improve the quality of management	**ORGANISATION**
to reduce risk factors of inequality, and to increase experiences of inclusion, equality, and wellbeing	**INDIVIDUAL**
to generate economic savings by influencing the service system and society, for example, by reducing exclusion and inequality	**SOCIETY**

The PARASTA ITÄÄ! project develops networked co-operation around the region's phenomenon

The PARASTA ITÄÄ! project is an extraordinary combination of grass-roots level activity, activities cutting through different levels, and systematic and structural development. Its functioning is based on an iterative approach, typical of creative activities, in which practical activities alternate with a strategic development process. The new operating method in the project focuses on a phenomenon selected based on the region's own interests. At the core of the phenomenon are young people and young adults who are navigating the changes taking place in working life and society. Since it is unrealistic to expect that the existing resources would increase in the coming years, results must be sought from impact. For example, it has been estimated that the cost of each marginalised young person to society is approximately EUR 1.2 million (Valtiontalouden tarkastusvirasto 2007). Therefore, even just one success story is important not only economically but also from the human perspective.

The PARASTA ITÄÄ! project is a thematic network of regional development and funded by the Ministry of Economic Affairs and Employment. The objective is to strengthen the common resources of different regions, competence, peer learning and the appeal of the regions. The participating regions are North Savo, South Savo, Kymenlaakso and South Karelia. The project's long-term objective is to deploy the network cooperation model comprehensively on a national level. The goal is to launch the network cooperation model in the pilot regions and to deploy the model elsewhere in Eastern and South-eastern Finland and nationwide. Initiating a multidisciplinary impact study will be prepared during the project.

The PARASTA ITÄÄ! project's qualitative objectives:

- to harness existing social welfare and healthcare services and educational and working life services so that they form service entities that transcend silo thinking
- to embed an operating culture of co-creation that transcends silo thinking in the daily operations of different organisations
- to refine the existing strengths of Finnish society, such as work parties and the role of the third sector as part of the service provision in the public and private sector
- to identify and make visible the cooperation model that is also internationally significant by focusing on clear documentation, credibility provided by research, productization, and communication on a national and international scale.

In order to meet these objectives, individual cooperation networks will be established in South Savo, Kymenlaakso and South Karelia, in accordance with the North Savo VOIMALA model. The provincial networks will be connected by the inter-provincial network. The pilot coaching sessions will be implemented in each province around a phenomenon stemming from the specific interests of the province in question. The phenomena will be approached in a people-centred manner, with a focus on people, and new, interprofessional competence will be generated by working together and taking the needs of individuals into consideration. Each pilot region selects their specific, topical development theme. The scope of the phenomenon is only limited by the fact that it needs to have sufficient local significance and represent a theme for which social welfare, healthcare, educational and working life actors could generate more sustainable solutions with a higher quality. The target group of coaching will consist of provincial actors, who will jointly develop their competence around the selected phenomenon (Mäkinen 2022).

The PARASTA ITÄÄ! projects' objectives will be met through lifelong and continuous learning, guidance and good working life, by concurrently developing the provincial networks and a common inter-provincial network. Cooperation is generated and intensified by working together around a selected phenomenon which is important for the regions. The project will productize the VOIMALA coaching method based on creativity, a phenomenon-based approach and multi-sectoral agency, and each educational organisation or other activity can apply coaching in the future. The target groups for coaching include professionals from different sectors and, as applicable, supervisors. At the core of the coaching are the close-knit regional, multi-sectoral network and the creation of a completely new operating model which transcends professional boundaries and ultimately completely dissolves them. The objective of the development of the coaching sessions is to apply the activity theory and the model of expansive learning (Engeström 2014) to increase the understanding of shared work performed at the interfaces of professions.

A multi-sectoral network of actors is a complex systemic structure where the actors apply concepts, rules and cultural working methods that are typical of their own profession. The systemic structure is also hierarchical and layered. When the different cultures and practices of professions meet at the interfaces of the multi-professional networks' shared

interests, conflicts will arise. However, the conflicts will also give rise to changes in the operating culture through learning. The shared learning process does not constitute just a unique and one-off activity, but it is a continuous, comprehensive qualitative learning process involving models of thinking and structures in an entire activity system, in this case, a multi-sectoral network of professionals (Engeström 2014).

The aim of co-creation is to address various phenomena encountered by actors in education, working life, social welfare and healthcare in their work with clients to facilitate work. From the perspective of learning, shared work means that each professional brings (Engeström 2014) their specific knowledge, culture, competence and the purpose of the phenomenon and the activity system to the co-creation table, which forms a new functional learning process and operating method. Image 1 shows different work-related elements of the activity system (Engeström 2004), which direct the professional's activity. To understand the activity of different professionals, interaction, understanding and interpretation of the activity system's contents and objectives are also needed, after which a shared learning process can be initiated (Image 2).

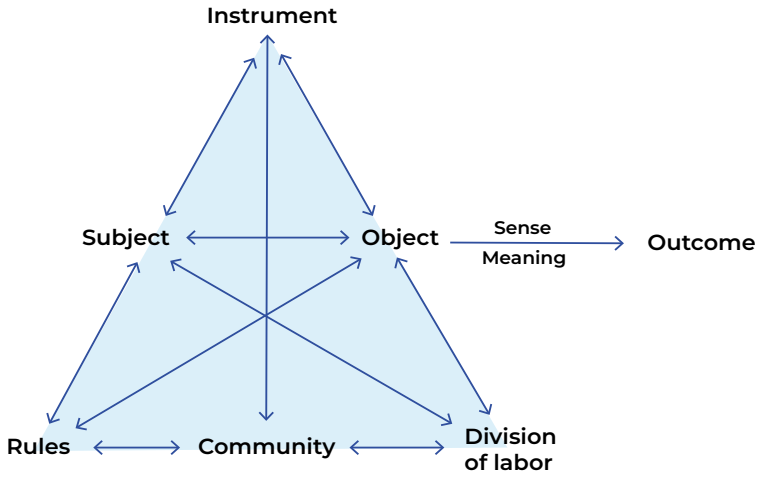

Image 1. The structure of the activity system. (Engeström 2004)

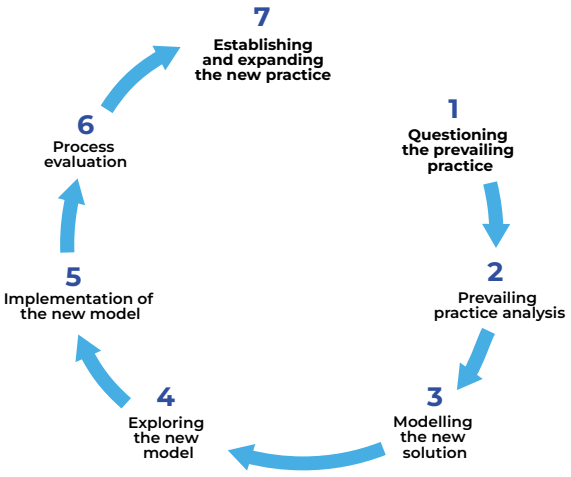

Image 2. The process of expansive learning. (Engeström 2004)

In an expansive learning process, when different professionals encounter each other, new opportunities for them to work will open up. The established practices of one's own sector may not necessarily work in the shared work carried out in multi-sectoral networks, but the professional must step outside their own, safe and familiar areas of competence and professionalism (Edwards et al. 2012, 29–30).

The knowledge and skills acquired during the VOIMALA coaching are concrete parts of the systemic competence capital of the wellbeing services counties and a new kind of learned working model. The first Voimala coaching session of the project will be piloted in North Savo, where the phenomenon-based approach will be applied on a shared selected theme to pursue smooth interfaces between child welfare, a hospital school and youth psychiatry and their stakeholders. At the time of writing this article, the coaching is still in progress, but the participants had high expectations of the initial coaching sessions. The outcomes most expected of the coaching sessions included networking and cooperation with actors from different sectors, as well as new insights and information about functional methods. The supervisors had similar expectations, and they also wanted to learn new management methods and tools.

Aside from the coaching sessions, a motivation indicator has been piloted with the wellbeing services county personnel in South Savo. The motivation indicator offers supervisors a tool for conducting development discussions with personnel and managing multi-sectoral work. This enables the employees to verbalise their own competence and apply it to influence their job tasks, as well as to bring out and present to their supervisor any hidden creative or different areas of competence.

New competence for working life through the phenomenon-based approach, multi-sectoral practices and integration of creative activities

Changes resulting from globalisation, rapid development of technology, sustainable development and the changing labour market are one of the lines of argumentation in the discussion concerning the development of education. The core topics of the discussion include the kind of society and working life that education prepares students for and the significance education will have in the future. If the forecast changes to working life materialise, it will be necessary to reassess what is learned, how and where. Education can no longer anticipate specific needs, but employees are expected to engage in lifelong learning, which is not a new invention as such (Tarnanen & Kostiainen 2020).

The working life of the future will emphasise values, creativity, quality of life and meaningfulness of work, as well as identifying and applying one's own strengths. Genuine multi-sectoral work signifies a change in the operating culture in education, working life and decision-making. This new way of thinking, acting and managing will generate savings as job satisfaction improves, working methods become more diverse and absences due to illness decrease (Mäkinen 2022). Another key aspect of the multi-sectoral approach is how competence in different sectors is transformed into concrete co-creation encounters (Katajamäki 2010; Purhonen 2017).

Identifying the potential of professionals refers to identifying such skills, inclinations, attitudes, qualities, competence and opportunities that do not stem from one's educational background and are not listed in one's CV. Renewal is based on directing the visible energy and deploying the yet unreleased energy. The deployment requires that managers and employees identify the potential of professionals, think and act creatively and, if they desire so, are also able to apply the competence and creativity they have acquired through their hobbies or leisure time in their work (Mäkinen 2022). In that case, the professional's competence identity and potential can motivate them to engage in shared work more extensively, beyond the boundaries of their job titles.

The application of creativity and creative methods to increase the competence of a multi-sectoral network is based on the approach of using multiple senses and increasing empathy in the work with clients, in strengthening one's own professionalism and in interaction with the surrounding community. Creative methods and empathy support the professionals' ability to reflect on their

own actions, strengthen emotional skills and promote the interaction between groups of professionals (Raatikainen et al. 2021). Learning to apply multi-sectoral practices and multidisciplinary agency takes place in continuing education, communities in practice and in degree education. In degree education, this also calls for increasingly developing the curriculum work to support a professional work approach and the development of the competence identity (Toiviainen et al. 2021). Therefore, from the perspective of the professionals' career planning and work, it should be possible to modify degrees into packages that facilitate working at the interfaces of professions.

In addition to dissolving the aforementioned academic tribal cultures (Ylijoki 2003) and the boundaries between professional cultures, growing into phenomenon-based, multi-sectoral work and establishing multidisciplinary competence also requires that professional interfaces and boundaries between professions are processed through learning. In expansive learning (Engeström, 2014), through conflicts, communities of professionals operating at the interfaces of phenomena and professions can learn shared practices that do not even exist yet (Sannino et al. 2016; Engeström 2014, 252).

Knowledge and competence serve a person and others best when they are understood as an abundant, shared resource that grows through interaction and is open and available to everyone. This kind of thinking requires trust, the glue between people (Mäkinen 2022). Trust between professionals can be built through co-creation by applying art and culture as an interaction tool. Creativity, art and culture are tools that help to abandon frozen professional roles and open access to new levels of interaction and understanding. Methods based on creativity support the ability of learners to discover new, irrational angles to matters and generate change in thinking and action (Nivala & Ryynänen 2019, among others). The common goal is shared competence and understanding that organisations cannot achieve on their own (Mäkinen 2022).

A vision of a multi-sectoral wellbeing ecosystem

Eastern Finland, with the North Savo region as the driver, is a forerunner in the renewal of working life and education. Services have improved, which has manifested in the increased comprehensive wellbeing of clients and employees. New competence provides vitality, competitiveness, appeal and retention in the province. This is about social change, a new way of thinking, a new operating culture, transformed

education and working life, and co-creation (Mäkinen 2022).

For its part, the multi-sectoral VOIMALA model supports comprehensive wellbeing and supports the objectives of Sanna Marin's Government Programme (Valtioneuvosto 2019) concerning encouraging cross-sectoral cooperation, the prevention of silo thinking between sectors, and the reduction of overlapping work. The PARASTA ITÄÄ! project strives to strengthen and increase the shared understanding in a multi-sectoral group of professionals of the significance of phenomenon-based and client-centred work and their enthusiasm about it. In the project, this means that, among other things, the multi-sectoral networks of the regions are supported to find solutions and apply for funding for phenomena that develop comprehensive wellbeing and are defined by each region itself.

The transformation of the shared objective and understanding into everyday practices also requires learning, assessment and research on the topic. Multi-sectoral competence and cooperation transform over time, depending on needs and require continuous adaptation and adjustment to the prevailing conditions. Professionals joining a multi-sectoral working group also means that the tasks related to the shared work do not always fall within

the professional's own core competence, and shared work may call for horizontal learning. Horizontal learning also supports vertical learning (Daniels 2011) and expertise. Learning associated with a shared phenomenon requires that shared meanings are created, the power relationships of organisations are reviewed and different cultural tools are used for learning (Lindley & Lotz-Sisitka 2019). The professionals may not be familiar with such cultural tools, but using a variety of tools can help discover new viewpoints and insights that deviate from the conventional thinking for one's own work and shared work. Different working cultures and cultural tools may also lead to conflict situations, but through dialogue and studying and learning different kinds of meanings, the multi-sectoral network learns to develop solutions to or handling tensions and conflicts. In this way, the multi-sectoral network will generate a more in-depth understanding about the cause of the conflicts (Lindley & Lotz-Sisitka 2019). Studying conflicts makes problem areas visible between professionals and organisations and opens the door for more impactful cooperation. This also makes work easier and strengthens wellbeing in the lives of both the professionals and the people at the core of the phenomenon. At best, multi-sectoral cooperation increases work-related motivation, commitment and wellbeing at work.

A multi-sectoral ecosystem of wellbeing competence continuously taps into change and changing situations. At the same time, it must be possible to take a retrospective look and identify earlier good practices and productive factors (Kaikkonen & Henttu 2022). Mutual peer support is an important aspect of coping at work and learning new things in a multi-sectoral, close-knit network of professionals. The transfer of tacit knowledge of professionals exiting the network and new professionals entering it is also an essential element of the open and functioning cooperation of the multi-sectoral network. A multi-sectoral ecosystem based on wellbeing competence functions well when all parties share the set of values and openness of the shared work and are able to focus on the phenomenon being worked on without power structures. Everyone's work is equally valuable and important.

In the future, it will be important to study the phenomenon-based work of multi-sectoral networks even more from the viewpoint of the impacts achieved or to be achieved. The multi-sectoral approach involves a lot of development and discussion, but the key questions are: what is the significance of the multi-sectoral approach on the level of practical activity, and how will professional conflict's at the interfaces of professions

transform into combined work that can be performed for the benefit of the person who is at the core of the phenomenon?

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Päivi Tommola

Developing Cycling Tourism in Päijät-Häme

Cycling tourism is a growing field of wellness tourism. Approximately 2.3 billion cycling holidays are taken annually in the EU, with a total economic return of approximately 44 billion euro. In terms of economic impact and tourism demand, the top European cycling tourism countries are Austria, Belgium, Denmark, France, Germany, Switzerland, and the Netherlands (European Parliament Directorate General for Internal Policies 2012, 17). Although Finland still lags far behind these international leaders, we have also recognised the growth potential of cycling tourism, and the national umbrella organisation for tourism development and marketing, Visit Finland, expects a remarkable future increase in cycling tourism activity in Finland (Business Finland 2021).

For the time being, the most visible and ambitious cycling development tourism plans in Finland have been made in the northern part of the country. In the last five years, large investments have been made in developing the infrastructure and services for cycling tourism, especially in the tourism centres of Ylläs (2022), Ruka, and Levi (Kauppinen & Laukkanen 2020, Ruka-Kuusamo Matkailu 2020, LeviNyt! 2020). An active regional growth programme or similar is underway in each of these three destinations, where the key idea is to diversify the choice of services in destinations known for their skiing facilities and enable year-round activity by developing summer activities. However, Ylläs especially has distinguished itself in also developing winter cycling tourism and boasts a network of trails of more than 100 km for winter cycling in fell terrain.

The improvement work on Finnish cycling tourism is coordinated by the Finnish Centre for Cycling Tourism (Pyörämatkailukeskus), established in 2020, whose vision is to strengthen Finnish cycling tourism expertise and increase the exposure of cycling routes

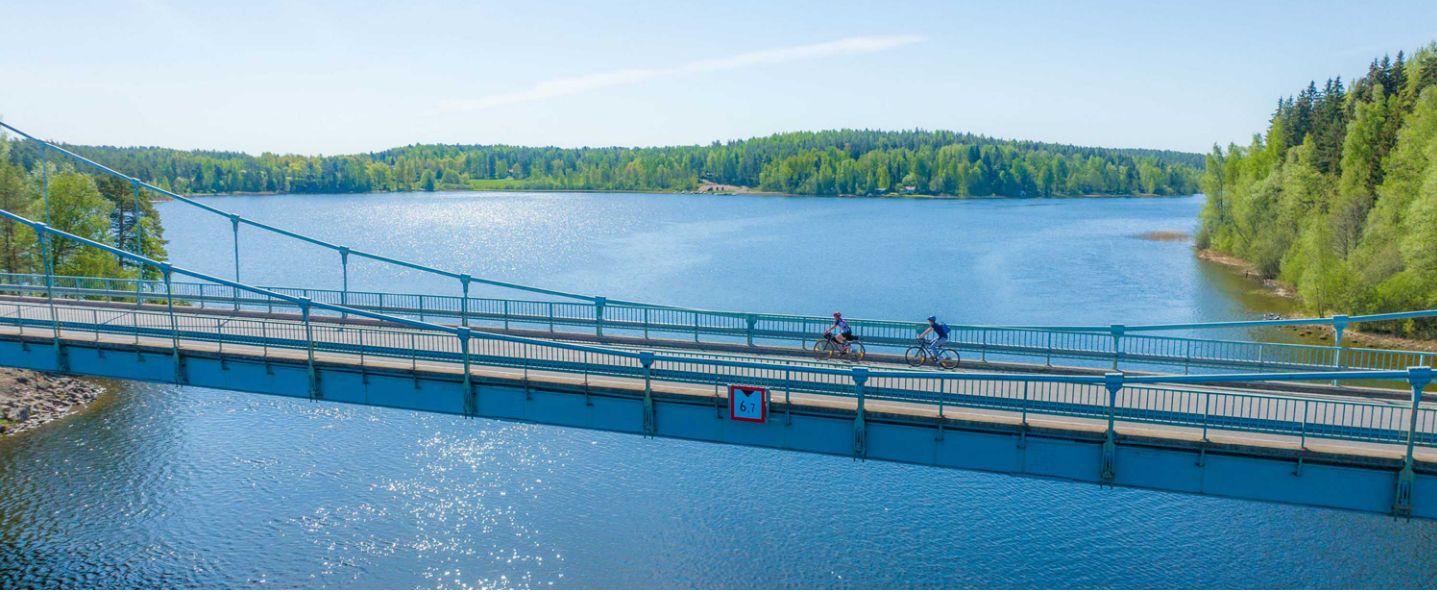


Image 1. The Päijät-Häme for Cycling Tourists project has increased visibility of local routes and services also by producing visual materials on cycling routes of Päijät-Häme. (Image: The Päijät-Häme for Cycling Tourists project)

and services in Finland. In its early years, the Finnish Centre for Cycling Tourism has developed tools for regional operators to help them improve tourist services and create synergy between cycling tourism businesses and the regions in which they operate. The most central tool is the Welcome Cyclist badge, signifying that the service in question meets certain criteria and caters to cyclists' specific needs (Bikeland.fi 2022).

Lake Views and a Growing Service Network as Tourist Attractions

The spectacular lake views in the Päijät-Häme region in Southern Finland comprise the region's main attraction for cycling tourists. Päijänne, the second biggest lake in Finland, is in Päijät-Häme, and Päijänne National Park, the region's main tourist attraction, can be found in its vicinity. Salpausselkä Geopark, which received its UNESCO Global Geopark status in April 2022, is the newest tourist attraction in Päijät-Häme, attracting tourists interested in nature and sustainable tourism. The main theme of the region is A Landscape Created by Water, referring to the signs of the latest Ice Age still visible in many places in Salpausselkä Geopark.

The development of the infrastructure of the cycling routes in Päijät-Häme is well underway, but the amenities along the trails and in rest areas do not yet fulfil the standards of quality-conscious international cycling tourists. In the 2020s, there have been regional investments in the development of trail

Image 1. In the international cycling tourism market, lake views are the main attraction of Päijät-Häme. (Image: Patrick Dormischian)

networks for mountain biking, of which the Salpausselkä Trails multipurpose network in Lahti has become the main destination. For cycling tourists interested in road cycling, Päijät-Häme offers a wide range of quiet and well-maintained small country roads. In the eyes of many cycling tourists, the fascination of the region is increased by its moderately flat terrain, as well as the vibrant rural villages and nature and cultural destinations located along the routes.

The Päijät-Häme for Cycling Tourists project (2022) by LAB University of Applied Sciences and Päijät-Hämeen Liikunta ja Urheilu (a regional organisation for developing sports club activities) is currently perhaps the most visible cycling tourism developer in Päijät-Häme. The Project is funded by the European Agricultural Fund for Rural Development and aims to boost the business viability of ecological and local travel and create new business opportunities. This goal is to be achieved by strengthening customer understanding, improving productisation, and increasing the exposure of the routes and services in the region. We thus hope to be able to create a new business sector and a network of business actors interested in cycling

tourism in the area. In the long run, this should also bring new jobs and business opportunities to the rural areas of Päijät-Häme.

Cycling-Friendly Services as the Main Theme of Development

The Päijät-Häme for Cycling Tourists Project has established a large collaborative network consisting of regional tourism entrepreneurs, sports clubs, municipal actors in the field of tourism and sports, and other organisations interested in nature and sports. All these have been involved in productisation and increasing the exposure of the region's routes and services. Developing services and products that follow the Welcome Cyclist criteria created by the Finnish Centre for Cycling Tourism has become the main theme of productisation-related improvement work. Since the badge is new to Finland and remains a work in progress, the initiative has also participated in its development by testing the criteria created by the Finnish Centre for Cycling Tourism.

The Welcome Cyclist criteria guide entrepreneurs interested in cycling tourism through the development of their services and help them learn how to better consider the needs of cycling tourists. The Päijät-Häme for Cycling

Image 2. The Welcome Cyclist badge is a light certificate developed by the Finnish Centre for Cycling Tourism, which helps cycling tourists recognise the tourist services that best match their needs. (Image: Finnish Centre for Cycling Tourism)

Tourists Project has found the criteria especially helpful for entrepreneurs who still lack first-hand experience of cycling tourism. The criteria help them answer cyclists' occasionally odd-sounding questions, understand their significance, and adjust their services accordingly. Some matters that are small but significant for a cycling tourist often include additional services related to e.g. bike storage and maintenance, packed lunches, filling water bottles, and washing cycling clothes, which many rural tourism businesses in Finland are not yet used to offering their customers.

During the autumn of 2021 and spring of 2022, Päijät-Häme welcomed 14 new Welcome Cyclist entrepreneurs, which, in national comparison, is a strong indicator of local entrepreneurs' ambitions to develop cycling tourism. Adventure and equipment rental agencies and accommodation providers have been the businesses most strongly committed to the concept. Engaging café and restaurant businesses has proven the biggest challenge, which is largely explained by the fact that Finnish cyclists have yet to develop the kind of café culture that exists in many Central and Southern European countries, where many cafés and restaurants are very vocal in welcoming cycling customers, and some have even built their entire brand around cycling.

A Guide to Cycling Tourism Introduces the Routes, Services and Events in the Region

In terms of developing international cycling tourism, one of the challenges of Päijät-Häme is the difficult accessibility of the trails in the region. There are several trails in the region that are suitable for mountain biking, but only a small part of them has been marked in the terrain. There are even fewer marked road cycling routes in the region, which could pose a challenge to e.g. a Central European cyclist used to route signage and markings guiding the way, even in road-oriented cycling.

In addition to the trails' physical accessibility, access to information is something Päijät-Häme needs to improve if it is to significantly increase its appeal as a region for cycling tourism. To increase this appeal, the Päijät-Häme for Cycling Tourists Project has produced a guidebook which introduces the region's most interesting mountain biking and road cycling routes. In addition to the routes, the guide introduces the nearby services and features a seasonal list of the region's most interesting cycling events.

The first version of the guide, published in the spring of 2022, describes more than 20 mountain biking and road cycling routes. The routes included in the guide have been chosen in cooperation with the region's municipalities, emphasising the routes' appeal and accessibility. The routes in the guide have been divided into themes based on their target groups and difficulty levels to help readers pick the routes most suitable for them. For entrepreneurs, the guide offers visibility for their services and opportunities to develop new services connected with local routes.

Image 3. The Salpausselkä Trails network in Lahti is one of the easily accessible mountain biking destinations in Päijät-Häme. The trails are designed for multipurpose use. (Image: Juha-Pekka Huotari, City of Lahti)

Event Concept for New Collaboration and Increased Exposure

Developing a regional event concept for cycling tourism is one of the project's measures that aims to increase the exposure of the region's routes and services. The idea is to strengthen the collaboration between businesses and other regional actors, support the exposure of the region's most appealing destinations, and help Päijät-Häme forge an image as a cycling-friendly region. The event concept is designed to follow an umbrella model in which several events organised by different parties are grouped under a common theme.

The event concept is generated through multiphase concept work in collaboration with local businesses and other stakeholders interested in the theme. To support this work, regional actors' interests have been mapped, and a benchmarking study has been conducted to collect comparative information about cycling tourism events in Europe. The study focused on the online environment and aimed to identify the types of interesting cycling tourism events organised elsewhere, and how they could inspire new ideas, themes, and methods suitable for Päijät-Häme.

The events were evaluated through Traffic Light Assessment according to the following six aspects:

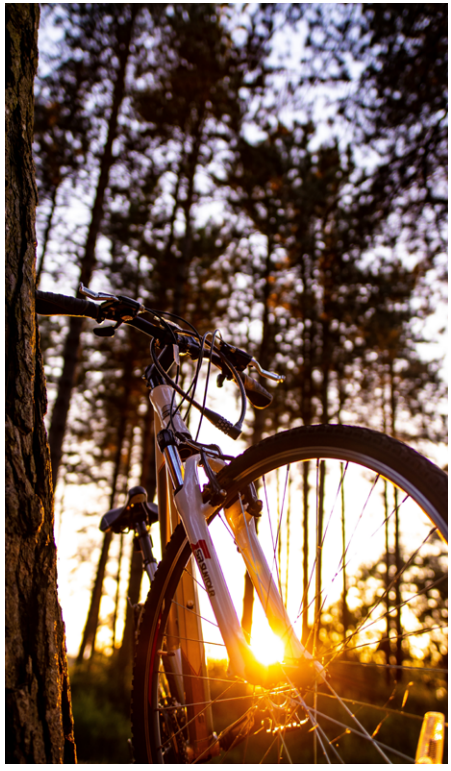
- concept & brand
- event location & trails
- target groups
- tourism perspective
- service design
- organisations & stakeholders

The benchmarking study supported the assumption that a low-threshold event in which strong tourism potential is combined with nature values, local activities, and communities could work as the basic concept for a regional cycling tourism event. The study also provided us with good data on how we should take advantage of the region's trails and tourist attractions in the marketing and branding of a cycling event. We recognised that the biggest challenges in developing our own concept were related to multiple locations and a decentralised organisation model, in which the coordination of a larger whole takes considerable effort.

Impact on a Larger Scale

Deeper customer understanding, more customer-friendly services, and improved exposure for the cycling tourism service infrastructure are the measures of the Päijät-Häme for Cycling Tourists initiative that could improve the outlook of cycling tourism in Päijät-Häme. The initiative helps regional tourism operators meet the new demand for nature tourism that increased with the Covid-19 pandemic, providing them with tools to expand their operations with the aid of new target groups. Although the focus of this action is on developing domestic tourism, it also creates opportunities for developing international tourism.

On a larger scale, the initiative supports the strategic choices of Päijät-Häme on its journey to become a region of green growth (Hämeen ELY-keskus 2013, Päijät-Hämeen liitto 2022), in which nature and exercise tourism is an important resource for the vitality of business in rural areas. It also plays a role in facilitating regional businesses' commitment to sustainable travel and thus supports the efforts of Päijät-Häme to become one of the destinations in Visit Finland's Sustainable Travel Finland (STF) programme, as well as supporting the appeal of our regional tourist attractions such as Salpausselkä Geopark. Together, all these impacts should help increase the vitality of the tourism business in Päijät-Häme and make the region a more attractive environment for local residents as well.



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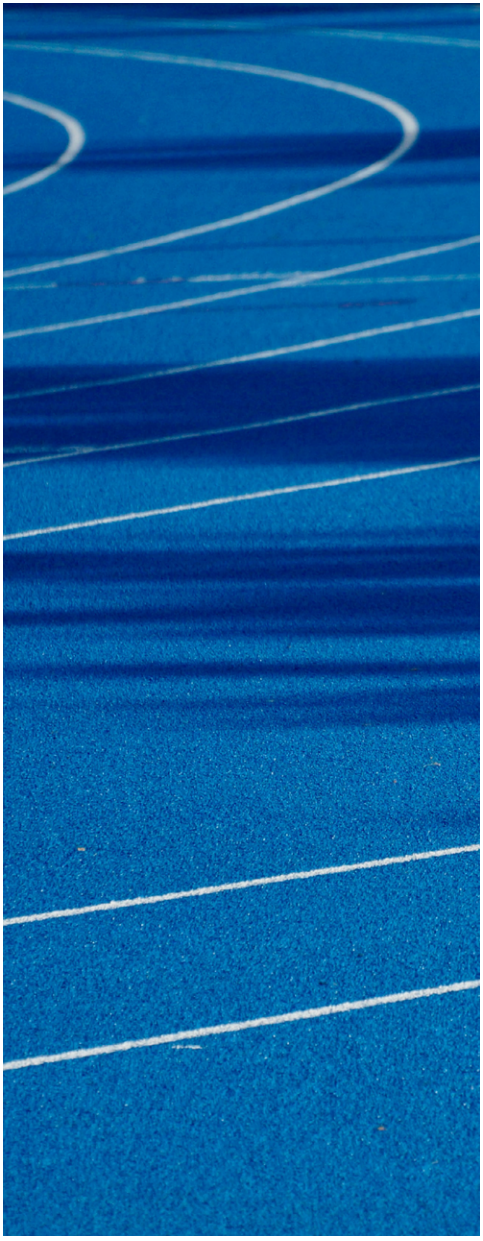
Ilkka Väänänen

Lahti Research Infrastructure for Sports

The Lahti region offers a diverse sports infrastructure and a great deal of sports-related knowledge, but it currently lacks a coordinated research infrastructure and meso-level organisational cooperation in research areas focused on sport and the health sciences. In addition, the greater Lahti area also lacks research facilities and coordinated research programmes that combine the perspectives of sports engineering, physical activity, and functional capacity.

This article presents the action plan for developing the **Lahti Research Infrastructure for Sports** (LRIS), which involves a constructive, high-gain design to effectively meet current national and international sports and wellbeing related requirements. This includes high-level research and education, private companies, public organisations, and other regional stakeholders/actors in the Lahti area. This will form a local resource of research equipment, materials, and related services that will increase the effectiveness and international attractiveness of the Lahti research, education, and innovation system for the sport sciences, combining the areas of anatomy, physiology, biomechanics, ergonomics, and engineering. Its services will enable RDI, support the training and teaching of researchers, and it will maintain and develop research and innovation capacity, thereby promoting research quality, innovation, and competitiveness, while strengthening the diversity of research environments and enhancing national and international cooperation in the field of sport sciences. Conceptualization of the LRIS will be completed between 2023 and 2025.

The LRIS will be based on the widely existing scientific and practice-based expertise and knowledge of the two research and educational institute consortium partners (the Lappeenranta-Lahti University of Technology (LUT) and



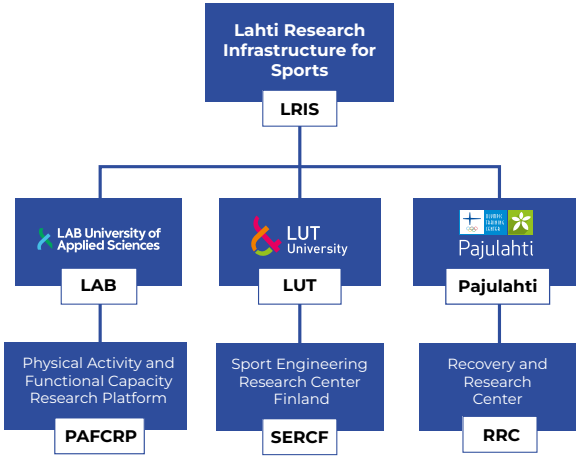


Image 1. Lahti Research Infrastructure for Sports. (Image: Ilkka Väänänen)

the LAB University of Applied Sciences), and the Olympic- and Paralympic-level Training Centre Pajulahti.

To provide research, development and testing services focusing on health and sport-centric solutions, LRIS will include three RDI hubs: the Physical Activity and Functional Capacity Research Platform (PAFCRP), the Sports Engineering Research Centre Finland (SERCF), and the Recovery and Research Centre (RRC). See Image 1 for details. Activities will emphasise the networking of complementary operators, user-centric development processes, service design, and the collection of user data. The LRIS will combine sport and exercise in research, education, and commercial enterprise.

The LRIS concept model will be based on the in-built dynamics of the network, its actors, and the available resources. Theoretically, the aspects of the network will be closely related to the concept of interaction and knowledge, not from a static perspective, but as a dynamic resource. The plan reflects the path dependency in networks and accepts the social dimensions related to interaction and activities shared by the different actors of the Lahti research, education, and innovation system.

It will build on three network elements: the actors, the activities, and the resources. The actors, both organisational units and individuals, will carry out various activities (communication, development, production, and distribution) to create value. Their access to resources, such as knowledge, will be essential. Ongoing activities will promote increasing connections between the actors resulting in the emergence of even larger networks. Developing networks will make it possible to introduce new activities. The ongoing activities will mobilise resources that will build and transform the resource networks.

The LRIS will support ecologically, socially, and economically sustainable growth. It will boost competitiveness, investment, research, development, and innovation while raising skill levels. It is similar to national and regional research infrastructures, but in LRIS the area of operation will be local. Its impact will depend on the proficiency of its people, cooperation and interaction, and the transfer of the results.

The LRIS will enable high-quality research, and its scientific significance will be substantial and remarkable. It will involve an appropriate mix of complementary participating organisations and actors with the necessary scientific and practice-based research profiles, experience, and expertise to successfully deliver all multi- and interdisciplinary aspects of the infrastructure for sports. The responsibilities and tasks of the consortium partners will be clearly distributed to ensure the commitment and active contribution of all participating organisations and to make use of their experience and competencies to bring notable added value, both scientific and socio-economic.

The LRIS will enable cutting-edge research-based R&D and the development of new innovations, sports equipment, and technologies in collaboration with national and international research institutes, companies, and public and third sector actors. Taking a scientific and research-based approach, the LRIS will bring together, not only the local, but also

regional, national, and international scientific expertise and practice-based needs in the field of sports, training, coaching, and rehabilitation (physiotherapy) as well as in sports equipment, recovery, and testing.

Developed as part of the LRIS entity, SERCF will be a simulation-based high-level research and testing platform based on state-of-the-art research and Olympic-level physical facilities. Its purpose will be to enable the launch of international research cooperation around strategically important themes and to enable the effective international expansion of activities during and after the launch of the LRIS.

The research background originates from LAB's and LUT's multidisciplinary *Physical Activity and Functional Capacity* and *Modelling reality through Simulation* research platforms. These platforms focus on both humane and virtual systems that produce sustainable growth and are made up of human, machine, and environmental entities in the framework of planetary health. In the LRIS local -level research infrastructure, the expertise will be focused on developing sports and the sports sector through an applied scientific approach. As such, the scientific background originates from both applied and technical universities and is very well suited for the sports and wellbeing industry. Simulation-based research expertise can be used, for example, to see whether or not it is profitable to try to achieve certain trajectories. The information gained can be utilised to further the development of equipment and ergonomics.

Collaboration and impact

LRIS is based on the Päijät-Häme Recovery and Resilience Plan (2020) and will focus on its key aim of raising the employment rate and skill levels to accelerate sustainable growth in the field of exercise and sports. This is based on one of the RIS3 priorities, sport in the Lahti region (Regional Council of Päijät-Häme 2022). In addition, it is based on the goal of the Lahti Ecosystem Agreement to establish the best, most versatile, and achievable sports and testing infrastructure in the Nordic countries (Työ- ja elinkeinoministeriö & Lahti 2021). One strategic priority of the Lahti region for 2021-2027 is to further develop the international sports business in the framework of the Päijät-Häme Sport, Experiences, and wellbeing Road Map 2030 (Väänänen et al. 2021).

The preparation for LRIS began in 2020 in the Päijät-Häme Exercise, Experiences and wellbeing Roadmap 2030 project (Kiiskinen & Väänänen 2021). From the outset, it was to be carried out as a multiphase, user-driven,

and collaborative strategy work process in which various stakeholders will participate on the basis of their needs and interest. The preparation began with an analysis of background strategies. In addition, perspectives on the content were also provided by benchmarking five regions. These were supported by two large-scale online surveys that served as a basis for themes. A further five themed interviews were carried out by groups of experts (NGOs, businesses, and educational organisations). The identified regional collaborators of the LRIS are shown in Image 2.

The LRIS will work in collaboration with other Finnish regional smart innovation hubs for sports and vitality as a partner of the LIUKAS network. This will ensure connection to the European level and makes it possible to participate in concrete interregional investment cooperation schemes of the "*Lahti Sports Hub*" science and business concept operated by LADEC Ltd.

Based on local excellences, LRIS will be an engine for smart sport technology innovations that deliver sustainable value to society and business growth in Lahti. It connects strategies, practices, and technology and therefore promotes and supports innovations and the creation of new business opportunities in the different value chains of the local sport ecosystem.

The vision for sport in Lahti is to bring together Lahti-based and Finnish sports business knowledge, innovations in the sports sector, and sustainable sporting events as a local resource where export activities and innovation activities and the number of existing domestic and international companies are growing significantly. In addition, the exports of Finnish sports-related products and services are growing. The local objectives of the field of sport 2020-2027 are characterised as follows:

- Lahti is home to the most diverse sports and testing infrastructure in the Nordic countries.
- Lahti is investing significantly in both domestic and international companies.
- The employment situation in the Lahti region is improving.

The international sports business focus strengthens Finland's important role in year-round sports research and development as a test platform in collaboration with cities, companies, universities, and other actors promoting an international sports ecosystem, sustainable and responsible sporting events, major sporting events, and international investment in Finland, as well as sports tourism. In the Lahti region, a year-round centre for winter sports with a strong competitive advantage brings

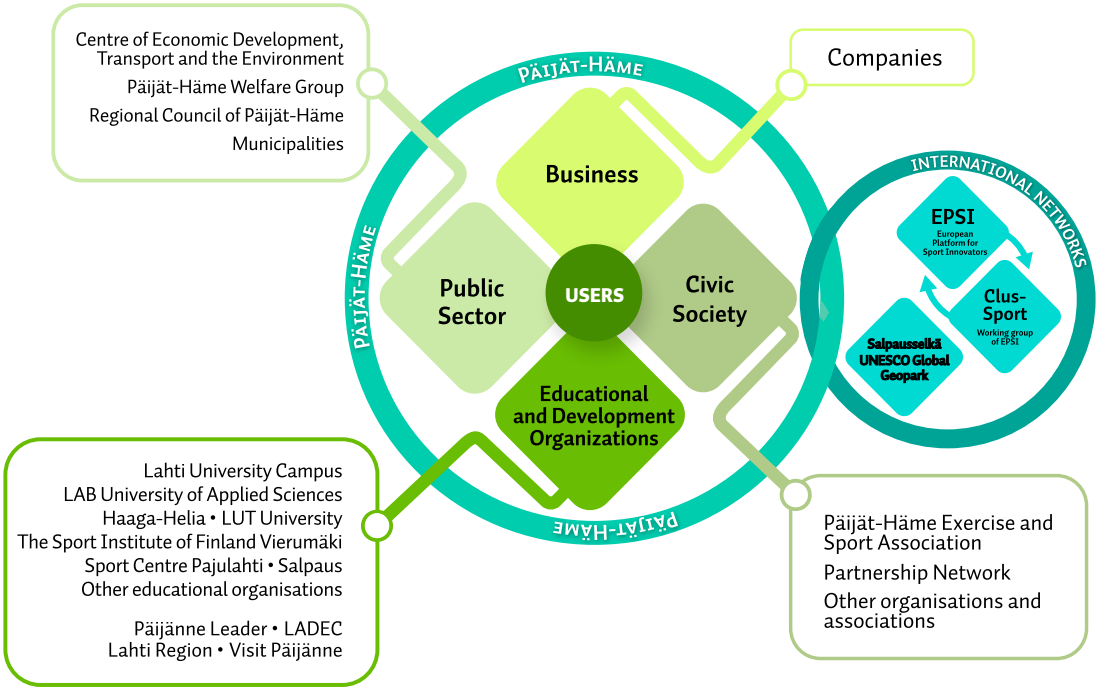


Image 2. The collaborators of the Lahti Research Infrastructure for Sports. (Image: Kiiskinen & Väänänen 2021, 51)

international brands from sports and the sports sector to take advantage of the most diverse testing environment in Northern Europe.

The Lahti City Strategy 2030 (Lahti) states:

> *We will create new jobs by offering the city as a development platform for businesses and by increasing cooperation with the top innovation themes (environment, design, digitalization and sports), and we will strengthen the sport, culture and event offering in Lahti.*

Conditions in the Lahti region support more than 400 sports, and the region features the best sports training centres and test environments in Finland, in addition to a world class international winter sports centre. The region comprises a unique testing environment, business environment expertise, and cooperation actors covering a wide range of national and international R&D and exports. By commercialising Lahti and the sports infrastructure, research and training expertise and sustainable sports event solutions will be strengthened throughout Finland, as will recognition as a sports expert and promoting national sports exports and business. The goal is that by 2027, international exports will have increased, and Finland will have developed internationally significant export sectors in the sports and sports sector consortia involving large companies, emerging brands, and start-ups.

Institutes in the LRIS will have several existing scientific international networks that will support regional scientific input and organisational collaboration. LRIS has 14 university-level research teams from Finland, Belgium, Switzerland, the United States, and the Netherlands aiming to improve and build international collaboration and scientific research in various rehabilitation domains. Within the LRIS, international research work will be developed further from the regional needs in sports sciences and business. Namely, LAB is part of the "*Technology-supported*

innovative rehabilitation research network (2022-2027)", and "Service Innovations for Health and wellbeing LAB" has been connected to the European Platform for Sport Innovation. LAB is currently the leading educational institution for the education of physiotherapy and advanced education of sports physiotherapy in Finland.

In addition, LAB is a member of the European Network for the Promotion of Health-Enhancing Physical Activity (HEPAEurope), and the World Confederation for Physical Therapy Association. The Pajulahti Olympic Training Centre is part of the Finnish Sport Institute Network. It consists of eleven national sports institutes around the country. Pajulahti operates actively with the Finnish Institute of High-Performance Sport, the Finnish Olympic and Paralympic Committee, and many national sports associations. It has a cooperation agreement with Averett University in six areas: coaching, health, physical education, personal training, sports management, and wellness/sports medicine. These connections and networks strengthen and support local development and will align the competence of each institute under the work of the LRIS, which will sharpen its role and increase the local and regional input at the international level.
Within the sports and rehabilitation education context in LAB, LRIS will reach approximately 400-500 physiotherapy and sport physiotherapy students on a yearly basis. In addition, LAB can provide an education and research network in rehabilitation and physiotherapy together with its several national (e.g. regional sport clubs, SMEs in sports) and international partners to facilitate and collaborate within the LRIS research infrastructure. These aspects bring users with backgrounds in education, local SMEs in sports, and local sports clubs together in the LRIS.

Services

The physical, remote, and data access services and their combinations in the LRIS will be offered as open research performed in employment for the fulfilment of the research duties of the HEIs, both without and with outside funding and external contractual partners participating in the research. Services performed with the funding of an external party will not imply any provisions other than those related to the publication of the results. Otherwise services meet the criteria of collaborative research. In addition, the infrastructure can organise events and workshops and development programmes or sets of programmes, produce competence development services, produce sport consultations, and offer platforms to support development, testing, and evaluation of sport innovations.

The LRIS services include biomechanical motion analyses and modelling, data-analytics, maximal oxygen uptake, anaerobic capacity tests, lactate body composition etc. physiological and anthropometric measurements, ergonomic loading, and training threshold analyses, simulations, and tests for balance, coordination, motor skills and flexibility. There are both laboratory and field services available. The Pajulahti centre includes over 100 hectares of sport areas with a 25-meter swimming hall, 333-meter long track and field indoor hall with an artificial soccer field. In addition, there are separate tennis and combat sport facilities, as well as outdoor tracks for cross-country skiing, running, cycling and orienteering.

Users

The user profile of Lahti Research Infrastructure for Sports will be focused on the development of new innovations, equipment, and technology in collaboration with national and international research institutes, companies, and start-ups, as well as public and third sector actors bringing together, not only the local, but also regional, national and international scientific expertise and practice-based needs in the field of sports, training, coaching, and rehabilitation (physiotherapy), as well as in the field of sports equipment, recovery, and testing.

In addition to the significance to university-level education and research, the LRIS brings added value to the practitioners, both public and private sectors. In addition, the universities' strong and wide-ranging existing partner network complements our key areas of expertise, and therefore is seen as added value through joint research and education projects, as well as creating a world-class network for the business-oriented strategic research and innovation activities in LRIS.

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02

Social inclusion, working life and safety in everyday life

Mariia Baliasina, Marja Kiijärvi-Pihkala & Virve Pirttikoski

Motivation, learning and networks – OSKE LAB supports the employment of highly educated immigrants in Finland

The culturally diversifying Finland should offer each of its members an opportunity to live a decent life and to work. From the integration perspective, employment is crucial because it promotes a person's wellbeing and participation opportunities in their new home country (Kärkkäinen 2017). Integration takes place in interaction with society, and thus the person's experience of inclusion and equality in society increases (Työ- ja elinkeinoministeriö 2021, 54). Networks, support, education, and cooperation are needed to achieve the experience of inclusion (Dalli 2021, 9). In particular, the employment of immigrants needs solutions because according to Statistics Finland, the employment rate of immigrants was 51 per cent compared to that of native Finns at 68 per cent in 2017. At the same time, immigrants work in positions below their actual competence level significantly more often than native Finns. Twenty-nine per cent of immigrants with a master's degree felt they were over-educated (Saukkonen 2020, 35–36).

The OSKE LAB project funded by the Ministry of Education and Culture and implemented by the LAB University of Applied Sciences strengthens the viability and competence recurrence of the Päijät-Häme region by supporting the employment of highly educated immigrants. In addition to the highly educated individuals, the services provided in the project are also beneficial for immigrants interested in higher education and those currently studying in higher education institutions. OSKE LAB works in close cooperation with the region's operators. The purpose of the cooperation is to establish a networked centre of expertise in the region.

Measures to promote employment and integration

The Government programme set the target to raise the employment rate to 75 per cent, which also means the raise of the employment rate of immigrants (Valtioneuvosto 2019, 130). According to Statistics Finland, the population of Finland is ageing so fast that the number of working-age people is decreasing by more than 10,000 people annually. This will continue unless raised by immigration or by working-age people with immigrant backgrounds (Statistics Finland 2021). In addition, the Government programme outlines the improvement of the quality and impact of the integration services by establishing Multidisciplinary Centres of Expertise in Immigrant Integration. Integration will be promoted by strengthening the language and vocational skills of immigrants and by fostering their knowledge of society and their social participation (Valtioneuvosto 2019, 138–139).

Under the Government programme, local government pilots on employment are a measure to strengthen the role of municipalities as the organisers of employment services. The aim is to increase employment among unemployed jobseekers, direct them to training and education, and create new solutions to ensure the availability of skilled labour. In particular, the pilots aim to improve the access to the labour market for those in a more vulnerable position. In practice, this means developing services to identify and address customers' individual needs such as particular services, barriers to employment, and skills development. The new service model is developed based on the needs of jobseekers and employers in the region. Pilot projects are testing different ways of employment services provision to identify best practices (Työ- ja elinkeinoministeriö 2022).

The aim is also to increase the share of higher education graduates to 50 per cent of young adults by 2030 by increasing the available study places, for example (Valtioneuvosto 2019, 164). In addition, higher education institutions will recruit talents to Finland and seek to triple the number of foreign degree students. The aim is that after their graduation,most foreign students will stay in Finland and get employed (Valtioneuvosto 2021, 32).

Employment can be viewed through five areas. First, employment is promoted by competence and professional skills that match the labour market requirements. Vocational education acquired in Finland assists in finding employment, and indeed, immigrants often need supplementary training to get employed. Second, social networks promote employment, because studies have shown a considerable share of jobseekers employed through unofficial networks. In particular, contacts with people with a Finnish background

were useful, because they provided information on job opportunities, moreover employers trusted individuals with a Finnish background as providers of recommendations. Third, effective guidance and counselling services closely related to the development of new service models are needed. In particular, effective services during the initial stages are important. In future, this will be addressed by an initial analysis model to be developed as the reformed integration legislation becomes effective, for example. Fourth, good language skills are one of the key ways to promote employment. Language skills are not about the command of language alone but also involve integration into the working community and the establishment of social relationships. Language learning takes place in a variety of interactions. In addition, the fifth method that promotes employment includes sufficient and properly targeted labour policy measures, among which work placement related to labour market training is particularly important. These are essential for learning the language and the working culture. (Sisäasiainministeriö 2011, 25–29.)

For a more detailed understanding, we need the experiences of highly educated immigrants of factors that promote and block employment. In the following chapter, we will cover the results of the interviews conducted in the OSKE Lab project.

Path to employment involves learning new and networking

The data in the article consist of the interviews of seven highly educated immigrants. The interviewees were contacted through networks in the OSKE LAB project. A requirement for the interview was the person's extended residence in Finland, and all the interviewees met the requirement because they had resided in Finland for an average of approximately ten years. The interviewees could therefore view their integration path retrospectively and assess which factors had promoted and blocked their employment in Finland. The interviews were conducted, and data were collected, by LAB's social services students during their work-based assignment in the 'Yhdenvertaisuuden rakentaminen' (Building equality) study unit in the spring of 2022.

The interviews were theme interviews, and the interviewees are identified by codes in the quoted sections (e.g. interview 1 = H1). The qualitative data has been divided into themes and partly categorised through content analysis. The method offers an opportunity to provide a generalised description by distinguishing similarities and differences in the data (Latvala & Vanhanen-Nuutinen 2003, 21-23). The analysis was data-based and consisted of the stages of reduction and clustering.

Based on the data, an immigrant's employment path is not a linear process but includes steps forwards, sideways, and even backwards. For a highly educated skilled individual, further education and training is a significant step before employment, because a degree they have earned in their home country and the subsequent professional qualifications are not always directly accepted in Finland.

> *"Then I started, to be honest, completely from nothing. --- I did have the experience but no professional qualifications."*
> - H1

For example, a regulated profession requires a certain degree to be completed, examinations to be passed or being entered as a professional in the register maintained by the relevant authority (Valtion tarkastusvirasto 2021, 23). This slows down the employment of an immigrant talent, and occasionally, they may even need to earn a completely new degree. A reason for earning another degree may also be that the immigrant feels that a Finnish degree will help them learn more Finnish and provide information on Finnish working life.

However, before embarking on studies complementing their professional competence, the individual mostly starts their learning path by taking Finnish language studies. As a rule, all the interviewees studied Finnish in their integration training at the beginning of the integration process. Integration training, organised under the Ministry of Economic Affairs and Employment, is subject to competitive tendering by the regional Centres of Economic Development, Transport and the Environment (ELY Centres) and implemented by public and private educational institutions and other service providers (Rasilainen 2020, 162). Integration training is a good stepping stone to studying the language, but for many interviewees, finding employment was a bigger step on the path to learning Finnish.

> *"I think it was actually the language. It turned out that it was language that was the biggest issue.--."*
>
> *"Then I got the job, and it was clear – let's stay here. It was easier to understand the language after that."*
> - H1

Image 1. The study path in the new home country usually begins with Finnish language courses. (Image: Pexels)

Before employment, work placement was an excellent way for many to use Finnish in daily life. Language learning is supported by being part of a community which provides both linguistic and emotional support. Emotional support also plays a significant role in an individual being encouraged to get involved in situations in which they have an opportunity to use the new language (Intke-Hernandez 2020, 76–78). Communities that support inclusion could be a work placement position, voluntary work, or own networks.

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> *"It (work placement) opened doors for me, and I gained more courage during it. Issues with language skills have made things much harder. When I started my studies, I was just shy. I felt shy at work, as well in the beginning, and I was unable to express myself very well.*
>
> *I was afraid that I made mistakes when I spoke, or that people didn't understand me; I was very concerned about it."*
>
> - H5

A work placement offered an opportunity to recognise one's skills, apply prior competence and learn new things. An immigrant often possesses diverse skills that are useful in finding employment. Diverse language skills are needed in many professions. For example, one's native tongue, apart from Finnish, offers an excellent opportunity to serve customers in more than one language. However, recognising own skills is not that easy.

> *"Competence; at the time I didn't know what I was really skilled at."*
>
> - H5

Many degrees also do not prepare a student for a certain profession directly but provide diverse qualifications that can open a wide variety of employment doors.

> *"At the time, the challenge was to figure out what I could do. In other words, I don't have a specific vocation like a practical nurse or a doctor after graduation. I don't have any of that. It is up to me to choose what I could do. I have a degree in Finland so what can I do."*
>
> - H5

In Finland, challenges are often posed by an immigrant's competence not being identified, and each organisation having their specific ways to identify competence. Competence is often identified when a person is applying for education, but competence identification is still considered insufficient. It also happens too late from the perspective of integration (Valtion tarkastusvirasto 2021, 23).

The interviewees felt that networking with Finns was important because it helped them find employment. Finding jobs without Finnish contacts proved extremely difficult.

> *"It is important that they (immigrants) have friends or friends at work; this networking is very important. When they need help, they have people to turn to."*
>
> - H4

Networks are important on the path to employment, because they help immigrants get information on job opportunities or any practical matters on the Finnish labour market. For example, networks may help one get job interviews. However, making friends with Finns was deemed difficult. Quite a lot of immigrants do not have a friend with a Finnish background (Saukkonen 2020, 45). Making friends with other immigrant families is easier.

The importance of networks was also emphasised during challenges faced on the path to employment. During disappointments, one needs networks and close friends who can offer help and support.

> *"Even after disappointments, there will be light as long as you have it in you to keep working towards success."*
> - H6

Perseverance and challenging oneself were also considered important. A recurring theme in the narratives of the interviewees was the requirement to show initiative and be active and motivated to find work.

> *"I did everything myself; I figured out what I wanted to do."*
> - H1

As a jobseeker, an immigrant is forced to re-evaluate their self-image in relation to their new living environment. The identity they had in their country of origin often no longer applies when they apply for work in their new home country. The change in jobseeker identity is not just the individual's process but takes place in interaction with employers, recruiters and other social networks. Supporting the shaping of immigrants' jobseeker identity would promote wellbeing, settling into the new culture, and the job search (Rintala-Rasmus 2007, 632–647). A variety of alternative support measures should be available to assist in maintaining motivation and reshaping the jobseeker identity. One solution could be a course that helps the individual to move towards education or employment.

Strengthened confidence in one's competence

In the spring 2022, the OSKE LAB project organised a course titled "Hybridillä koulutukseen ja työelämään" (Into Education and Labour Market through Hybrid) to support immigrants in their effort to apply for studies or to seek employment after integration training. The course was developed in cooperation with the "Miestämö – Men into Labour Market through Hybrid" project.

The course targeted immigrants who had taken integration language training modules 3 or 4, their previous educational levels were not relevant. The participants were referred to the course by the employment office's personal coaches. The course did not include actual Finnish language studies; however, it considered the participants' language skills in the material offered. The purpose of the

course was to develop the participants' readiness for studying in the university of applied sciences and working in a digital environment, in particular. The objectives were defined as follows:

1. Expanding the functional vocabulary in use in the context of studies and work. Based on research (Duff 2019, 18) and the interview data, making progress requires immigrants to use language extensively in various environments and thus to get support in solving everyday issues. The course thrives to expand one's competence and to apply existing knowledge to practice. It offers an interactive and functional context of use in which the language and learning cannot be separated from one another (Duff 2019, 6; Hiver et al. 2021, 4).

2. Expanding digital competence. Digitalisation has become an increasingly important part of higher education and work. Digital competence is part of multiliteracy, which is one of the extensive learning objectives of integration training (Opetushallitus 2022, 28-29). Multiliteracy is not limited to text alone but is realised in numerous fields of semiotics, and people must be literate in those as well (Norton & Tooley 2011, 432). That is the reason why it is important for immigrants to strengthen their digital skills.

3. Support for future studies and work life. The course assignments aim to help the participants have a stronger attitude toward the labour market. Boosting the participants' motivation is one of the course goals (see Dörney & Ushioda 2009, 29). The goal is considered valuable because many people find success in professional life important (Dörney & Ushioda 2009, 28).

In the planning of the course content, it was decided that the goals set should define the working methods and thus, the course should include diverse assignments to enrich the participants' experiences. Although the course was designed to include only six contact sessions, it is not considered to be brief, because language learning and use begin at the micro level of social activity and take place in contexts of use (the Douglas Fir Group 2016, 27). Progress requires variability and change (the Douglas Fir Group 2016, 29).

Digital skills were emphasised within all the content. Operating in a digital learning environment, or the LAB University of Applied Sciences' Moodle platform, was practised during the contact sessions and remote meetings. The participants familiarised themselves with the new environment, expanded their competence, and gained information

about the organisation of studies in Finnish higher education. Contact sessions were important, because in-person interaction is easier for immigrants. It enables them to support communication with gestures, facial expressions, or body language. On the other hand, remote meetings are also important because they are an established part of today's work and study routine. All this helped reinforce the ground rules of remote activities and skills in various digital applications of the course. The course also included independent and group assignments as well as different kinds of materials. This helped support the diversity of the participants: they could choose the assignments and materials that resonated with or interested them most. The choice opportunity is based on the following idea stated by the Douglas Fir Group (2016, 30): "[...] no two people, even those in the same classroom, will experience exactly the same social contexts of language use or resolve them in exactly the same way".

The participants of the "Hybridillä koulutukseen ja työelämään" course were 13 immigrant women of different ages. Although participation was voluntary, the group was active and eager to improve their competence. Towards the end of the course, the participants were offered an opportunity to complete a Webropol feedback form. Six participants completed the survey. In addition, two participants gave verbal feedback on the course to their integration training instructor. According to the instructor, the feedback emphasised an increase in motivation and gaining a clearer idea of own path.

> *"A couple of students praised your coaching – they are going to attend preparatory training for higher education in the autumn semester. One of them said that thanks to you, she is now more confident and has gained more faith in her own abilities."*
>
> (An integration training instructor)

Similar feedback was also provided in writing:

> *"It was really important to also receive moral support from a competent, positive teacher who was at the same time realistic!"*
>
> (A course participant)

Image 2. The teacher plays an important role in supporting motivation. (Image: Pexels)

The survey respondents' opinion was that the course atmosphere was good and that the course offered them something new. The greatest interest was raised by topics related to the university of applied sciences and studying, such as the Moodle learning environment, applying to study at the university of applied sciences, the entrance examination, and reading the course descriptions. This feedback supports the original idea that immigrants want to expand their experiences and familiarise themselves thoroughly with new operating environments.

"I learned a lot of useful information, not just about the educational institution itself but also about the admission to the university of applied sciences."

(A course participant)

"Important and useful information without unnecessary verbosity."

(A course participant)

The opportunity to identify own competence was also highlighted as one of the most useful takeaways of the course. According to the feedback, all the participants would recommend the course to an acquaintance or a friend. The majority felt that the course supported their integration and their individual paths to working life.

OSKE LAB continues to seek solutions for supporting immigrants towards education and employment

The interview data highlighted the need to identify own competence, strengthen Finnish language skills and supplement one's professional competence. In addition, it is important to network and integrate into the community where one would have the courage to practise Finnish and obtain information about Finnish working life and educational opportunities. The interviewees also emphasised their motivation and activeness in the path to employment.

For its part, the "Hybridillä koulutukseen ja työelämään" course addressed these needs. Attending a voluntary course required the participants to be active, the course content helped them stay motivated. The course served to improve the participants' Finnish language skills, in particular vocabulary related to studying and working life. The participants' competence in digital skills needed in both studies and working life was strengthened as well. The course also covered preparatory studies for higher education and studying in the open university of applied sciences, both issues meeting the needs of highly educated immigrants.

In addition, the interview data collected in the OSKE LAB project brought up service development suggestions from highly educated immigrants. For example, services should also be available in English to make it easier to use them. In addition, the suggestions included support for employers and enterprises in employing immigrants, for example, by providing opportunities for recruiters and applicants to meet. More information should be also provided on Finnish working life practices; for example, for many immigrants, union membership is an unknown concept. The fact that immigrants wanted to be employed and do their best was also emphasised, but employers should be open to accept and recognise prior competence. The interviewees also proposed that immigrants needed opportunities and settings to use the Finnish language because the best way to learn the language was to use it in everyday encounters. Rasilainen (2020, 162) suggests that it might be more

effective for an immigrant to have the opportunity to study a language part-time for a longer period while studying other topics or working. As a rule, integration training implemented in the form of labour market training is full-time study, and participating in an intensive full-day course is not necessarily the best way to learn the language.

The employment rate of immigrants is lower in the Päijät-Häme region than elsewhere in Finland. The capability of enterprises to hire immigrants is poor, and the support measures available for employees with immigrant background are insufficient (Työ- ja elinkeinoministeriö 2020). A report by the National Audit Office of Finland (2021, 49) underlines that integration into a Finnish working community can be promoted through a variety of methods such as coaching given to the working community and the employee. Various pivotal stages should also be considered: Highly educated immigrants require particularly intensive support in the graduation and recruitment stages (Kastari & Parkkonen 2019). Support must be provided at the right time so that talents are not lost.

LAB University of Applied Sciences, and for its part, the OSKE LAB project, will aim to meet the needs of highly educated immigrants and those interested in higher education in future as well, with other operators in the Päijät-Häme region. The "*Hybridillä koulutukseen ja työelämään*" course will be provided again in the autumn of 2022. In addition, mentoring will be organised to support highly educated immigrants. Mentoring will be provided by specialists from various sectors. The first group will start in the autumn of 2022. Close cooperation with the TE office and the Lahti local government pilot on employment will continue. The cooperation between operators in immigration work representing different sectors has been productive and long-term in the Lahti region. However, even closer cooperation is needed to better address the growing challenges of working life. The roles of the operators should be clarified, and cooperation with business life should also be strengthened.

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Maija Eerola, Heli Kamaja & Sannakaisa Marjamäki-Nieminen

How can companies see immigrants as an asset?

Simulation discussions provide keys to understanding multiculturalism

The objective of the **Simulation of Multicultural Encounters to Promote Society's Receptiveness** (Monikulttuurisuussimulaatio yhteiskunnan vastaanottavuuden edistämisessä) project is to increase the understanding of the opportunities provided by multiculturalism and the related challenges, with a focus on employment from both the immigrant's and the employer's perspective. The project highlighted the role of society—and employers in particular—in the integration of citizens of third countries in Finland. The work was carried out in two phases: first, data increasing the understanding was collected by means of a simulation method, and the data was then used to build a campaign of impactful communication.

In the spring of 2022, simulation processes were implemented in the project in three different sectors: nursing, transportation and logistics, and business. These processes helped identify factors that block and factors that promote two-way integration and sought key messages for the campaign of impactful communication. Immigrants and employers were invited to meet and discuss various job search and supervision situations as well as matters of principle (see, for example, Eerola & Kamaja 2022).

Primarily two criteria were applied to select the sectors. In recent years, the nursing, transportation and logistics, and business sectors have had plenty of open positions that have been difficult to fill (Päijät-Hämeen maahanmuutto-ohjelma 2021). The other criterion was the regional perspective of educational institutions: foreign or immigrant talents are being educated for the aforementioned sectors in the Päijät-Häme region.

Based on the data collected from the simulations, a campaign of impactful communication was established in the

Image 1. The information campaign aims to promote multiculturalism in workplaces. One of the videos was shot at a recruiting office. (Image: Sannakaisa Marjamäki-Nieminen)

autumn of 2022. It makes visible the important role that society and employment play in integration and aims to promote multiculturalism in workplaces and society at large. Through communication, work to influence attitudes will continue after the completion of the project as well: the intention is to spread the campaign to at least ten provinces, and the materials (including videos and podcasts) will remain freely available. The project is funded by the Asylum, Migration and Integration Fund (AMIF) of the EU Home Affairs Fund, and it is part of the European Union's work to promote integration.

The project is closely connected to the Päijät-Häme Regional Immigration Programme (2021-2025), which recognises the poor employment situation of immigrants and the need to strengthen the region's appeal and retention. In recent years, the Päijät-Häme region has experienced population growth only through immigration—on the other hand, the employment rate of immigrants in the province is particularly low (Päijät-Hämeen maahanmuutto-ohjelma 2021). The contradictory situation in the region offers a good opportunity for jobseekers and employers to jointly view the challenges related to the employment of immigrants.

The immigration programme aims to increase the inclusion and social equality of immigrants. For its part, the Simulation of Multicultural Encounters to Promote Society's Receptiveness project supports the objectives of the immigration programme to raise the employment rate of immigrants, improve their integration in all municipalities of the region and boost a change in the discussion culture concerning immigration. Simulation offers opportunities for discussion and the establishment of a shared understanding, and this will help dissipate prejudices and increase the wellbeing of the residents of municipalities. Dialogue can help find factors that connect, instead of separate, people (Päijät-Hämeen maahanmuutto-ohjelma 2021).

The project is also aligned with the Government programme objectives of increasing mutual trust and promoting equality in the labour market in Finland. Increasing the employment rate to 75 per cent calls for increased participation by immigrants in the labour market, among other things. Therefore, the Government's objective is to increase work-based immigration, focusing on sectors suffering from labour shortages. In addition, the Government aims to reinforce, enhance and accelerate active integration of immigrants into Finnish society. Employment plays a significant role in integration and increases wellbeing in the immigrants' new home country. Positive and active integration will be promoted by accelerating placement in employment and fostering knowledge of society and social participation, among other things (Finnish Government).

Foreign labour is a prerequisite of growth

In Päijät-Häme, there are multiple reasons for initiating discussion on increasing the use of the foreign and immigrant labour force. One of the main motives is the region's population structure. Päijät-Häme ranks in the bottom third among the Finnish provinces in terms of its population structure: the share of children (14%) and working-age adults (59%) of the population in the province is lower than average and the share of pensioners (27%) is higher than average. This problem is highlighted in small municipalities, although population growth in the city of Lahti is also based on immigration or immigrants migrating there from other parts of Finland, as the working-age population decreases. In recent years, the change in the province's population has been slightly negative, and the statistics forecast that the migration loss will continue to accelerate (Statistics Finland 2021).

Thus, in Päijät-Häme, foreign labour can be considered to be a prerequisite for growth and vitality in the municipalities. The availability of skilled labour has been

Image 2. The number of difficult-to-fill jobs was particularly high in health care services. In the campaign, the workers were interviewed about this. (Image: Jaakko Ikonen)

a central challenge in many sectors, and before the Covid-19 crisis, many jobs were categorised as difficult to fill. The number of difficult-to-fill jobs was particularly high in social welfare and healthcare services and in retail and industry (Päijät-Hämeen maahanmuutto-ohjelma 2021).

In Päijät-Häme, many sectors suffer from a shortage of skilled labour, while at the same time, many immigrants cannot find jobs. Some of the international students in Finland move away immediately after graduating, some experience discrimination in recruitment or in their working community—all these are different aspects of the serious mismatch issue described by Thibault et al. (2022, 6). In Lahti, in particular, unemployment among people with immigrant backgrounds is considerably more common than in other large cities. At the end of 2020, their unemployment rate was 39, whereas in the entire country, the figure was 24.6, with Espoo having the lowest rate, or 21.8 (Päijät-Hämeen maahanmuutto-ohjelma 2021). Thus, the Lahti region is far behind the Helsinki Metropolitan Area, where in some areas, foreign labour accounts for tens of per cents of the employed labour force (Koskinen 2022).

Language skills and attitudes considered to be the biggest obstacles

However, recruiting foreign talent is often considered to be difficult. In many contexts, companies have found recruitment from abroad too difficult or slow and have

had doubts about the language skills or cultural readiness of foreign employees. In a survey conducted in the autumn of 2021, companies listed the following as obstacles to the recruitment of foreign labour: potential problems regarding work permits, safety and security issues, attitudes of the working community, minimal experience in working with foreigners, induction materials being in Finnish only, and, above all, insufficient Finnish language skills (Gebhart 2021, 29). In principle, the attitude towards hiring foreign labour was positive. However, to hire foreign labour, several factors must be realised: the talents should be included in the company's strategy and the atmosphere in terms of attitudes should be improved. Third, the language of work should, in part or completely, be switched to English, for example. According to the observations by Gebhart (2021, 42), this has in many cases already been done: many companies hiring international talents have specifically focused on a more positive, multicultural atmosphere in terms of attitudes and implemented English as their language of work, at least in part.

In Finland, traditionally either Finnish or Swedish, both official languages of Finland, have been required as the language of work, or the requirement has been English in sectors experiencing labour shortages. However, in particular due to the war in Ukraine there are now lots of talents in the labour market who speak neither Finnish nor English (Saarela et al. 2022). Therefore, lowering the language skills requirements has been contemplated in trade and industry. Thibault et al. (2022, 66) point out that the competence of employees can well be tapped into without them having native-level language proficiency. Saarela and Ahlfors (2022) call for patience from the part of companies and in particular working communities in this respect: the development of language skills and language awareness does not happen overnight. In the working community, it is a process in which a motivating and encouraging atmosphere is essential.

However, attitudes are also important. Foreigners or immigrants are often not hired simply because companies are not aware of them. It has been noted that in Finland the majority of open positions are never advertised but are filled through existing networks. Those responsible for recruitment and hiring often rely on people whom they already know. Thibault et al. (2021, 44) warn about subconscious attitudes, with favouritism and the illusion of the appeal of similarity being at the top of the list. An individual tends to hire a person who went to the same educational institution or is from the same town as they are, and this easily excludes minority applicants.

A new perspective through simulations

The mismatch issue discussed above has been recognised on many levels in Päijät-Häme. The Simulation of Multicultural Encounters to Promote Society's Receptiveness project offered a new, previously untested perspective on the matter: immigrants and employers were invited to the same table to discuss the issue. Some of the discussions were on a fairly general level, while others covered real-life situations and experiences. All discussions were based on interviews in which both parties were asked to share their experiences of job searching, work and recruitment processes.

Simulation is an imitation or representation of one act, process or system by another (Society for Simulation Healthcare 2015). This includes acting in goal-oriented workplace situations that feel authentic and reflecting on them (Niemi 2000). There are a wide variety of both methods to implement simulations and objectives of simulations. In this project, we selected a phenomenon simulation as the method and examining the phenomenon as the theme. As a method, simulation is widely used in the social welfare and healthcare sector, but it has also found its way into the field of business economics, for example, in recent years. In the LAB University of Applied Sciences, simulation is used in teaching and workplace cooperation.

This project used a phenomenon simulation, which enables learning and development in a group as working methods (Niemi et al. 2020). The difference between this approach and computer-based simulation learning is that a phenomenon simulation takes place in a group and is based on the participants' own activity, observation and interaction. The situations are built on cases derived from the objectives and the cases are discussed in a guided setting. Discussion and participation in the group are key aspects of work, highlighting the participants' own agency and interaction (Niemi & Virtainlahti 2019, 131; Niemi et al. 2020). Often the case itself invokes discussion and helps find answers to questions, although the discussion after the case provides the best results. A simulation can make complex phenomena visible and increase the understanding of them.

The participants should be informed of the simulation ahead of time. This ensures that they feel safe and it promotes learning. The situation itself is divided into four parts. The first part, or orientation (approximately 15-30 minutes) creates the setting for the situation: the objective is defined, and the ground rules are reviewed. It is important to note that the point of a simulation is to look for observations, not successes or failures. The second part, or the exercise itself, may only last 10-15 minutes. The exercise

progresses according to a set manuscript so that part of the group conducts the exercise while the other part observes. The third part, or a learning discussion, takes much longer than the exercise, and may last up to 60 minutes. In the learning discussion, what was seen and heard are reflected on, with a focus on the observations. It is essential to refrain from any kind of judgement. The fourth part, or a summary, completes the simulation: the summary provides the big picture of the situation (Niemi et al. 2020, 5). The simulation process is shown in Image 1.

Simulation is a common tool in concrete professional situations (e.g. driving instruction and healthcare sector simulations), but using it in abstract and often complex working life situations is fairly new. However, as a development method, simulation was used in LAB University of Applied Sciences' earlier project Simulation in the Working Community as a Tool for Company Growth and Development (Työyhteisösimulaatio yritysten kasvun ja kehittämisen välineenä) (Niemi et al. 2020). It was also deemed to be suitable for discussing issues concerning multiculturalism and employment. Real-life phenomena were brought up and covered in an authentic and goal-oriented manner. Examining the phenomenon was defined as the objective and meant that the simulation did not look for easy or unambiguous, clear answers. Mutual brainstorming and sharing of information and experiences were needed (cf. Niemi et al. 2020, 5).

A simulation differs from a regular discussion in many ways. Working on concrete situations brings important viewpoints into the discussion. However, a phenomenon simulation is not about learning a new skill through simulation but using simulation to process the meta level of issues (Niemi & Virtainlahti 2019). In this project, the simulation's added

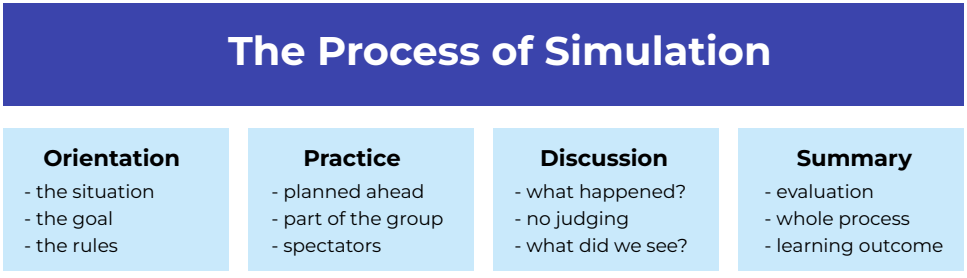

Image 1. The simulation process.

value was the method itself. It depicted the phenomenon being examined to the specific working group and the views that each participant had of the phenomenon.

Seven different simulations

In the Simulation of Multicultural Encounters to Promote Society's Receptiveness project, seven simulations with different participant compositions were organised on issues concerning employment and culture. In some of them, the discussions were based on descriptions or videos of various real-life situations, while some covered more general themes. Manuscripts were prepared for all discussions ahead of time. The manuscripts were based on information obtained from interviews with entrepreneurs and immigrants and on real-life situations.

However, all discussions applied the simulation method in that they all included a spectator or spectators. The discussion participants knew that the spectators were present but could not see them. In this manner, the simulation method's idea of observation and reflection being essential aspects of the activities (Niemi et al. 2020, 5) were realised in each discussion.

Image 2. Observation is an essential aspect of the simulation method. A photo of a business economics simulation. (Image: Heli Kamaja)

The simulations targeted four very different sectors. The nursing, passenger transportation and logistics sectors each had two simulations, and highly educated talents in the business sector were invited to one simulation. The simulations were carried out from April to June 2022. Since not all participants were familiar with the term "simulation", a decision was made not to use it but instead, to talk about a joint discussion—this helped to focus on the matter being covered (Eerola & Kamaja 2022). However, the principles of the method were described to the participants at the beginning of the simulation session. The participants of all simulations included both employer representatives and immigrant employees.

The starting point of many simulations was a case in which problems had arisen for some reason between a supervisor or a working community and an employee with an immigrant background: in the nursing sector, a work placement had been interrupted, and in another situation, an employee felt they had been treated differently from nurses who were native Finns. In the logistics sector, a forklift operator had caused damage costing thousands of euros. In passenger transportation, poor language skills often give rise to problems since drivers do not always understand the meaning or the message of the company's internal guidelines and subsequently are not able to take correct action.

The business economics simulation took a more general approach to the matter. The simulation aimed to invoke discussion on why an international employee could not find work in Päijät-Häme. In two cases, the topic was approached both through the immigrants' own experiences and the employers' observations. After these initial discussions, dynamic facilitation methods were applied. Dynamic facilitation is recommended particularly when the issue at hand is complex, and the goal is to find new, creative solutions. It approaches the topic by means of a solution-oriented statement which is viewed from four angles: first, the core question is defined; second, the facts are presented; third, concerns are brought up; and finally, solutions and alternatives are introduced (Karreinen 2014).

Recurrent and individual themes

The workplace situations covered in the simulations were authentic although not experienced by the participants themselves. The viewpoints of all participants on the situations were taken into account in the discussions, while causes and consequences were contemplated, and improvement solutions were sought. Nearly all discussions brought up the adequacy of induction and the importance of communication and having the courage to ask questions. Thibault et al. (2022, 63) point out that the induction

should be a two-way process—it trains both the working community and the employee. Another recurrent theme in the simulation was recruitment. The passenger transportation simulation covered ways to approach an employer. The logistics sector simulation involved a selection between a native Finn and an immigrant applicant as well as contemplation on the selection criteria and why an employer would find it easier to select a Finnish applicant. The business economics simulation also covered recruitment on a general level.

Shared themes in all discussions included the different position of the immigrant compared to jobseekers who are native Finns, as well as cultural differences and communication. In other respects, the simulations differed considerably: the nursing sector simulation focused on cultural understanding, whereas in the passenger transportation scenario tangible factors making daily life easier were central.

The participants' language skills were a major factor in the simulations. All of the events were conducted in Finnish, but the participants' language skills were not always on a level that allowed fluent discussion in all respects. Language skills were also discussed to a certain extent, especially in the context of induction. However, the organisers also tried to guide the participants to talk about other factors than the importance of the Finnish language.

Targeting companies through a communication campaign

Although the Simulation of Multicultural Encounters to Promote Society's Receptiveness project examined the questions from the perspectives of both immigrants and employers, the main target group of the project were employers. After the simulation, they were approached through a communication campaign with the key message of considering diversity and multiculturalism as assets.

The starting point of the communication campaign focused on the core messages discovered in the simulation discussions, which included: multiculturalism as an asset, the importance of dialogue, and the significance of listening and asking questions. These messages were presented with a positive approach, focusing on electronic communication channels. The campaign plan was drawn up in accordance with a traditional model (see, for example, Juholin 2022) by defining the following seven factors:

- objective
- target group
- contents and methods
- channels
- schedule
- resources
- monitoring and indicators.

Three target groups were defined for the campaign: first, the employers in the region; second, the public; and third, the stakeholders of the project actors, including partners and future students. The public outreach included the presentation of success stories in which both immigrants and employers shared their experiences. These stories were provided in the form of both short videos and podcasts. Quick teaser videos based on the success stories, as well as social media updates were used to raise the stakeholders' interest.

Clear demand for several projects

The Simulation of Multicultural Encounters to Promote Society's Receptiveness project by no means tackles the project's core issue alone, but there are various initiatives both in the province and nationwide that aim to achieve similar objectives. There is clear demand for several concurrent projects: it is critical for Finland to both attract new talents and retain the existing ones. Today, all too many people with immigrant backgrounds move abroad to study and stay there. In addition, many international students who have come to study in Finland move abroad to work as soon as they graduate. As the population structure continues to change, we will soon face a situation in which we must be able to address the international demand in the labour market in a timely, innovative and flexible manner (Thibault et al. 2022, 11).

The Working Life Diversity Programme of the Ministry of Economic Affairs and Employment is divided into several projects, of which the most interesting locally is probably the free-of-charge IMAGO coaching project for companies. The coaching largely focuses on building an employers' company image and developing management skills that support diversity (Työ- ja elinkeinoministeriö 2022). The "Recognizing International Talent" project by Väestöliitto develops new methods that help recognise and trust the foreign competence offered by the talents. Companies that recruit highly educated workers are its main target group (Väestöliitto 2022).

The Results through Diversity in Working Life – Regional Project in Häme (Työelämän monimuotoisuudella tuloksiin – Hämeen aluehanke) project, funded by the Finnish Institute of Occupational Health, will be completed in the Häme region at the end of the year. Its principle is to increase the understanding of diversity management, age management and multiculturalism in the region (ELY-keskus 2022).

The Simulation of Multicultural Encounters to Promote Society's Receptiveness project was implemented jointly by the LAB University of Applied Sciences and Salpaus Further Education. The project will be completed at the end of 2022, but its impacts and the need for dialogue and communication will continue. The materials produced in the communication campaign will remain freely available after the end of the project on the joint website (Osaamisenpaikka) of various actors. In addition, the modelling prepared from the simulations will be available for different parties: there have already been plans to apply it in personnel training provided in passenger transportation.

It is clear that discussion about the benefits and challenges of immigration will be needed in the future as well. There is a strong intention on the national, provincial and local levels alike to continue this discussion, as indicated by the aforementioned Government programme, immigration programme and TYÖ2030 programme. For its part, the Simulation of Multicultural Encounters to Promote Society's Receptiveness project has focused specifically on invoking discussion and, hopefully, has created new initiatives that continue to live on.

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Ulla Huhtalo, Outi Jokinen, Reetta Konttinen & Maina Seppälä

Facing the challenges of increasingly diverse working life – Everyone's contribution will be needed

Unemployment figures among young people across Finland, and particularly in Päijät-Häme, are high. At the end of April 2022, there were 238,789 unemployed jobseekers in the entire country. In Häme, there were 17,833 unemployed jobseekers, of whom 3,214 were aged 29 or under. Correspondingly, there were 8,023 job vacancies in Häme (Hämeen ELY-keskus 2022). The term "unemployed jobseeker" covers jobseekers without employment as well as jobseekers laid-off from their jobs and economically inactive jobseekers (Työmarkkinatori 2022).

Issues that need to be solved for the employment situation to improve include a skills shortage, structural unemployment and population ageing. Sanna Marin's Government has set a goal of a 75 percent employment rate. A high employment rate requires not only a well-functioning labour market and active employment policies, but especially support for the hard-to-employment job seekers access to the labour market. For the goal to be achieved, Finland must increase the labour market participation of people with partial work capacity, the hard-to-employs, young and ageing people and people with an immigrant background (Valtioneuvosto 2021). The government sees the greatest potential for increasing employment rates among groups with a low employment rate, including people with partial work capacity. There are an estimated 65,000 people with partial work capacity but no job in Finland (Terveyden ja hyvinvoinnin laitos 2021).

Both job seekers and employers need support for job matching. The reality behind the figures is that some jobseekers need long-term and comprehensive support to be employed. Another aspect that needs consideration is that many of those employed or seeking employment do not currently meet the job criteria. Various forms of subsidised employment provide flexible ways to find employment. Studies suggest that employers need knowledge and support in supporting employment. Attitudes also play a significant role in the employment of people with partial work capacity. The influence that negative attitudes have on the employment of people with partial work capacity has also been acknowledged in public debate (Lämsä 2015; Oivo & Kerätär 2018; Ala-Kauhaluoma et al. 2016).

Diversifying working life requires us to improve workplace communities' receptiveness and appreciation of diversity and different skill sets. What is needed is a readiness to encounter different people from different backgrounds. Diversity skills are a highly topical phenomenon as part of managing workplace communities. Identifying the significance of each employee's skills and resources and their potential is likewise a factor that increases an organisation's competitive advantage and wellbeing at work. Through this identification, we can move on to practical measures which enable equal inclusion, membership and participation in a workplace community for everyone (Härkönen & Visti 2005, 12-13). This is the rate of inclusion, which is deeper than integration.

The diversity of working capacity

Working capacity means a person's functionality and professional skills in relation to the requirements of their work. Working capacity varies throughout one's life and life situations, and it affects a person's ability to find and retain employment and advance in their career. A person has the ability to work when their resources are in balance with the work's requirements. A situation in which the requirements of a person's work do not match their resources is usually referred to as partial work capacity. Partial work capacity may be the result of an injury, illness, life situation or insufficient competence, for example, and it may be either temporary or permanent. Given that the reasons for and duration of partial work capacity are individual, people with partial work capacity make up a very diverse group of people. A person with partial work capacity can achieve full working capacity when their work is adapted to their capacity through the customisation of their tasks and working hours and conditions, for instance (Terveyden ja hyvinvoinnin laitos 2019).

In Finland, the term "*partial work capacity*" has recently been joined by the concept of "specified work", which refers to a person's ability to perform a specific task in full. A person with specified work capacity has the ability to perform a customised work task or assignment. When work tasks are redefined according to a doer's abilities, the doer has full working capacity in terms of the tasks in question (Huhtalo & Jokinen 2021).

The Finnish Institute of Occupational Health depicts working capacity as a four-storey house, in which the lowest three storeys consist of personal resources – including health and functionality, skills, and values, attitudes and motivation – whereas the top floor houses work itself, management and working conditions. The work ability house is surrounded by human networks. In this model, the responsibility for working capacity is divided among an employee, their employer and society (Työterveyslaitos 2021b).

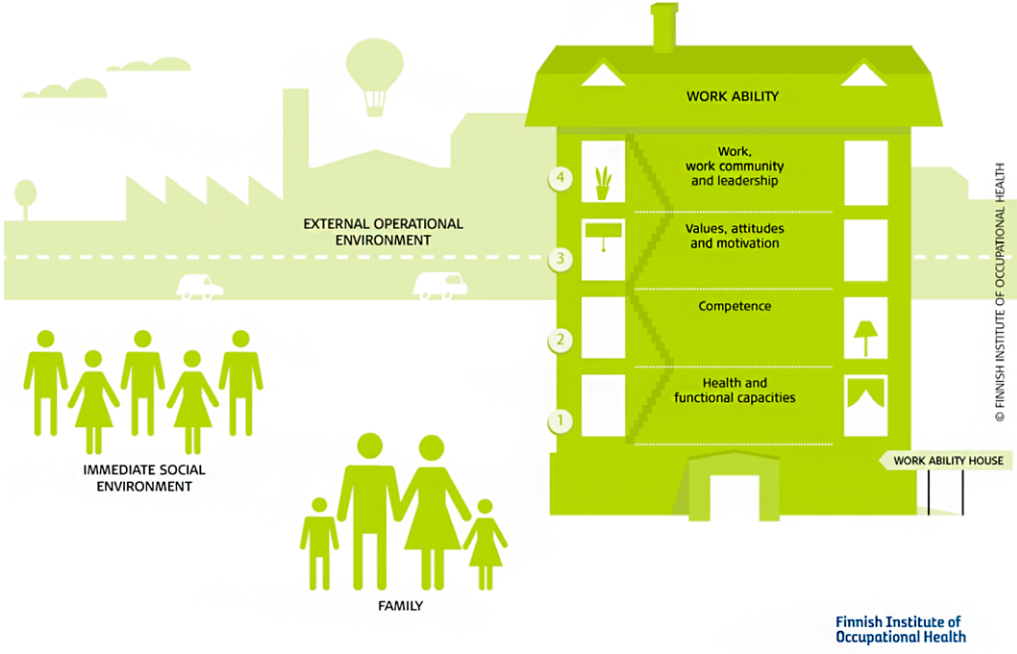

Image 1. The work ability house describes how working capacity consists of different parts. (Image: Finnish Institute of Occupational Health 2021)

The STEPS project – Support for finding and providing employment

STEPS – This project focuses on responding to challenges that young people aged 29 or under with partial work capacity in Päijät-Häme encounter on their path to employment. The project helps young people with partial work capacity to identify and put into words their own potential and develop their working life skills through personal and group coaching. The project is based on the idea that if a young person with partial work capacity is provided with the right kind of support at the right time, they will have the readiness to find employment on the open job market after a period of subsidised work or other service promoting employment (ASKELMAT-hankesuunnitelma 2021).

One of the project's activities consists of holding joint workshops for young people and representatives of workplace communities. The workshops function as a forum for young people and working life, and the information gathered through them can improve the readiness of workplace communities to provide employment for people with partial work capacity. Through knowledge sharing, this knowledge is passed on, as applicable, to businesses.

Image 2. Successful cooperation requires dialogue. (Image: Outi Jokinen)

Using co-creation to improve workplace communities' diversity skills

The workshops of the Steps project have co-creatively examined the employment paths and shared working life skills of young people with partial work capacity, particularly from the perspective of diversity skills. The workshops aimed to make shared findings that facilitate the step-by-step transition of young people with partial work capacity from an inclusion path to work or studies, and to strengthen a young person's skills in identifying and bringing out

their own skills in relation to the skills needed in working life (ASKELMAT-hankesuunnitelma 2021).

In terms of workplace communities, the workshops focused on any methods that workplace communities have found meaningful in working with young people with partial work capacity and supporting their advancement toward working life (ASKELMAT-hankesuunnitelma 2021). The workshops collected good practices which have been used in guiding young people with specified work capacity, and reviewed other necessary methods and skills supporting employment.

Young people with partial work capacity were heard in their own words, particularly in their own workshops, which focused on the participants' individual strengths and resources as employees, and on the needs and expectations that hopefully would be considered in their growth to the role of employees. Young people described their own paths and support needs in great detail, and the theme that emerged from these descriptions across the board was one of strong individuality and customisation that continues throughout people's careers, starting from the job search phase.

Based on the experiences gathered in the project, people with partial or specified work capacity are fairly motivated and committed as employees, as long as their potential is identified and acknowledged at the workplace. The message voiced by the young people involved in the project is that they want to be seen as equal employees with skills and something to contribute to the workplace community, regardless of any special needs they may have. They want special needs to be responded to openly and humanely, with proper appreciation.

What this requires from workplace communities is a favourable attitude towards change, openness, and an accepting atmosphere, as well as a new way of managing human resources. A workplace community's operating culture may need to be reviewed, and habitual customs and attitudes reconsidered. Tasks must also often be reorganised for a person with partial or specified work capacity, which requires the skill to review job descriptions from alternative perspectives.

Image 3. What we can see; what is hidden. Most people's abilities may be invisible. (Image: Outi Jokinen)

Impediments and good practices for the employment of people with specified work capacity

One of the workshops' significant findings is that the employment of people with specified work capacity requires special competence and the reworking of attitudes at a societal level. While it seems that the means for employing people with specified work capacity are not yet known to a sufficient extent, this also applies to the opportunities and resources that the employment of people with specified work capacity could provide workplace communities with on a broader scale. The customisation of work tasks at an individual level is still rather foreign to our working culture, and there are not that many practices for different ways of working.

The obstacles to employing people with specified work capacity at the level of workplace communities include productivity thinking, a lack of information, and issues involving the use of time. Nor do workplaces often possess the will to pause, take a step back and address the issue. Instead, people with partial or specified work capacity are still seen as a limitation, and this prevents the issues from being addressed properly and thereby these people's access to the labour market. The data collected from the workshops provide very strong support for studies which have surveyed support for the employment of people with partial work capacity, according to which workplaces need both knowledge-based and attitudinal skills to support the employment and guidance of people with specified work capacity (Lämsä 2015; Oivo & Kerätär 2018; Ala-Kauhaluoma et al. 2016).

Even so, the third-sector operators who participated in the workshops also have positive experiences of the guidance of people with partial or specified work capacity and effective operating models related to the promotion of their employment. Based on their message, what should be at the core of good practices in guiding people with specified work capacity is the consideration of individuality in encounters and all activities. This means several customised tasks, flexibility, compromises, understanding and empathy, as well as genuine encounters and being heard. It is therefore not enough for a mentor alone to understand the basic elements of the guidance of a person with specified work capacity, for example. Rather, genuine diversity skills require structures and processes that support diversity at the level of the whole organisation.

When workplaces have the skills and will to look for various options, practices and solutions, they are also opening views to the opportunities brought about by diversity and for taking advantage

of them. However, the premise for strengthening a workplace community's diversity skills is openness and increasing awareness.

The material gathered from the workshops shows that the young people in the target group and involved in the project, as well as local third-sector operators, are essential sources of information when it comes to a more diverse working life. Third-sector operators are important wage-subsidy employers and enablers of work try-outs in Finland. They also have experience of effective practices and methods that support young people in the path to employment.

Third sector supporting diversity

In public debate, non-profit institutions are considered third-sector operators. Third-sector activities are described by the terms "general interest", "non-profit", "community cohesion", "voluntariness" and "civic activism". The third sector has a strong position as a service provider and the services of many institutions and organisations began quite a bit earlier than the corresponding activities of local governments. The activities of many organisations in the social sector, in particular, have developed not only into important services that require special expertise, but ones which generate new data and individual solutions (Pihlaja 2010).

The objective of employment services is to improve the labour market position and income of the unemployed and to reduce the costs incurred by local governments due to unemployment. Employment services support a customer's path to the open job market.

What is referred to as the "intermediate" labour market is made up of the services between unemployment and the open job market, such as wage-subsidised work, work try-outs, coaching, training and workshop activities which increase the opportunities for a transition to working life. The intermediate labour market also refers to "active" social policy, in which rehabilitative exemplary employment and exemplary employment pursuant to the Social Welfare Act are used in efforts aiming to strengthen functionality, increase skills and improve life management (SOSTE 2019).

At the beginning of the path to employment, one can often find various low-threshold services which increase inclusion. The next level consists of workshops providing coaching for work, various coaching programmes and social enterprises. Social enterprises employ people in a weak labour market position.

Third-sector operators play an especially important role in the intermediate labour market as providers of employment services (SOSTE 2019).

In the employment services of people with specified work capacity, the third sector operates by:

1. hiring people with specified work capacity for the implementation of their own business
2. supporting the employment of people with specified work capacity by strengthening their skills and readiness for working life

or

3. combining the model of support and hiring by hiring a person in the business of their own institution and simultaneously coaching them for their next job, for example (Lindberg 2022).

An Employment Office can grant an employer a wage subsidy for the wage costs of an unemployed jobseeker. A wage-subsidised job must promote an unemployed person's placement in working life. The Ministry of Social Affairs and Health has an aid programme aiming to promote the employment of hard-to-employ individuals by social welfare and healthcare organisations. These grants are appropriated by the Ministry of Social Affairs and Health and governed by the Funding Centre for Social Welfare and Health Organisations (STEA), a state-aid authority operating in connection with the ministry.

Third-sector operators have traditionally employed the hard-to-employ and people with specified work capacity. According to the statistics of SOSTE (Finnish Federation for Social Affairs and Health), nearly two thirds of national social welfare and healthcare organisations have provided opportunities for employment within their organisation to people in a weak labour market position over the last two years. Roughly 40 percent of these organisations have had people in work try-outs. More than a third of the organisations have employed persons with the help of wage subsidies and every sixth of them in ordinary employment relationships. Almost one in ten of the organisations have provided rehabilitative exemplary employment and apprenticeships to hard-to-employ job seekers (SOSTE 2022).

The Ministry of Economic Affairs and Employment has prepared a government bill to reform the wage subsidy system. The government aims to simplify the regulations applicable to wage subsidies and thereby increase the use

of wage subsidies, particularly in business enterprises. The government bill includes amendments applicable to employers for whom 100 per cent wage subsidies could be granted (Työ- ja Elinkeinoministeriö 2022). The 100 per cent wage subsidies of organisations have allowed them to offer a path to working life to people who need more support and coaching to find work and for coping with work. The organisations fear that the reform will reduce their future possibilities to employ job seekers who need special support and that, as a result, a group of people will be permanently excluded from the labour market (Kiiskinen 2022).

From try-outs to practices

There is an ample number of services, studies, means, projects and benefits for building a more diverse working life. The abstract of "The impact of wage subsidies – an evaluation of the wage subsidy system and its reforms" (2018) states, on the impact of wage subsidies granted to the third sector, that the impact on earned incomes following the wage-subsidy periods of those who have found employment due to the subsidy has been very small on average, and that the impact on employment has not really been apparent. Based on the evaluation's results, one can say that wage subsidies allocated to the municipal sector neither promote unemployed jobseekers' employment following a subsidised period of employment nor increase their earned income. Based on the results, wage subsidies allocated to the municipal sector and other private operators do not therefore seem to be an effective instrument for creating more permanent jobs in these sectors (Asplund et al. 2018).

Organisations have developed different operating models for the support of hard-to-employ individuals. Support and services for people with specified work capacity have been developed so that they account for individual needs and enable individual service paths. There are several guides for building a more diverse working life that offer different approaches to the task. Some of the guides focus on, among other things, the building of diverse workplace communities, supporting the employment of disabled people, strengthening the multiculturalism of workplace communities, or finding employment for job seekers with partial work capacity.

For the broader application of these models, we need further information about specified work capacities and the diversity of workplace communities, as well as support for hiring individuals with specified work capacity and their guidance at work.

There should also be more discussion on specified work capacity within workplace communities.

Although most employers have a positive attitude towards recruiting individuals with specified work capacity, they still account for a small share of those hired. In an interview with Helsingin Sanomat (Mutta kaikki ei ole hyvin, 27 August 2021), Sari Salami, who trains organisations in diversity, describes the structural challenges and discriminatory practices still identifiable within workplace communities. Salami notes that if one wants to promote diversity, one must engage in conscious work that aims to dismantle prejudices and build more diverse teams (Luoma-Aho 2021).

Experiences make attitudes more open, and various models and the examples described in them on the good practices of hiring and guiding job seekers with specified work capacity support the formation of diverse workplace communities.

Toward a diverse society with the help of diverse means

The number of adults in the Päijät-Häme area without a degree beyond comprehensive education is relatively high. To some degree, this lack of degrees is structural (Päijät-Hämeen liitto 2019). This being the case, the measures aiming to fix the situation must focus on structures, in addition to individuals. In the field of working life, the structure is formed by multiple operators of various kinds. The third sector functions as a strong rehabilitative and guiding party supporting and employing people with specified work capacity and others in need of support. Even so, the third sector's role is not always seen as part of the network formed by other services, nor is it known how the third sector should be placed within this network. With its own work, the Steps project aims not only to make various stories of specified work capacity and employment visible, but to do the same for the work carried out by different operators. This can be achieved by engaging in working life cooperation with organisations and operators as varied as possible.

What is needed in this field of employment management is indeed everyone. As is the case with the world in general, diversity is richness, also in the context of working life. While Finnish society has become more tolerant and diverse by many different measures, work and working are still strongly associated with various stereotypes. Proverbs about hard work and a protestant work ethic are very nearly a source of pride. This contributes to an image of working life as characterised by pressure and

challenges – an almost scary place. If you then combine this with any possible challenges in an individual's life – say stressful factors involving coping, mental health, physical ailments or social life – the transition to working life may seem an almost impossible feat. For this not to happen, what is needed for the path of a young jobseeker is an extensive network of cooperating operators.

Inclusion

In addition to a network supporting a person with specified work capacity, we need receptive workplace communities that welcome these persons and possess an understanding and the skills needed to promote diversity in the workplace. In line with the spirit of our times, many organisations claim to be diverse and responsible, but sometimes we need concrete tools in addition to strategy statements. To start with, it may be a good idea to define what responsibility and diversity mean in general, and what they mean in the practices and measures of precisely one's own workplace and organisation. The review can start from how well accessibility and inclusion are realised in recruiting practices.

Social inclusion refers to the entire process in which an individual feels included in an aspect of their own life (work, a hobby, free time, place). This article examines social inclusion from the perspective of working life and as a theoretical concept with roots in social studies (Leeman et al. 2015).

The concept of inclusion has been used in theoretical discussions for a long time, usually alongside exclusion, in reference to solidarity in society. Inclusion has referred to successful solidarity, while exclusion has referred to unsuccessful solidarity (Leeman et al. 2015).

Rather than being a permanent state, social inclusion is a changing, dynamic process, which allows the prevention of poverty and marginalisation, and participation in society. For an individual, the process offers opportunities and resources, promotes skills and abilities, and guarantees what we all need for a life worth living (Leeman et al. 2015). The National Development Plan for Social Welfare and Healthcare (Kaste Programme) names the groups at risk in connection to social inclusion, these being the unemployed, particularly the long-term and hard-to-employ unemployed, homeless people, immigrants and ethnic minorities, the disabled and people with partial work capacity, as well as people recovering from mental health problems or substance abuse (STM 2012).

The need for concrete tools promoting diversity

Various tools and guidelines promote social inclusion and diversity in working life. One of these is the equality guide (Yhdenvertaisuusopas) published by the Occupational Safety and Health Administration, which provides an extensive overview of the issue and checklists that can be applied in various organisations (Työsuojeluhallinto 2019).

The Finnish Institute of Occupational Health has also compiled brief tips for everyone thinking about recruitment, for example. In the tips, the institute notes that diversity has been shown to offer several benefits, including innovation, creativity and financial profitability, but that diverse personnel alone cannot yield these benefits. Instead, diversity must also be managed to allow the benefits to be tapped (TTL 2021a). There are already businesses in Finland that train companies and various workplace communities in how to make their recruitment and other practices socially responsible.

Take-away meals picked up from restaurants have been available for a long time, but they have never been as popular as now, following the development of apps which give people the chance to order home deliveries with their smartphones. Perhaps labour markets also need technical auxiliary devices and digital applications to match work customisation and different tasks to different customers. An interesting and effective app needs to be developed in cooperation by all those concerned: companies, professionals working on employment issues, jobseekers with partial or specified work capacity, and people with the required technological expertise.

Many global companies have understood their corporate social responsibility related to inclusive working life and its impact in an equal world. These companies have their own responsibility plans and directors who work on these topics. Netflix's VP, Inclusion Strategy, has summed up the fine distinction between diversity and inclusion as follows:

> *"Diversity is being invited to the party; inclusion is being asked to dance"*
>
> (OMD EDEA 2020).

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Sanna Kangas, Kati Kiiski, Saara Heikkonen & Mikko Ruotsalainen

Examining working life cooperation in wellbeing at work projects through evaluation research

Working life is in the middle of continuous transformation, and changes taking place in work also create challenges for wellbeing at work. The renewing requirements and preconditions of work increase the physical, psychological and cognitive stress caused by work. It is important to identify the challenges and problems in work so that they can be prevented, and solutions can be found that ensure wellbeing at work and productivity. One of the key methods for identifying risk factors that cause stress and problems is co-creation, which takes place within the working community and organisation and in cooperation with working life actors and wellbeing experts (Kangas 2022).

Working life cooperation between higher education institutions and working life actors helps develop activities, increase awareness and competence, and improve wellbeing at work in the organisations (Vänskä 2022). To provide prerequisites for development, openness to development and increased competence are required, so that problems can be identified, and solutions to them can be sought by means of the right tools. Preventing and addressing problems in wellbeing at work affect work productivity, and a strong positive link has been found between wellbeing at work and productivity. This can be seen in the various performance indicators used by companies, for example. The key prerequisites of high performance and increased productivity include high levels of personnel wellbeing at work and personnel's contribution to work (Kangas 2022; Vänskä 2022, 148).

Challenges faced in the development of wellbeing at work in information-intensive work were addressed in the

"Promoting productivity and welfare in knowledge-intensive organisations" (TIETOINT) project implemented by the LAB University of Applied Sciences and funded by the European Social Fund. The project stemmed from the work of experts and cooperation with companies along with the rapid development of the sector and the increased experience and research data. The project was implemented in 2019-2021 and focused on wellbeing at work, supervisory work and management in the information-intensive sector, with company profitability and vitality as the crosscutting themes. The objective of the project was to improve productivity and personnel wellbeing in small and medium-sized enterprises and information-intensive sector organisations in the South Karelia region.

The project measures supported the development competence of companies and strengthened the culture of co-creation both within the organisations and in cooperation with other parties. One of the key measures in the project was the development process implemented in cooperation with all the companies that participated in the project. The process covered the challenges and development areas of wellbeing at work in each company. In these processes, the core elements were the importance of cooperation and the engagement of personnel in the different stages of the process to ensure that the development measures would continue, and the results would also be visible after the completion of individual processes. The project and the cooperation with companies provided an opportunity for small companies to participate in co-creation, the outcome of which was a jointly implemented development process which increased the companies' and their personnel's competence in identifying risks affecting wellbeing at work and in learning to solve them.

Evaluation research as a method

Evaluation research methods can be used to examine the impacts of certain measures or inputs on the change taking place in the state of the target being evaluated. In addition to evaluating the impact of change, evaluation research can be used to assess the development measure taken (Jokinen). Generally, evaluation research is used to evaluate the impact of a public sector activity or measure, and specifically in the field of wellbeing (Jokinen).

As the name indicates, evaluation research evaluates the impact of a measure. Although evaluating project activities may not always strictly meet the criteria of scientific validation, the evaluation criteria and the activities must

be systematic. According to Jokinen, a person conducting evaluation research presents their view of whether the activity resulted in the expected impacts. As stated above, evaluation research suits the evaluation of development measures or change. Development projects nearly always include both.

In evaluation research, there is plenty of leeway in terms of the criteria by which the evaluation target is valued. Public development projects often apply the funding party's criteria concerning whether the project was successful, and whether the objectives set in the project decision were met. However, evaluation research methods can also be used to assess the success of "the development of development". Unfortunately, such assessment is often quite minimal after the funding party's required follow-up reports have been completed, and follow-up stages have been carried out.

Reviewing the project by means of evaluation research methods (usually after the project has ended) benefits the development competence of the entire organisation and thus ensures a higher quality of development in future.

However, it should be kept in mind that the persons and parties who participated in the project cannot, according to scientific practice, conduct evaluation research on their own activities (Jokinen). Of course, evaluation research methods can be applied to conduct high-quality self-evaluation. However, evaluation research of project activities can be conducted in the organisation if evaluation research applies cross-evaluation methods. In the RDI activities of universities of applied sciences, development work is a key activity form. Evaluation research is also a good method for developing this development activity, specifically in the form of cross-evaluation between projects.

If the intention is to conduct evaluation research on a project, resources should be allocated to it when the project starts or even earlier, at the project planning stage. This will ensure the quality of the actual evaluation study. If no actual external evaluation is available in the project, cross-evaluation between different projects should be used. It affords an opportunity to apply more extensive evaluation research competence and for its part, strengthens the high quality of development work in the organisation.

The table below shows the key differences between quantitative and qualitative evaluation research. It is important to be systematic when conducting evaluation research in the project, and an evaluation study can be scheduled for implementation in good time before

or immediately after the project begins. If the project is viewed as an independent activity through self-evaluation methods after it ends, qualitative evaluation research may be a more flexible model. Of course, overlapping and cross application of these models are also possible (Jokinen), for example, so that the actual evaluation study (cross-evaluation between different projects) is conducted by means of quantitative evaluation research methods, while methods of qualitative evaluation research are applied in the self-evaluation.

	Quantitative Evaluation Study	Qualitative Evaluation Study
Observation material	Exact and sufficiently representative data base in use. Registers, statistics and survey materials.	Any material that highlights an important aspect of the projects. The focus is on both effects and processes.
Constructing evaluation criteria	Observable effects, input-output models, use of comparison groups, statistical significance testing.	The criteria cannot be completely decided in advance. A realistic assessment of what works for whom and in what context. Partners play a role here alongside the researcher.
Perception of the role of avaluation research	Evaluation research is a condensing of information and aims to increase certainty.	Evaluation research is primarily an interactive activity that increases understanding of the project. The meaning is based on a credible vision and negotiation, but unanimity is not sought.

Table 1. Key differences between quantitative and qualitative evaluation research. (Table: Jokinen)

Cooperation with companies in projects

Higher education institutions strive to develop cooperation with companies in their region. The companies' objectives in cooperation with higher education institutions usually include recruiting new employees, using new technology or competence and developing their own innovation activities. Companies would like higher education institutions to actively contact them to map cooperation opportunities (Työ- ja elinkeinoministeriö 2018).

Launching cooperation with companies in projects takes time and requires building trust between the university of applied sciences and the company in question. In project work, the time allocated to the development of cooperation is limited. For continuity, it is important that the required and sufficient resources for cooperation with companies are secured through the commitment of the management and the strategic choices of the universities of applied sciences. Maintaining the partnerships requires active management of relationships and recurrent company visits (Päivölä et al. 2016, 29-30).

It is common in project-based activities to tackle working life challenges and solve them by implementing changes, deploying a new strategy, or reallocating resources. In projects, higher education institutions use various cooperation networks, development subsidies and grants for project-based development (Vänskä 2022, 63). The different development tasks of working communities can be completed in project cooperation, which also enables the definition of the development schedule and resources and thus the achievement of good results.

However, transferring and deploying the results in practice in working life depends on the participating organisations' experience and their preparedness to carry out project-based development (Vänskä 2022, 64). Successful project cooperation also requires active exchange of information and a shared view of the project objectives and measures between the different actors. Proper management of information and ongoing interaction make it possible to manage and conduct project cooperation that meets the expectations of different parties (Vänskä 2022, 64-68). Project cooperation also helps increase the participants' experience of inclusion and communality (Vänskä 2022, 148).

The TIETOINT project's measures showed that the most important aspects of development work facilitated by the project were clear, open and interactive activities, and inclusion. Development and its targets and implementation concern the organisation's entire personnel. Integrating the development work as a systematic part of the daily activities of

the organisation and its employees is key. Participation in the development of wellbeing at work and the improvement of productivity also serve as motivators to apply good ideas and plans and deploy them in practice in daily work (Kangas 2022).

The project and cooperation with companies provided an opportunity for small companies to participate in co-creation, the outcome of which was a jointly implemented development process which increased the companies' and their personnel's competence in identifying risks affecting wellbeing at work and in learning to solve them (Kangas 2022). Increasing the development competence would be impossible without the expert assistance facilitated and provided by the project. In this context, cooperation with companies in which the expertise provided by the higher education institution was aligned with working life settings and workplace needs provided a productive foundation for project-based development work.

Developing wellbeing at work in cooperation with companies

The TIETOINT project applied several different methods to collect information about the wellbeing at work of the companies' personnel. First, personnel were sent links to two surveys: a personal radar survey and a cognitive ergonomics checklist.

The personal radar survey provided by the Centre for Occupational Safety evaluates personnel's view of their own wellbeing at work and working ability. The survey is based on the "house of working ability" (Työkykytalo) model, developed by the Finnish Institute of Occupational Health, and maps the wellbeing at work of employees at the time of completing the survey (Työturvallisuuskeskus 2022).

The survey includes 23 questions concerning the following aspects of wellbeing at work:

- Health and ability to function
- Competence
- Values, attitudes and motivation
- Work, working conditions and management
- Family and immediate community

The survey is a free-of-charge tool available for all, and users are required to set up an account to access the survey. In addition to the existing set of questions, the organisation can add 1-5 company-specific questions to the survey, depending on the organisation's needs. These questions can be modified and changed for subsequent survey rounds. The respondents' background information is collected in the survey for response filtering purposes. However, the survey is fully anonymous,

and no responses can be linked to specific respondents. The results can be viewed by question or sub-area or as a full set, and the organisation can use them as a basis of development (Työturvallisuuskeskus 2022).

The information provided by the personal radar survey was complemented by a survey based on the cognitive ergonomics checklist of the Finnish Institute of Occupational Health. It is an aid developed by Paajanen and Kalakoski (2017) which focuses specifically on wellbeing in information-intensive work and serves as a tool for conducting interviews and observing cognitive ergonomics. The cognitive ergonomics checklist includes ten items for evaluating how reasonable the cognitive requirements are, what the conditions of cognitive performance are, and what kind of cognitive stress factors are present in work. The respondent evaluates these items in their own organisation and work by using a scale indicating whether the items are OK, partly OK or not OK. The responses help review matters related to cognitive work in the workplace, examine one's situation in one's own organisation and identify potential problems.

The survey responses were compiled into reports that were reviewed with personnel in group interviews. This provided a more in-depth understanding of different questions and made it possible to examine the underlying factors. The discussion in these meetings was very open and often provided insights into matters that could not be directly derived from the survey responses.

A summary was compiled of the results of the surveys and interviews, covering various sub-areas related to wellbeing at work. It also highlighted potential development areas to which the company should pay special attention. The company selected one to three development areas from among these suggestions and continued to work on them independently. A short overview meeting was held with the company in 1-2 months to review the progress of the measures. Depending on the company, the development measures continued for 2-4 months. The same surveys were then completed again, and the results were compared to the initial surveys.

At the end of the development process, a futures workshop was conducted with the company. The workshop covered and assessed the realisation of the process, as well as future work in the company and its sector. The participatory workshop also evaluated the results of the development measures and the functioning of the process. The futures workshop was set up in Zoom, in which the participants were divided into small groups to discuss the topics. The assignments also included planning and evaluating how the development measures and their results

could be applied from the perspective of continuous development. The small group activities and the discussion among all the participants included sharing ideas and seeking measures to ensure the continuity of the operations and to deploy new operating methods as part of the company's operating culture.

The results of the development of wellbeing at work varied by company during the project. Some companies were better equipped to move forward with the development areas, while in others, the busy daily schedule hindered implementation. Some of the companies had just undergone considerable reorganisation or were in the process of restructuring during the project. This also affected the results and was reflected in the participants' wellbeing at work.

The comparison of the results of the surveys demonstrated improvement of wellbeing at work in all companies. The aggregation of the results of all companies showed that the wellbeing at work index in the personal radar survey improved by an average of 4.6%, from 8.3 to 8.7. The clearest changes took place in supervisor feedback (+14.6%) and supervisor support (+8.8%). Clear improvement also happened in trust in the employer (+7.6%), fair treatment (+7.4%), and appreciation received (+6.2%).

The development areas selected by the companies concerned the following topics:

- Increasing supervisor feedback
- Raising successes
- Clarifying documentation and updating instructions
- Increasing positive interaction and a positive atmosphere
- Clarifying processes
- Agreeing shared ground rules to ensure peaceful working conditions
- Supervisor training

It can be concluded that the results improvement was at least considerably due to the company's participation in the project, because improvement was seen specifically in the sub-areas of the selected development areas. On the other hand, the only item in the personal radar survey where the results weakened between the surveys was related to assessing one's personal working ability. Matters concerning it were not paid attention to in the companies' development measures, so the project activities also potentially affected it (Kangas 2022).

A review of the project's development process in different companies after the project ended showed that clear improvement had taken place during

the project. Comparing the first and the last company process shows a clear difference in terms of their progress. Applying the same company process in each company made it possible to adjust and improve the process in accordance with the observations made. Thus, developing wellbeing at work in the project requires that the project plan can be reviewed and updated as the project progresses (Vänskä 2022, 69).

Evaluating the success of cooperation with companies in the TIETOINT project from the evaluation research perspective

Since the implementation of an actual evaluation study had not been planned at the project planning stage, the project actors decided to conduct self-evaluation through evaluation research methods after the end of the project. Naturally, a final assessment was conducted on the project in accordance with the criteria defined by the funding party and an extensive final publication was released (Kangas 2022).

For example, the project self-evaluation could have covered how effectively the understanding of the importance of wellbeing at work improved in the target companies. However, from the perspective of developing the RDI activities, the project actors opted for a self-evaluation of the development process itself, using evaluation research methods. Nevertheless, the process of developing wellbeing at work was a key element in the project and a framework for such evaluation.

The entire project personnel participated in the self-evaluation of the development process in a workshop held on 6 June 2022. The workshop was facilitated by the project's first project manager, Kati Kiiski.

The self-evaluation assessed whether the project activities overall are agile and support rapid workplace experiments, because the required measures are defined at a fairly detailed level from the beginning. On the other hand, this approach was also considered to be necessary, because a process that is implemented in several companies simultaneously calls for systematic action on the part of the project's actors and developers.

The image below depicts the process, implemented in the project, of developing wellbeing at work in companies.

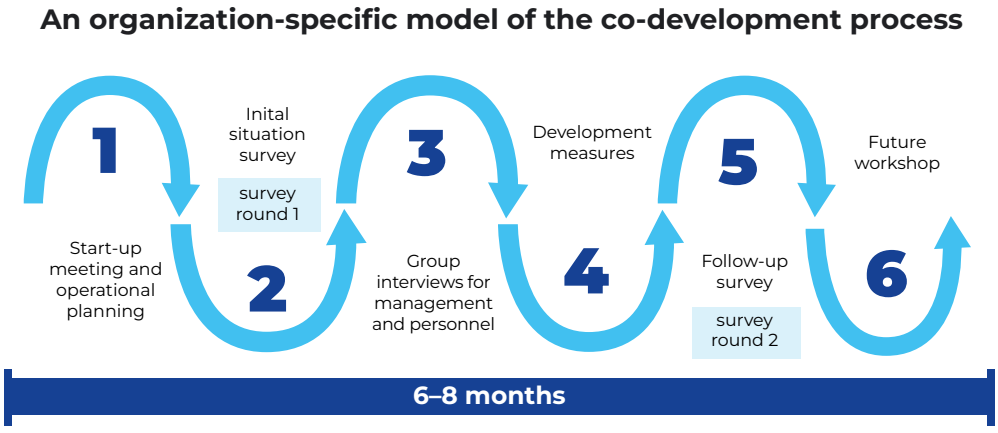

Image 1. Organization-specific operating model of the co-development process. (Kangas 2022, modified by Kati Kiiski)

The self-evaluation showed that the time allocated to the project – from 6 to 8 months – was insufficient in many companies. On the other hand, it was noted that when the company's process was precise in other respects, the development process also stayed on schedule. Frequent contacts with the company and agreeing schedules as early as possible were considered key factors. There was also discussion about whether the level of commitment to the agreed interim assignments was lower due to the fully remote meetings as opposed to in-person meetings concerning the process. The operations of some of the companies were seasonal in nature, which is why a regular project cycle was not an option. On the other hand, some companies said that they "*currently had no time for development*".

The self-evaluation indicated that the implementation of the development process improved as the project progressed, and the experiences of the companies increased. Thus, the process became more established and professional towards the end of the project. The evaluation process transformed into a service sales product because of the project.

Although the coronavirus epidemic may have caused commitment challenges, it potentially also increased the number of employees participating in the project in each company. The meetings organised flexibly via remote connections made it possible for larger groups to attend simultaneously.

According to the self-evaluation, item 4, "*Development measures*", in the image would have required more input and potentially, company-specific solutions. The project could also have developed new facilitation models for the development measures. Some companies took the initiative to independently integrate development measures in their operations, but the importance of sparring workshops related to the development process should be considered in any corresponding future projects.

In conclusion, based on the self-evaluation workshop, the project realised two key processes in practice: the information collection process (the surveys mapping and monitoring the company's situation) and the process related to the development of wellbeing at work. The former process was realised well in the project, but the development process itself would have required the support of more concrete tools and operating models.

The key elements of successful development in this project and in any future projects aiming to improve wellbeing were being aware of and preparing for the fact that co-creation was not a one-way process (from the project actor to the company) but as was the case here, works both ways. In addition, despite the strictly pre-defined framework, the development project must be able to operate flexibly and agilely in accordance with the needs of the target companies.

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Päivikki Lahtinen, Matleena Takaluoma & Anne Timonen

Working life cooperation in the Safety and Risk Management in the Social and Healthcare Business project

Working life cooperation and working life proximity in a university of applied sciences

Cooperation with working life is based on law. Based on section 4 of the Universities of Applied Sciences Act (932/2014), the key missions of a university of applied sciences include conducting applied research, development and innovation activities that promote industry, business and regional development and regenerate the industrial structure of its region. According to the Rectors' Conference of Finnish Universities of Applied Sciences, Arene, universities of applied sciences must also renew competence and meet the development needs of working life as well as regional regeneration challenges (Arene 2017). Working life in healthcare and social services is undergoing a major transformation, which is changing the professional qualifications of the sector's professionals. These changes also translate into a continuous need to change the content and implementation of teaching, so that the content of the sector's education can sufficiently anticipate the future competence needs of working life (Salonen 2010; Lehtonen 2014, 6, 21). According to both Raivio and Taatila (2018, p. 5) and Iivonen (2018), universities of applied sciences have played a key role in the creation of new innovation ecosystems, a key element of which involves the knowledge and skills produced jointly by institutions of higher education and research, as well as public administration, business and the third sector.

Laitinen-Väänänen et al. (2020) and Kangastie (2016, 14) discuss working life proximity, by which they mean learning processes' close connection to working life. Laitinen-Väänänen et al. (2020, 12)

divide working life proximity into three perspectives. The first two have to do with the perspective of working life, while the third is related to that of the student. The perspective of a university of applied sciences (hereinafter also UAS) includes further education and joint development projects, which can evolve from an idea that originates at a UAS or emerges from a working life need.

Working life cooperation can be executed in a number of ways at universities of applied sciences. The European framework describes higher education institutions' opportunities to implement working life cooperation through 14 different forms of cooperation, divided between teaching, research, skills transfer and administrative levels. At Finnish universities of applied sciences, the most typical of these involve teaching and research, with the actual implementers often being the students (Jääskö et al. 2019).

The research and development activities of universities of applied sciences increasingly focus on supporting education and enhancing small and medium-sized enterprises' and services' opportunities for renewal and regeneration. Companies, the business community and other working life constitute an essential part of the existence of universities of applied sciences and their development. Meeting the occasionally rapidly changing needs of working life must be one of the objectives of every university of applied sciences. To respond to this challenge, universities of applied sciences must make working life part of their R&D activities, teaching and studying. Working life proximity is also underscored when assessing impact (Kuninkaanniemi 2015, 11). According to Jääskö et al. (2019), working life cooperation, in addition to developing working life, aims to offer UAS students the opportunity to acquire skills through real and topical phenomena and to apply their theoretical skills to practical working life.

This article examines the realisation of working life cooperation from the perspective of a research project carried out in 2020-2022, in which the actual operators were the master's degree students of LAB University of Applied Sciences' Healthcare and Social Services programme in cooperation with the sector's enterprises.

Safety and Risk Management in the Social and Healthcare Business project promoting wellbeing in Päijät-Häme

The Safety and Risk Management in the Social and Healthcare Business project was launched against the backdrop of the coronavirus pandemic, classified as highly contagious, which spread around the globe from China in the spring of 2020 and was caused by the then hitherto unknown

Covid-19 coronavirus. In 2022, the fifth wave of the coronavirus pandemic continued to pose a significant threat to public health, particularly among the elderly. The pandemic caused financial difficulties and income losses to various industries, changed models of both working and studying, and had a wide-ranging impact on the wellbeing and health of people of all ages. It was also a significant crisis for Finland's business community (Honkatukia et al. 2021; Kestilä et al. 2020, 4-7).

Covid-19 is here to stay in the world's spectrum of diseases. The healthcare and social services enterprises producing care and nursing services in Päijät-Häme, their staffs, and students completing their degrees in the sector need new skills for the anticipation, preparation and development of risk management measures and health security operating models, and for future pandemics and other threats to public health. Crises and emergencies typically complicate the operations of companies, which is why it is of utmost importance that companies implement information-based practices that have an impact at such times. Harmonised processes and operating methods in risk management and self-monitoring increase service providers' ability to survive various crisis situations (Husso & Henriksson 2019).

The Safety and Risk Management in the Social and Healthcare Business project (European Social Fund, ESF) conducted by LAB University of Applied Sciences was involved in responding to the challenges posed by the Covid-19 pandemic in support of the region's healthcare and social services companies. The project focused on the healthcare and social services operators' need to increase their competence and know-how in relation to health security, self-monitoring and operational risk management. The project's target group consisted of the management, entrepreneurs and personnel of micro-enterprises and SMEs in the Päijät-Häme region, as well as their cooperation partners. The partners included employees of public sector organisations as well as other providers of social and healthcare services in the private and third sectors.

The Safety and Risk Management in the Social and Healthcare Business project aimed to improve competence and know-how in the enhanced management of the global coronavirus pandemic (hereinafter Covid-19) among the management and personnel of micro-enterprises and SMEs in the Päijät-Häme region's social and healthcare industries. This was pursued by focusing on aspects such as high-quality service chains, customer health maintenance, and patient safety at

companies providing care and nursing services. The project was implemented in 2020–2022.

Three shared training modules with identical content for social and healthcare companies and UAS students aiming for master's degrees were completed during the project. The first training module was implemented in the autumn of 2021, and the second in the spring of 2022. In these two training modules, the UAS students worked in close cooperation with the companies, preparing a risk assessment analysis from a Covid-19 perspective for the companies. Based on the risk assessment analysis, the students made proposals for the organisations on the changes needed to the content of their self-monitoring plans and on development measures involving the organisations' operating methods. The first two training modules were conducted online. The third training module, designed to be identical in content to the preceding ones, was implemented in the autumn of 2022 in the form of a guided e-learning course which proceeded at each workplace community's own pace.

Working life cooperation from the perspective of working life

According to Jääskö et al. (2019), companies participating in working life cooperation pursue diverse new skills and development. Laitinen-Väänänen et al. (2020) argue that the cooperation provides working life with additional resources for the development and regeneration of their own operations and for increased knowledge. Partanen (2020) also points out positive experiences of the cooperation between working life and an institution of higher education. Representatives of working life perceive the common operating methods as a factor positive to development. At its best, functional cooperation has proved useful, and the cooperation may have resulted in broader networks of cooperation (Partanen 2020, p. 61).

The healthcare and social services sector has been in the midst of a variety of challenges for several years now, as a result of both Covid-19 and the health and social services reform. The training aspect of the Safety and Risk Management in the Social and Healthcare Business project focused on health security and risk management in the sector's operating environment. The participants of the first two training modules consisted of 11 companies, with a total of 12 personnel or management representatives attending, and 13 UAS students studying for a master's degree. The feedback given by the management and personnel participating in these training modules was good across the board. The participants reported that

they had acquired topical knowledge because of the training, as well as tools and methods for the development of their operations and crisis management. Entrepreneurs especially valued the concrete and expert-driven competence and know-how on updating self-monitoring documentation in line with legislation. The cooperation with the UAS students offered by the project also garnered praise from the companies. The feedback emphasised the students' topical know-how and professional skills in reflecting the entrepreneurs' business operations and their support in the companies' development measures.

The project collected both written and oral feedback. The initial phase of the training involved a personal kick-off meeting held with each participant, while a personal feedback discussion and self-assessment and a survey of the project's impact were conducted about three months after the training had concluded. Each participant assessed the project and the growth in their own competence with the help of 10 questions rated on a scale of 0-5 (with 0 = no growth at all, and 5 = a high increase in growth). The core questions related to the project's impact included the improvement of workplace leadership, supervisory work, the organising of work and work processes; occupational safety and the development of related practices; and the increase in one's own competence and know-how. These questions were linked to the project's objectives and activities. In the aggregate assessment, the project's impact averaged 4.2 (n = 25).

Working life cooperation from the perspective of a UAS teacher

From the perspective of a UAS teacher, working life cooperation creates new competence challenges. Among other things, the diverse new skills a teacher is required to master due to working life cooperation involve project work, marketing and customer services, internationality, interaction, the management of each project as a whole and organising, in addition to having a tolerance for uncertainty and change (Mannila & Heiskanen 2014, 47-52; Töytäri et al. 2019). According to Töytäri et al. (2019), the key competence challenges involve the change in the relationship between education and working life, network-like teacherhood, the mastering of diverse skills, and the need to renew pedagogy.

Changes in the relationship between education and working life require teachers to have the courage to forge contacts and new networks, inspire working life to participate in projects, commit the parties to cooperation, and build mutual trust among them. However,

as Partanen (2020) points out, initiating cooperation and committing the parties to the joint activities is not always easy, and if working life operators are to commit to the cooperation, they should be able to identify the opportunities to influence training and see the advantages it offers (Töytäri et al. 2019, 26). Network-like teacherhood, on the other hand, requires a teacher to be able to let go of "teacher-oriented" activities and to re-orient themselves from acting alone towards working within networks. This requires the teacher to have the courage to undertake cooperation. As networking increases, the teacher's role in relation to their students, working life operators, and themselves changes. The teacher's role in relation to students shifts from one in which they simply disseminate knowledge to one in which they facilitate, inspire and support learning (Majuri & Helakorpi, 2010, 128; Kaljonen 2014, 36). For working life operators, the teacher's role is that of an instructor, contact person, developer of cooperation forms and maintainer of cooperation (Vanhanen-Nuutinen & Laitinen-Väänänen 2018). In other words, the teacher must have the skills to act in highly diverging roles and the capacity to switch roles in changing situations (Töytäri et al. 2019). According to a study by Mannila and Heiskanen (2014, 44), working life cooperation also calls a teacher's attention to their own role: is it that of a teacher or an expert in respect of working life cooperation? In general, these changes in a teacher's role therefore also have an impact on the change of the teacher's professional identity and its development (Mannila & Heiskanen 2014).

Working life cooperation from the perspective of UAS students

Working-life-oriented learning opportunities play a key role in students' learning and achievement of future professional qualifications (Raudasoja 2018). In studies taking place within working life, the learning is based on genuine needs stemming from working life, giving students the chance to acquire skills among real, topical phenomena and apply theoretical knowledge to practice. Working-life-oriented study is also motivating, producing valuable experience of working life for the student (Helakorpi 2010; Laitinen-Väänänen et al. 2020). There are also findings that suggest that working-life-oriented studying is better at committing students to their studies, thereby reducing drop-out rates (Virtanen et al. 2022).

UAS students aiming at a master's degree were asked about their experiences of cooperating with companies in the context of a study unit – focusing on health security in social services and healthcare emergencies and crises – related to the project discussed in this article. Above all, the students' positive experiences were

described by the project's orientation on working life and the fact that throughout its implementation, they were working in close interaction with working life operators. The students saw genuine dialogue in the cooperation, and the work was perceived as mutually beneficial. Some workplace communities participated in the cooperation in great numbers, which was a sign to the students of genuine interest in both the project and the students' contribution.

The positive experiences provided by the project to the students included the workshop cooperation with the personnel of the companies participating in the project, the aim of which was to prepare a risk assessment analysis for each company and to map their need to develop their respective self-monitoring plans. Based on this, a prioritised action plan for each company's development measures during the Covid-19 pandemic was drawn up. The students brought external insights to the companies, which was also one of the reasons the discussions involving the development of the self-monitoring plans and risk assessments were considered well-rounded. Although the students found the risk assessments and the surveying of the development needs in terms of self-monitoring plans partly challenging, they were also considered rewarding. The companies' feedback, which revealed that the work carried out with the students was being put into practice and further

developed, made the students happy and gave recognition for their contribution. As one of the students wrote:

> *Once the plans became clear, the cooperation progressed, and the output was completed, the course and successful learning results left everyone happy.*

What the UAS students aiming for a master's degree found especially positive about the Safety and Risk Management in the Social and Healthcare Business project was the commitment to the project and its objectives shown by the personnel of the companies involved. A key aspect emphasised by the students was the involvement of the companies' supervisors. The students saw this involvement as creating added value for the project and reinforcing the notion that the supervisors considered the project meaningful for themselves and their company.

Challenges were also naturally encountered in the cooperation between the companies and students. Most were caused by the coordination of schedules. The cooperation and workshop activities between the students and each company involved took place within the project according to the project's schedule. There were three workshops during the semester, one per month. Between the workshops, the students worked in cooperation with the companies. There was also an online lecture about leadership and supervisory work. Some students felt an increased amount of time for discussions on the cooperation would have been beneficial. On the other hand, the schedule in terms of their other studies would not have allowed this. The students also thought that the cooperation with the companies could have been more intense, but the schedule of their other studies and extensive duties would not have provided time for any intermediate meetings.

Discussions during the workshops would sometimes "veer off course", and getting them back on track and the subject at hand were sometimes difficult. Discussions on the concepts involved were necessary, particularly during the project's initial stage, so that the students and companies could come to a shared understanding of them. On other occasions, the groups found it challenging to keep on schedule and their responses to the point.

Although the schedule for the risk analysis and development plan prepared on its basis was found to be tight, it was also found to be positive, given that it kept thoughts focused on the project's content and objectives. It also meant that there was no need to recap the discussion of a previous session at the beginning of each meeting. The course's intensity was also found to be a strength from the perspectives of both the entrepreneurs and students.

Conclusion

The rapid changes occurring in working life require new ways of producing competence, bringing with them new competence demands for representatives of working life, teachers, project operators and students alike. Working life cooperation is not always unproblematic, and it may involve risks that must be accounted for in the workplace community, starting from the planning stage. Rautajoki (2019) points out that the operators' different objectives and tasks may pose obstacles to the cooperation. According to the investigation by Jääskö et al. (2019), cooperation is engaged if it is seen as beneficial for the party in question. However, given that the benefits for a UAS and working life are not always clearly identifiable, ensuring that the various operators can see the cooperation's benefits is worth the effort. In addition, both the representatives of working life and the UAS staff must have a genuine motivation and ability for the cooperation. The risks for successful working life cooperation may also stem from the different operators' different ways of working, resources or a lack of mutual understanding (Lehtonen 2014, 51–53). As suggested by the results of the project discussed in this article, the results of Väänänen and Peltonen (2020) also demonstrated that while students' participation in projects was seen as an opportunity, it was also considered to involve challenges. Sufficient cooperation between the students and working life representatives was also perceived as a positive aspect in the study by Väänänen and Peltonen (2020, 62), whereas the students' simultaneous involvement in many different projects was considered a potential challenge.

For a UAS teacher, working life cooperation creates new competence requirements. Working life cooperation expands and diversifies the teacher's job description, reshaping their role in relation to various operators and situations. The significance of a teacher's core skills diminishes as their skills in project work, development and research increase. According to Mannila and Heiskanen (2014, 52), the challenge in the work of a UAS teacher lies precisely in research and development activities. All these changes influence the teacher's future professional requirements, but also the shaping of the teacher's professional identity. The skills that the staff at an institution of higher education staff have in working life pedagogy and cooperation should indeed be updated in line with the changing working life and society (Pakkala et al. 2018, 69-70). Because of teachers' changed competence requirements, it is important for the employer to contribute to the skills of UAS teachers in relation to project work as well as research and development. Know-how related to the skills required in working life can be

improved with an organisation's internal training, for example. It is likewise important to understand that what is at stake is a cultural change which requires joint discussions, reflection and a mutual understanding of the changed content of a teacher's work and role. So time and support from the employer for the growth of a new teacher identity are also needed. It should also be noted that working life cooperation is ultimately about interaction between people. Organisations do not cooperate, and the realisation of successful and fruitful working life cooperation is heavily influenced by a teacher's genuine motivation for cooperation and their ability to identify the benefits that they themselves or their teaching can gain through project work (Jääskö et al. 2019). Despite the versatile forms of working life cooperation (14 forms), Töytäri et al. (2019) point out that institutions of higher education and working life still seem to operate separately. The development of their cooperation will continue to be important in the future, and it should be based on equitable partnerships that benefit both parties (Pakkala et al. 2019, 69-70), and in which all parties involved find the cooperation useful and effective (Jääskö et al. 2019). The working life cooperation provides UAS students with real working life cases, which enable the integration of theory into practice. These real-life cases

develop the students' skills for precisely the know-how required in contemporary working life. The cooperation also allows the students to integrate more strongly into working life during their studies, which increases their opportunities for securing employment (Jääskö et al. 2019). Working life cooperation increases working-life-oriented teaching at a UAS and is part of its statutory activities. Working-life-oriented teaching may diminish the traditional gap between training and working life. In this context, the gap refers to a situation in which the know-how acquired at school does not sufficiently match the professional requirements of the changed working life. Working-life-oriented teaching can increase the chance that the skills of a recently graduated professional will better meet the needs of the changing working life (Jääskö et al. 2019). For a UAS teacher, working life cooperation provides a good opportunity for getting a grasp of the current situation of working life, the changes that have occurred in it, and the resulting competence requirements. For representatives of working life, the cooperation provides topical knowledge based on proof, and thereby new skills. The cooperation also provides them with additional resources for their own competence development and an opportunity to recruit new talent (Jääskö et al. 2019).

One can therefore conclude that while working life cooperation is beneficial for all the parties involved, it also requires new kinds of know-how and attitudinal skills, as well as a cultural change, from all those involved. In the future, it is indeed important to actively develop and find diverse new learning situations and practices in cooperation with working life. This is because it is not inconsequential how and what kinds of opportunities for learning and development are built between training and working life. What is required is active communication, encounters, and joint discussions between a UAS and the representatives of working life. Going forward, it will also be necessary to actively examine the thoughts UAS students studying for a master's degree have about useful development projects. Joint and anticipatory planning results in genuine working-life-oriented learning practices benefiting all parties. It is important for UAS students aiming for a master's degree to be involved in research, development and innovation activities as early as during their ideation stage and to be involved in their planning no later than during their planning stage.

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Jaana Ahl & Mari Lehtonen

LAB SoteCampus: Successful cooperation between education and workplaces needs shared structures

LAB SoteCampus offers the best of two worlds. This simple statement defines the core of the LAB SoteCampus model. LAB SoteCampus is an operating model that brings workplaces and education closer to each other and combines and responds to the strategic development needs of both the project's background organisations. The background organisations in the operating model are the LAB University of Applied Sciences and the Eksote South Karelia Social and Health Care District The project's target area is the South Karelia region.

Continuous changes and reforms in working life also require higher education to transform and to respond to the changes by means of curricula and workplace cooperation. Therefore, workplaces and education should engage in an on-going dialogue to develop shared operating models that are contemporary, innovative and future-oriented. Elevating workplace orientation to the next level requires strategic cooperation which is more aware, more networked and more long-term between educational institutions and workplaces (Turunen 2020). Neither party alone is able to bring education and workplaces closer together to enable education to meet the future needs in terms of workplace orientation and workplace requirements. The LAB SoteCampus operating model is an excellent example of how bold decisions for the future can be made through cooperation.

The LAB SoteCampus model has three focus areas, which have been derived from the background organisations' development needs (Image 1). These are the introduction and utilisation of technology and digital solutions, strengthening management and

work development skills, and data utilisation and information management (LAB 2022a). All activities in the LAB SoteCampus model are strongly linked to these focus areas. The operating model is implemented by a core team of experts. The core team consists of four experts, each of whom has a designated role with defined duties. These roles are: a technology and digitalisation specialist, projectisation and network specialist, educational cooperation specialist, and a specialist in the healthcare and social welfare operating environment. Since the launch of the operating model, it has become obvious that the team members' competence profiles have played an enormous role in the successful outcomes. The experts' competence profiles support and complement each other and provide added value that helps achieve the goals specific to each focus area.

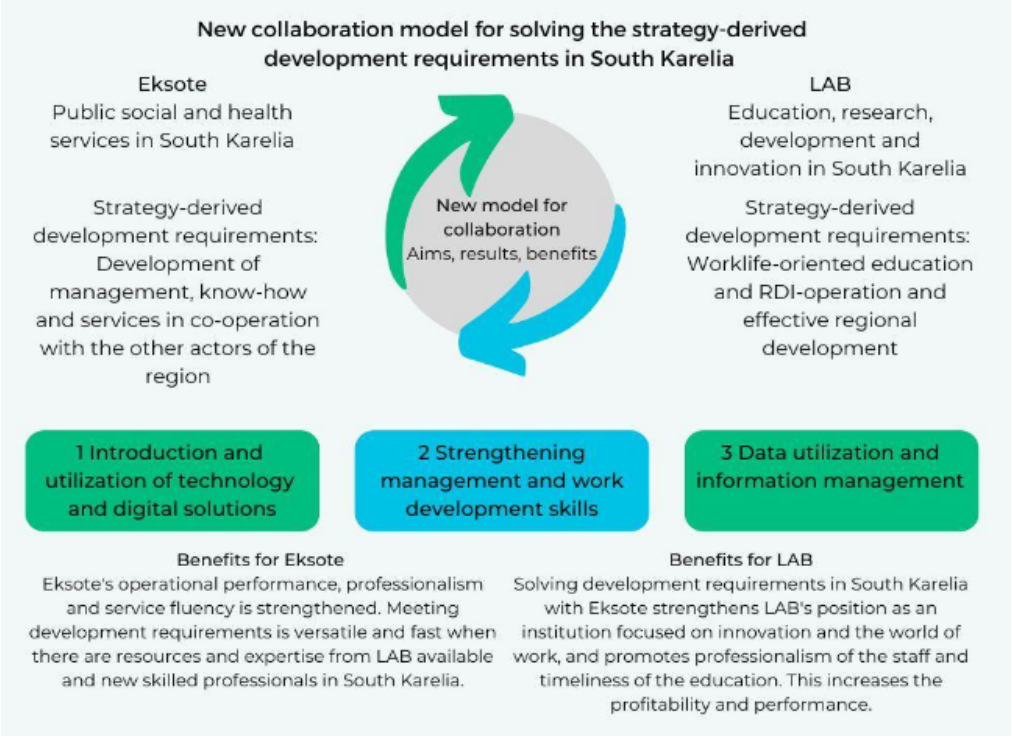

Image 1. The operating principle of LAB SoteCampus. (Karppinen & Peltonen 2020)

Strategies connected by courage

Perhaps it is the current world situation that has made courage a key value in many Finnish organisations (Koneen Säätiö 2022, Aalto-yliopisto 2022, among others). According to Peterson and Seligman (2004, 29), courage is a virtue that includes the character strengths of bravery, perseverance, honesty and zest. Talking about character strengths in the context of an organisation's values may first sound strange, but there is a connection to be made. Each organisation has a culture for which the values provide a framework. According to the classic definition developed by Edgar Schein as early as the 1980s, an organisational culture has three levels in which the values and norms are in the middle, between the visible structures and operations and the fundamental assumed values (Schein 2010). The key values of the strategy of the LAB University of Applied Sciences are courage and fairness. These values support the objective of improved working life (LAB 2022b). The core of Eksote's strategy are the three principles of operations: courage, simplicity and people. The objective is to come up with ideas, make decisions and act with courage, transcending silo thinking (Eksote 2020, 3-4). In other words, courage is what connects the strategies of the two organisations on the level of their values, but it is also manifested in the daily operations of both. Eksote works at the customer interface, providing multi-disciplinary, face-to-face and digital services at the Eksote facilities and in the homes of customers. In South Karelia, customer service in healthcare and social welfare does not depend on the time or location and including new service practices and technology has called for bold experiments. Continuous work is being carried out at LAB on various levels to integrate working life and innovations with studies. Traditional classrooms have been replaced by learning environments which better meet a variety of needs.

The statement "Strategies connected by courage" can be interpreted both through the strategy descriptions presented and as activities between two innovative organisations. Courage means concrete acts to implement the strategy, which is manifested in the launch of the LAB SoteCampus operating model. The focus areas selected for the operating model require bold initiatives from directors, developers as well as professionals receiving the services in the field. The development needs are addressed with zest, the measures are implemented with perseverance, and the outcomes and impacts of the efforts are assessed honestly: this is the core of courage in co-creation.

The existing cooperation agreement between the organisations enables quick, bold experiments that address the

needs arising from working life almost immediately through development. When workplace cooperation and the required experts are already in place, measures can be created and tried on a quick schedule without the usual agreement-related challenges, for example. This opportunity has already manifested in the operating models developed and implemented during the first few months. In other words, courage is driving the operations at a good pace.

Strategy-based development needs behind the operations

In addition to the courage theme, the operations of LAB SoteCampus are guided by the strategy-based development needs of both organisations involved. In Eksote, the strategy-based development needs identified include the development of competence, management and service operations jointly with the other actors in the region. Eksote's mission is to provide customers with effective social welfare and healthcare services based on service needs in accordance with the funding approved by the municipalities. Eksote exists for its customers (Eksote 2022). In turn, LAB has highlighted workplace-centric education and RDI activities as well as impactful regional development as its strategy-based development needs (LAB 2022b). These development needs provide a backdrop for the operations of LAB SoteCampus and a foundation for its existence.

Developing operations requires competence and strong competence management, as well as management competence. Kivinen (2008, 41) highlights competence as an asset for a company. According to Kivinen, competence is not an item in the company's balance sheet, but it is still important for the company's competitiveness. Competence is a key factor in all of the focus areas of the LAB SoteCampus operating model. Technology cannot be deployed without competence, work cannot be developed without competence, and proper management needs competence. Therefore, the measures that meet the needs of both organisations specifically take ensuring and strengthening competence into consideration. Eksote wants to ensure that the strong professional skills of social welfare and healthcare professionals are maintained in the future as well, and as an educational organisation, LAB is excellently equipped to meet this regional need.

LAB's strategy emphasises workplace-centric RDI activities, in addition to education (LAB 2022b). Kaunismaa & Palonen (2015) bring up the willingness of the Finnish government to ensure that national RDI activities are not only workplace-centric but also of high quality and impactful. However, Jääskö et al. (2018) state that in Finland, cooperation with workplaces is primarily teacher-led cooperation. One of the important

tasks of LAB SoteCampus is to meet the development needs of workplaces by creating projects that directly and in a concrete manner target workplaces and meet a genuine need. This strengthens the workplace-centric nature of the RDI activities. Therefore, the team works in close cooperation with workplace representatives to ensure continuous dialogue and the identification of genuine needs. LAB SoteCampus' essential methods to promote workplace cooperation also include preserving and increasing regional networks to strengthen regional development in South Karelia and to increase joint development with different actors. For example, the team has contributed to the regional efforts to prevent fall accidents among the elderly by working with students to provide educational input in training targeting social welfare and healthcare professionals. There is an extensive regional cooperation network working on the prevention of fall accidents. The team has also increased the awareness of LAB WellTech on a national level by networking with other actors in testbed services.

The idea is that the closer to workplace needs the RDI activities are, the more impact their results will provide. Kaunismaa & Palonen (2015) highlight personnel qualification, stronger links between RDI activities and education, as well as developing more extensive exchange of experts and students between universities of applied sciences, the research institution and workplaces as key methods to increasing the workplace-orientation in RDI activities. With its current measures, LAB SoteCampus promotes all of these areas. Among other things, the operations of LAB SoteCampus have aligned master's theses directly with workplace development needs, linked student cooperation with the coaching of workplace professionals and promoted the opportunities of teachers to participate in learning in the workplace as part of their own professional development. Jääskö et al. (2018) point out that the various forms of workplace cooperation do not function in a vacuum but are interlinked and feed other types of cooperation.

Concrete action strengthens workplace cooperation

Workplace cooperation is the objective of many Finnish and European educational organisations but has proven to be challenging in practice. For successful cooperation, it is essential to first identify the goals and wishes of both the educational organisation and the workplace regarding cooperation. Although extensive workplace cooperation is already in place, new, innovative implementations that benefit both parties are needed to deepen it (Kuoppala 2019, 76, 78). This is exactly the kind of innovative, modern way of thinking that is behind LAB SoteCampus' measures.

LAB WellTech as a testing and development environment

A testbed refers to experimental environments that simulate real-life treatment or care situations. Testbeds make it possible to conduct research and development on products and services in an authentic customer and expert environment. They also offer an excellent training and induction environment for both the testbed actors and companies. In Finland, several hospital districts, university hospitals, universities of applied sciences and cities offer excellent cooperation opportunities for developers of health and wellbeing sector services and products to test the services and products in authentic environments (Klossner 2021). South Karelia is a forerunner in the implementation of the technological and digital solutions for services provided in the customer's home.

The productive work launched in the ELSA project aiming to increase vitality through smart solutions in the social welfare and healthcare sector has continued in the innovation, testing and development environment provided by the LAB WellTech wellbeing technology, with the support provided by LAB SoteCampus (EURA 2014). The nationally well-known testbed environment in Eksote offers companies an opportunity to test their products in an authentic social welfare and healthcare environment through LAB WellTech. The technology and digitalisation expert of LAB SoteCampus is a member of the LAB WellTech team in the company and testing cooperation targeting the South Karelia region, in particular. Digital services and technological solutions can be considered to be a part of the social welfare and healthcare services that intersect the entire service system, regardless of the age group. The testing environment offers students a new kind of learning environment where they have the opportunity to obtain more in-depth competence in wellbeing technology. After graduation, the students have the ability to apply these skills in their new roles as working life professionals.

Competence in information management for all organisational levels

Organisations generate an enormous volume of information on a daily basis. Therefore, information management is among the most important development needs in South Karelia as well. LAB SoteCampus has taken concrete measures to strengthen information management among both supervisors and their employees. According to Orjatsalo (2022), information management supports the generation, distribution and application of information in organisations. This may mean different things on different levels of the organisation, which is why information management coaching in

LAB SoteCampus focuses on a people-centric approach instead of system-orientation. In this approach, a person and their knowledge are seen as part of the organisational entity.

LAB SoteCampus has taken gradual steps in its measures to strengthen competence in information management and in the application of information. The first action to this effect was the information management coaching event for Eksote and LAB SoteCampus supervisors to ensure a sufficient level of competence that supports personnel coaching. The supervisors from both organisations who attended the information management coaching were included in the LAB SoteCampus information management network. The objective of the network is to deepen competence on the desired information management themes and to help individuals interested in the topic to learn more and share their experiences. The first network meeting already showed that information management is a shared matter for the attendees. The themes of the network meeting have been designed to support the management coaching provided by LAB SoteCampus. The network will also be a great support structure once the online courses start in information management aimed at the entire personnel. As competence in information management strengthens, opportunities will open up across the entire organisation for more in-depth development and for more effective application of the enormous resources available in both organisations.

The double workshop model engages the entire working community in development

The opportunity to participate in the development activities of one's workplace increases employees' experience of trust and fairness (Puttonen et al. 2016, 11; Sinisammal 2011, 37). According to Puttonen et al. (2016, 11), in Finnish workplaces, the employees' opportunities to influence development activities are better than average, compared to other EU countries. LAB SoteCampus has developed a new model that addresses the current need for strengthened competence in work development—the double workshop model. The incentive for the development of the model has been a workplace need: a working community suffering a crisis caused by a variety of reasons needed support to resolve the situation. A strong focus of the model was on strengthening the professional and work development competence among both employees and supervisors. Sinisammal (2011,38) points out that participation in workplace development is also effective training for the participants themselves, since it forces them to look at matters from new perspectives. According to Sinisammal,

the participation of both management and employees in the planning of development considerably improves both productivity and the quality of working life.

The name "*double workshop model*" describes this work development method well: as the name indicates, there are two parallel workshops, one for supervisors and the other for employees. Through the facilitators, the workshops also conduct anonymous dialogue with each other with regard to the content: the needs and ideas brought up in the workshops are also discussed in the parallel workshops but without identifying their originator. At the beginning of the double workshop process, the facilitators establish what the baseline situation is and create a schedule for the process. The first workshops review the current situation, or the reason for the activities. After that, challenges and development needs will be listed and identified in accordance with the customer process. Before the following workshops, the facilitators analyse the generated data. It is also essential to set up a development working group from among the members of the working community, which will ensure that things move forward and are implemented at later stages of the process.

Employee participation in the planning of development will help ensure that the plan is better aligned with the real needs, compared to planning carried out by experts alone. Although the inclusion of employees may make development more complex from the perspective of resource allocation, among other things, the long-term results are often more effective. Therefore, an inclusive approach to development is justified. (Sinisammal 2011, 37-39). Other workshops in the double workshop model present the challenges identified and seek solutions for them in small groups by applying various workshop methods that are relevant for the given situation. A summary is drawn up of the solution suggestions, which is reviewed jointly and used as a basis for a newsletter sent to the entire personnel. Next comes the implementation stage, during which the process facilitators support the development working group in its task. The realisation of the solutions and the progress of the process in practice are assessed in joint seminars that are held midway and at the end of the implementation stage. Essential factors in terms of process success include the commitment and trust-based cooperation of all parties, a long-term approach and the identification of the stages of the development process.

Student cooperation as part of the regional development work

There are numerous ways to learn. According to Raudasoja (2018, 67), the effectiveness of learning in workplaces greatly defines the quality of training. In a way, LAB SoteCampus has turned the process of learning on the job upside down and created a way to strengthen employees' competence and work development competence through student cooperation. Nationwide, a need has been identified for preventive measures that reduce fall accidents among the elderly. LAB's physical therapy students have studied preventive factors in depth and apply various coaching methods, including lectures and functional coaching sessions to disseminate information to Eksote employees who manage the ability to function of the elderly. After the coaching, the employees share this information with their own work units, which in turn create measures to prevent fall accidents. This highlights the role of educational institutions as experts of learning and of the sector's big picture. According to Raudasoja (2018, 66), it is the educational institutions' goal to profile themselves as regional developers of workplaces and as cooperation partners. This objective is also supported by the goals of the operations of LAB SoteCampus.

The coaching for employees who manage the ability to function of the elderly has been provided as an implementation in the large regional network administered by the Age-friendly South Karelia project (Eksote 2022). According to Raudasoja & Rinne (2018, 57) significant, continuous changes are taking place in work, the way work is performed and in occupational structures, which also challenges the learning environments in education to develop. The opportunity offered by LAB SoteCampus is a different and new way for students to complete their vocational work placement in a slightly exceptional, hybrid learning environment, compared to what has traditionally been the case. Making a new kind of a learning environment possible also requires a future-oriented way of thinking on the part of the teacher and, according to Raudasoja & Rinne (2018, 62), teachers who are enthusiastic about various learning environments can provide students with extensive opportunities, tailored to individual needs, to achieve competence. So far, the experiences of students in the learning environment provided by LAB SoteCampus have been positive, and according to the students, the teaching itself has supported their learning. Therefore, workplace-centric RDI activities and an enthusiastic teacher with a positive attitude towards development have together provided students with a great way to learn.

Success requires shared development projects in future as well

In the upcoming wellbeing services counties, the fire and rescue services will become part of the same sector with the social welfare and healthcare services and complement the field of operations with safety. In addition to the new structure, the provision of services by multiple actors will manifest as cooperation between the public, private and third sectors. Cooperation between fields of operation and sectors is nothing new, but still, the various actors will once again face a new situation due to the structural change. Renewal and adaptation are also required in the research, development and innovation activities.

The experience gained in LAB SoteCampus so far indicates that the development and workplace cooperation between organisations makes it possible to respond and to achieve results quickly. The key is a strategy which is not static in terms of content, but which guides organisations towards the desired objective through periodic changes. Similarly, the focus areas of the shared operating model created in LAB SoteCampus must be able to meet the development needs at any given time. This means responding to any changes in the development priorities. The strength of the operating model lies in its structure, which works regardless of the sector, background organisation or the content of the focus areas. In other words, LAB SoteCampus could be duplicated to meet workplace cooperation needs between the universities of applied sciences and the technical sector.

In conclusion, we should take a look at the three success factors that have become the cornerstones of LAB SoteCampus (Image 2).

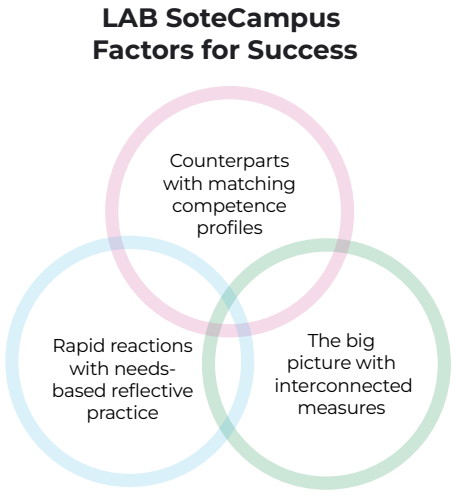

Image 2. The success factors of LAB SoteCampus. (Image: Lehtonen & Ahl)

For communication and co-creation, it is of utmost importance to find expert counterparts with matching competence profiles in both organisations. Raudasoja (2018, 66) emphasises that a close-knit network increases mutual understanding, sharing of expertise, information and competence and offers synergies. Each member of the LAB SoteCampus core team has a contact person in Eksote, with whom development per focus area is promoted in regular meetings. Another important factor involves needs-based reflective practice that enables quick responses and is agile in meeting the development needs arising from working life. The third factor involves the interconnected measures that bring the three focus areas together into one extensive whole. All of LAB SoteCampus' measures support each other, and both the individual measures and the big picture are connected. The purpose is not to add to the workload but to develop activities that support each other. The three success factors cannot be ranked in an order of priority, but they overlap and support each other. One of them missing would make the entity unstable.

Successful co-creation requires aligning and balancing many things, and perhaps a little bit of luck. Although the timing of LAB SoteCampus' operations has not been ideal due to the pandemic and the war in Ukraine, the project has also been lucky. The team members' interaction and mutual professional support have been smooth and well-functioning from the start. The existing cooperation networks have saved many situations, and the students working as cooperation partners have demonstrated brilliant skills. Therefore, we can proceed towards the future with our heads held high. As Jukka Jalonen, the head coach of the Finnish Olympic gold-winning and world champion hockey team, put it:

"All of us should internalise that we accomplish more by working together. Everything that you give to others will come back to you at some point."

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Jaana Lerssi-Uskelin, Aino-Inkeri Kuula & Marko Kesti

Information about wellbeing at work and productivity obtained through working life cooperation generates social impacts

Changes are happening in society faster than ever before and are more unexpected. These changes are also directly reflected in working life, introducing new requirements and changes concerning competence, and how work is performed. Continuous development and renewal are required in working life to keep up with the changes. A functioning working life cooperation and leading with knowledge can be methods that support companies and other workplaces when they respond to these challenges.

Working life cooperation refers to cooperation between education and business life (Ammattipeda 2013). The key tasks of universities of applied sciences especially include regional cooperation and interaction with companies, business life and other working life (Universities of Applied Sciences Act, 14 November 2014/932). Typical forms of working life cooperation include theses prepared for the needs of workplaces, shared development projects, and learning assignments. All these create information, and the parties involved should also know how to use this information. Leading with knowledge is therefore required. Knowledge management refers to the provision and application of up-to-date and high-quality information that supports decision making and the development of operations (Partanen 2020, 39-40; Gupta, M. & George, J. F. 2016).

Working life cooperation in the SafeInLog project

The ESF-funded "**SafeInLog – Work safety based productivity and well-being in inhouse logistics through occupational safety**" project is an example of a development project that takes place in working life cooperation. The development project was launched in March 2020 and ends in October 2022. The SafeInLog project aims to improve occupational safety and wellbeing at work for in-house logistics personnel in small and medium-sized enterprises and by doing so, to promote the competitiveness and productivity of SMEs as well. The project activities focus on three regions in Finland: Lapland, Päijät-Häme and Uusimaa. The companies involved in the project operate in these regions and thus also form the regional groups. The set of operations realised in the project included an occupational safety survey with recommendations; a situational analysis of personnel productivity; an analysis and follow-up of a Quality of Working Life survey; as well as company visits, which included an initial survey on wellbeing at work, peer learning tours, development plans and follow-up.

All the activities in the project were carried out in close working life cooperation with the specialists working on the project and representing the educational

institutions and the companies. The goal was for the companies to understand as well as possible the meaning and connection of the measures to each other and to each company's own operation and development. Companies were encouraged to network regionally, share good operating methods and solutions, provide peer support and utilise working life cooperation between both the specialists and other participating companies.

The journey travelled is more important than the outcome

The participants of the SafeInLog project, launched in the shadow of the coronavirus pandemic, were 13 SMEs from the in-house logistics sector. The pandemic had a variety of impacts on the involved companies, their business operations and personnel, and on how the planned project activities could be implemented. Major changes and challenges may sometimes paralyse an organisation and hinder the realisation of development measures, but in the SafeInLog project, the challenges boosted the cooperation between the companies and specialists and enabled them to find creative solutions to implement the project.

At the beginning of the project, between November 2020 and May 2021, each project company conducted a company-specific extensive electronic survey on their state of wellbeing at work. The results of the wellbeing at work survey offered a comprehensive overview of the state of wellbeing at work in each company and on matters that functioned well, and those that required improvement. The survey also included Quality of Working Life (QWL) questions. The Quality of Working Life describes how employees experience wellbeing at work. Measuring the Quality of Working Life provides company management and supervisors information about which issues should be focused on to improve wellbeing at work and performance. The range of the index describing the Quality of Working Life (the QWL index) is 0-100% (Kesti & Pietiläinen 2019).

In the QWL analysis, motivation theory is used to review the results. The Quality of Working 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 wellbeing at work and an employee's performance. Performance is improved by cohesion and identity (competence, processes, a sense of togetherness), as well as goals and creativity (joy and meaningfulness of work). (Kesti et al. 2016).

The purpose of the company-specific surveys was to produce follow-up information for companies about their specific situation, indicate how they had developed or the direction of

development, help them understand the connection between different results, and subsequently, activate them to carry out development work.

After the initial survey, the companies participated in regional benchmarking visits based on peer support. The purpose of the visits was regional networking and peer support for development work. During the visits, the participants discussed and shared their experiences of topics introduced by the host company. After the peer support visits, the companies selected the most important development area based on their own starting points by applying the information they obtained from the specialists and the benchmarking visits. Each company drew up a development plan for their selected development area. In addition to the peer support rounds, the companies had the opportunity to attend webinars covering the development of supervisory work in particular.

Moreover, development work in companies was supported through regional peer support meetings, which enabled the companies to network, share their development measures and encourage each other in development work. The second, follow-up wellbeing at work survey in the project was conducted between January-April 2022.

Survey results concerning wellbeing at work

The SafeInLog project examined wellbeing at work holistically, using "The House of Wellbeing at Work" model for orientation (Lerssi-Uskelin 2013,12-13). A total of 522 people responded to the initial survey mapping the state of wellbeing at work. The number of respondents in the project's follow-up survey was 473, thus slightly less than before. The company-specific response rates in the initial stage varied between approximately 40% and nearly 100%. The response rates in the second stage were similar, although the rate was closer to 30% in a few companies.

The results of the wellbeing at work survey were reviewed by the company and respondent group. The respondent groups were warehouse employees, other employees, supervisors, administration and management, men, women, and age groups.

The wellbeing at work surveys conducted in companies brought up challenges related to wellbeing at work. These included the mental strain and social stress of supervisors, employees' minimal awareness of occupational safety matters, and unequal treatment in the workplace, stemming from favouritism or related to job duties/position. Image 1 describes the level of mental strain experienced by different

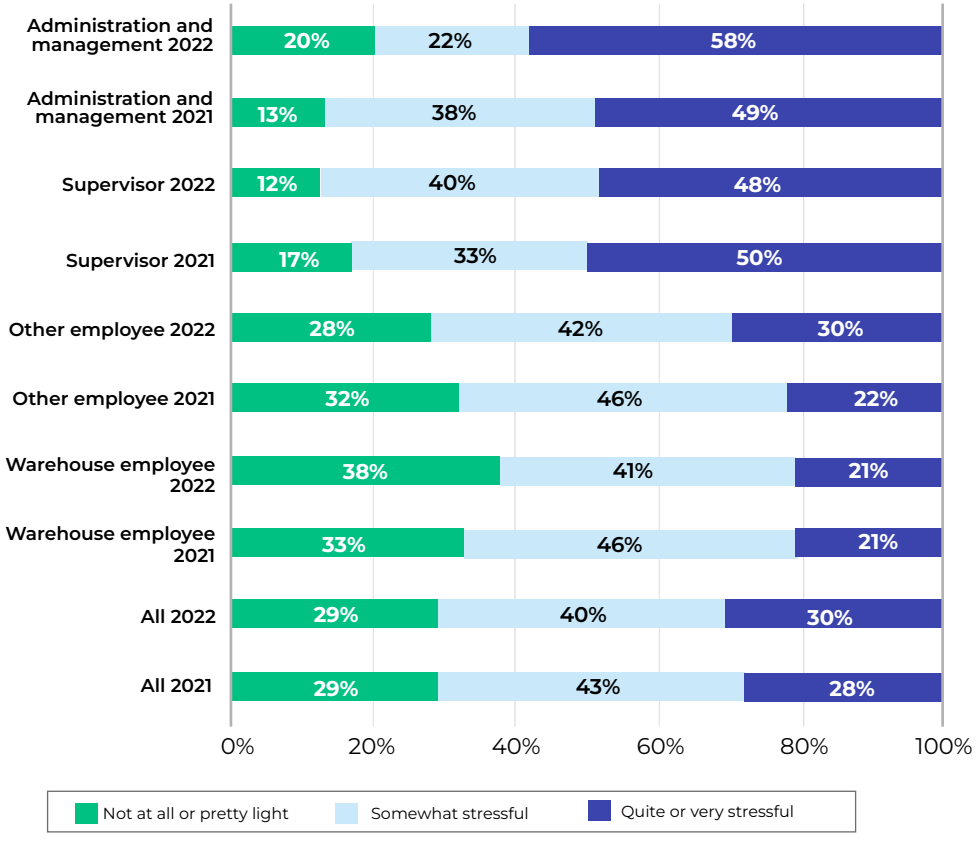

Image 1. The mental strain of the work. (Image: Jaana Lerssi-Uskelin)

personnel groups in the initial survey in 2021 and in the second survey conducted in about a year, in 2022. Mental strain was experienced by company supervisors and administrative and management employees in particular. According to the results, it seems the mental strain of supervisors and management increased during the project period. Likely reasons for this include the challenges created by the coronavirus pandemic and the general world situation.

Factors that functioned well and empowered respondents included the good atmosphere of working

communities and the well-functioning and positive interpersonal relationships of employees. Strong commitment to work, or a drive to work, was also among the strengths identified. Empowerment factors may relieve the increased mental strain.

As the interval between the surveys was relatively short, the companies were able to implement only a portion of the measures they had planned. Despite this, changes had taken place in wellbeing at work in companies; some were for the better, others for the worse. The development measures in many companies targeted orientation, internal communication or supervisory work.

Although the results did not show a major change, they played an important role in illustrating the changes taking place in the state of wellbeing at work and in the manner the accumulated information could be applied in development and management in leading with knowledge.

Assessment of working life risks

Two measurements of Quality of Working Life (QWL) were carried out during the project. The results of the surveys were used to define a respondent-specific and company-specific QWL index. The QWL index is a value between 0 and 100%. It depicts the employee's Quality of Working Life and the state of their performance. The Quality of Working Life encompasses the employee's comprehensive work-related experience by taking into consideration the different aspects of wellbeing at work. The Quality of Working Life consists of three motivation factors related to achieving goals and creativity, experiencing a team spirit and competence improvement, and a sense of security. The average QWL index of the companies participating in the project was 65%.

Apart from the QWL index, the surveys mapped the theoretical personnel risks of employees. This was done through analytics developed for forecasting personnel risks, which, in connection with measuring the Quality of Working Life, provide information on indicated risks related to absences due to illness, burnout, turnover and disability.

The surveys conducted in the project companies raised the risks related to working life. According to the results, personnel risks had increased for all respondents between the two surveys.

The results obtained can be examined at the level of the organisation group in the context of in-house logistics. The responses were categorised by age group. The age groups ranged from under 30 to over 60 at 10-year intervals. As shown in

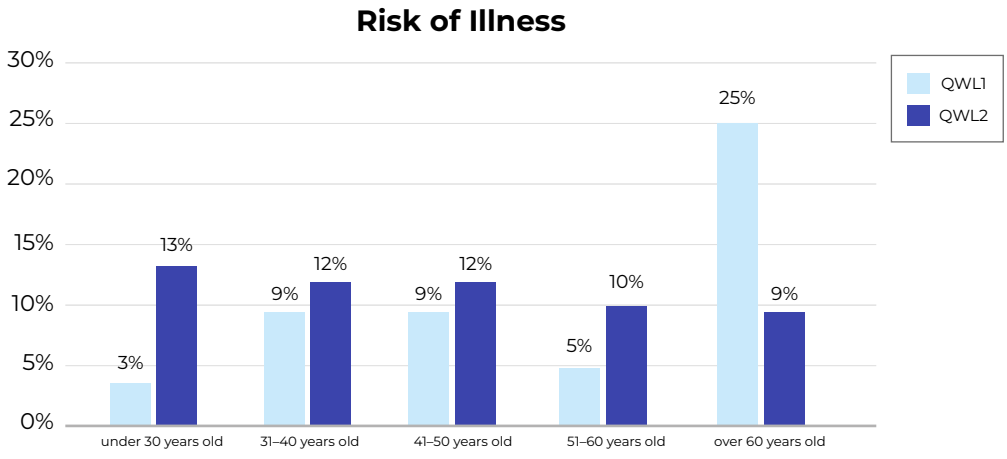

Image 2. Risk of illness. (Image: Aino-Inkeri Kuula & Marko Kesti)

Image 2 comparing the results of the two surveys the percentage of the risk of absence due to illness had increased in nearly all age groups. Comparing the results of the two surveys showed that the percentage of the risk of absence due to illness had increased in nearly all age groups. In particular, the risk of absence due to illness in the under 30 age group increased considerably from the previous survey.

In addition to this risk, Image 3 portrays how the burnout risk rate of the under 30 age group increased most. Overall, the respondents under 40 years of age had the poorest QWL index. The Quality of Working Life was weakened by the lack of motivation to work and an unencouraging work atmosphere. Older respondents showed increased motivation in their work, which is manifested as a positive impact on the Quality of Working Life. The burnout risk in the over 60 age group increased considerably between the surveys. Despite this, the QWL index of this age group was the best among all age groups. In the other age groups, the burnout risk decreased or remained unchanged.

Employees of different ages have different expectations of working life. The results indicate that workplaces should

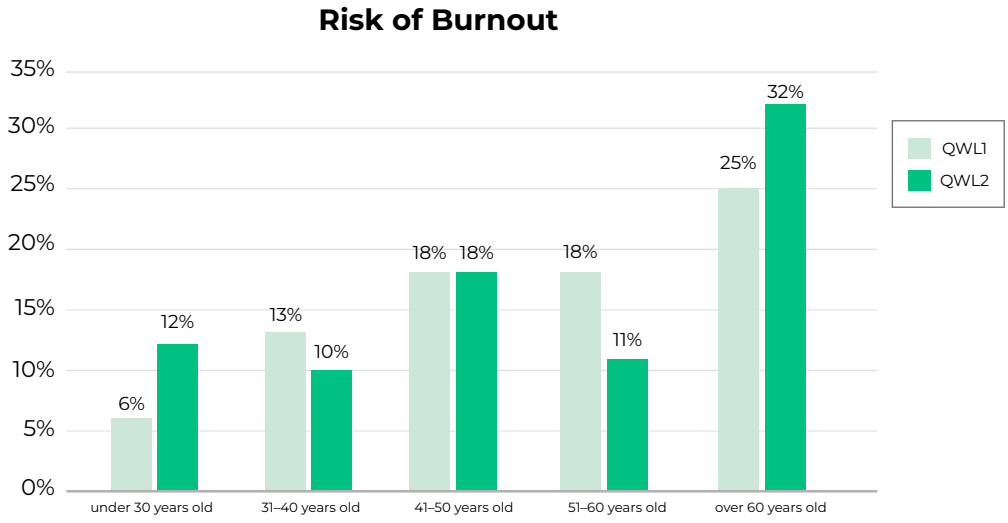

Image 3. The QWL surveys show that the burnout rate has increased, especially in the under 30 and over 60 age groups. (Image: Aino-Inkeri Kuula & Marko Kesti.)

seize the opportunities provided by age management to support employees' coping at work. Offering an alternative duty work model for ageing employees reduces the risk of absences due to illness caused by burnout and subsequently, also reduces the costs incurred by the absences. The QWL index indicates that ageing employees are motivated in their job duties and consider the team spirit in the working community to be good. However, insufficient coping at work and working ability contribute to the risk of burnout. On the other hand, young adults value the communality of the working community more than the other age groups, and including young employees in decision-making and development processes therefore promote their experience of a good working community.

The results' comparability is affected by different factors inherent to each age group, such as the person retiring between the QWL surveys or new young employees starting work in companies where the surveys were conducted. In addition, the survey responses may be affected by the social challenges created by the coronavirus pandemic and other global crises. Despite these variables, the results obtained from the surveys illustrate the current risk factors related to working life, which should be anticipated to generate long-term cost savings. When a proactive approach is taken to prepare

for risks, any realised risk will not come as a surprise. Considering signals from personnel and carrying out participatory development provides a lasting competitive edge. This ensures a long-term balance for both thriving business and employee wellbeing.

We also examined immediate supervisors by age group. The results are based on the data from the survey conducted in April 2022. Image 4 displays how the QWL index of immediate supervisors over the age of 50 was the highest among all age groups. In this age group, the percentage of the risk of absence due to burnout is also the highest. It appears that the oldest immediate supervisors are committed to work and consider the team spirit to be good, which improves the Quality of Working Life. However, work-related experiences of mental strain weaken their coping, which generates a risk of burnout or absences due to illness.

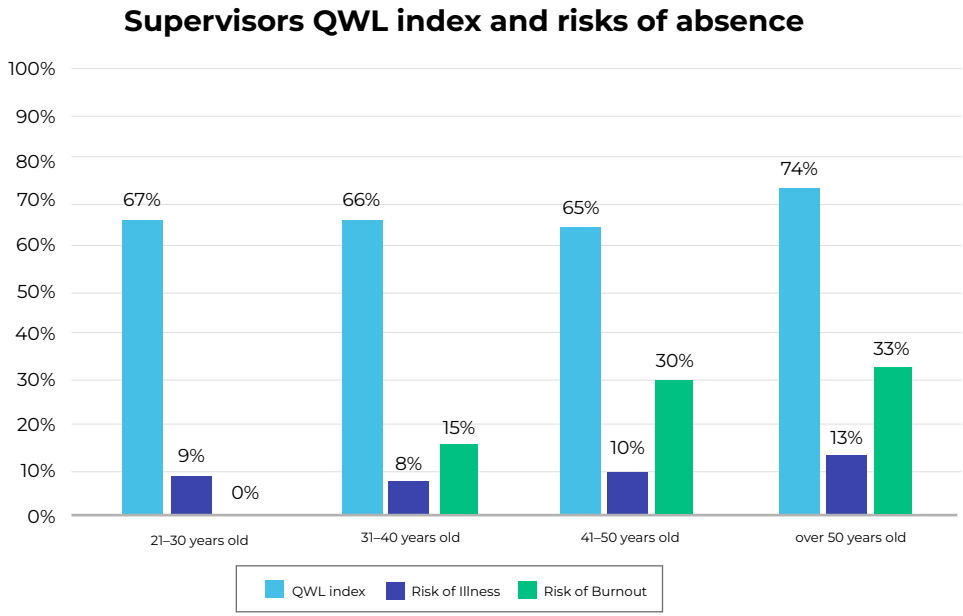

Image 4. Supervisors QWL index and risks of absence. (Image: Aino-Inkeri Kuula & Marko Kesti)

The results also show that immediate supervisors between the ages of 30 and 50 especially find work mentally straining, which weakens the Quality of Working Life and generates risks of absence. It therefore seems that mentally straining work is a national phenomenon among managerial employees (Lyly-Yrjänäinen 2022, 64). Immediate supervisors under 30 considered their health to be reasonably good and work to be mentally less straining than the other age groups. This can be considered to shield young immediate supervisors from the risk of burnout.

Leading with knowledge and well-functioning working life cooperation generate social impact

Social impact and interaction are "the third mission" assigned to higher education institutions. Social interaction and impact are considered important, but how interaction is understood still varies widely (Frondizi et al. 2019; Stewart 2020). An important manifestation of the "third mission" in higher education is close cooperation with stakeholders and a regional impact, as well as commitment to regional development (Gaisch et al. 2019).

In the SafeInLog project, a concrete aspect of social impact is the transfer and application – in the form of interaction and information management – of the information generated in the project and competence in the companies involved in the project. Successful leading with knowledge has been shown to have a positive impact on personnel's human capital, the culture of learning and the performance of the organisation, for example (Cooper et al. 2016). The companies involved in the project were provided with essential information on their personnel's wellbeing at work and the Quality of Working Life, which refers to the combined impact of wellbeing at work and the quality of the activities of the working community. Wellbeing at work is a factor of production, and measuring the Quality of Working Life therefore also demonstrates how it is linked to the company's financial forecasts.

It was essential during the project that the management level of the companies understood the impacts of occupational safety and the development of wellbeing at work, which were reflected in the Quality of Working Life experienced by personnel and subsequently, in the company's turnover.

Personnel development measures should be carried out with a focus on the employees and their needs and values (Hu & Jiang 2016). Employee-centred development not only offers cost savings but also improves business operations in the long run. Development based on information gathered through surveys or other methods saves resources, since decisions based on information make it possible to find the right operating model

and to make the right decisions (Choo 2001). In this case, personnel development can effectively improve wellbeing at work in a collective manner, which is also linked to the development of personnel's sustainable productivity.

Listening to employees and addressing grievances during both good times and bad in a constructive atmosphere contributes to improved Quality of Working Life. The management of a proactive organisation can also understand the importance of personnel wellbeing as a factor of production in difficult market situations and is capable of functioning over the long term. Depending on the situation, resources can be reallocated to measures related to addressing the grievances of the working community or personnel commitment, for example. The interaction between personnel and management can thus even deepen during critical times. At the same time, companies may have to consider a new way of creating operating models to ensure success amid changes.

For its part, the development that has taken place in the companies also boosts regional development. In addition, information generated in the project is disseminated to both the in-house logistics sector and other sectors, which enables an even broader impact in society.

Social impact also manifests itself through the students who completed studies in the project. The students completed various learning assignments related to the project activities and participated in benchmarking visits to companies. In addition, three students adopted a more in-depth approach to the project's themes through their theses. This has enabled the students to absorb information and skills in cooperation with companies. In turn, they can share what they have learned in new environments and in their future tasks (Väisänen et al. 2015).

The role of the specialists participating in the project as developers of their own sector and sharers of information and competence with other specialists, researchers and eventually, society at large, was also important from the perspective of social impact (Mustajoki 2005). By participating in the project, the project actors, or specialists, had the opportunity to familiarise themselves with companies in the in-house logistics sector and their operations, specifically in situations that challenged the companies' ability to respond to changes and external events such as the coronavirus pandemic and the war in Ukraine. The companies' ability to respond to these challenges has been surprisingly good, and despite the challenges, the actions of the companies' personnel have been flexible and creative.

The surveys conducted in the project provided plenty of diverse information about wellbeing at work in companies and more broadly, in the in-house logistics sector, as well as about the challenges related to wellbeing

at work and, on the other hand, the aspects that function well and are empowering. This information and the lessons learned are easy to apply in education and other project activities, for example. It is also very important to share the information more broadly with other companies in the in-house logistics sector. It requires the same communication channels and partners that sector companies themselves use. Communication should tap into the experience and voice of the companies that participated in the project. These companies can express the information in a manner that other companies find interesting and often do so better than the project specialists.

For the development of society and specifically, working life, it is important that the project specialists communicate the project results and findings to other specialists and researchers. In addition to the results, experiences related to the implementation of the project should be raised. They offer a wealth of insights, especially into projects implemented during the recent challenging times. The lessons learned will be shared by the project specialists in the final stage of the project.

Conclusion

From the perspective of wellbeing at work and the Quality of Working Life, the measures taken in the SafeInLog project were an extensive journey of learning for both the project employees and the companies themselves. The in-house logistics sector was vulnerable to the events that took place in society during the project. These events introduced additional nuances to the progress of the project. However, effective personnel development could be carried out in the sector during the project by increasing the level of leading with knowledge in companies through working life cooperation. In turn, companies were able to focus on the employee-centred development of occupational safety and wellbeing at work by listening to the signals of their employees. The level of immediate supervisor work in the in-house logistics sector was also raised through several coaching measures. At the same time, more in-depth research information was obtained on the Quality of Working Life, for example, which is valuable when responding to social challenges.

Development measures will also be needed in future. According to the information collected in the project, mental strain especially is considerable in the supervisor group. This is also manifested as a higher risk of burnout. To prevent the risks from realising, measures will especially be needed to reduce mental strain in the future. Management's capability of taking measures in light of new information will play a key role in this.

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Maina Seppälä, Markus Halonen, Kati Ojala & Harri Sarjanoja

Developing a male-specific approach to work in cooperation with working life

The Miestämö – Men into the Labour Market through Hybrid project creates new employment and training opportunities for men and produces male-specific data for employment professionals. The project is funded by the European Social Fund (ESF) and its key objective is to lessen the gender-based differentiation of career and educational paths. The project is active in the regions of South Karelia and Päijät-Häme.

Working life is going through a major change. Many traditionally labour-intensive industries are being automated, with some occupations set to disappear altogether. This change is particularly pertinent to men. The Miestämö—Men into the Labour Market through Hybrid project works with those men whom the aforementioned change concerns. The activities of the Miestämö project include identifying and recognising competence, encouraging lifelong learning, finding new opportunities for studying, and developing digital skills for the purposes of both working life and studying.

The Miestämö project promotes gender equality. It produces new data on men's lives, their relationship to work and studies, and on their future dreams for professionals encountering men in their daily work.

The change in working life requires a new way of combining one's own skills and education

The Miestämö project team has noticed that some men need additional support especially for conceptualising the benefits brought about by continuous learning and technological development. While these men may have digital skills, they are not necessarily able to apply them in demonstrating their own skills or in studies.

The job structure of the labour market is expected to undergo a great change. The share of jobs with low education requirements is expected to decline by around 5%, while the share of jobs requiring college/university education is expected to increase. This means that we need to continue developing competence development models and smoother models for training, and encourage especially men to develop their own competence (Leveälahti, 2022).

The students of today play an important role in future gender-equality work

The Miestämö project promotes gender equality. The best way to achieve it is to increase awareness and bring up the special characteristics of genders. The social services students of LAB University of Applied Sciences have been provided with training on male-specific competence. The training material consisted of an introductory lecture on gender-sensitive working and other materials supporting the subject matter and, during one of the sessions, of discussions held in small groups in which the students had the chance to share their thoughts and experiences on the subject.

Based on the feedback collected from the students, "*male-specific competence*" is still an unfamiliar term and professional method for many students. The new knowledge on the subject matter gained by the students included in particular the stereotyping men are subjected to and the social expectations faced by men, as well as structural problems focused on men (Ojala 2022).

The Miestämö project focuses on questions related to both working life and gender equality, particularly in South Karelia and Päijät-Häme. However, the phenomena the project works on are broader, and can be seen in every facet of society. This article discusses the Miestämö project's key methods for implementing the project's measures and, through them, engaging in working life cooperation with a variety of parties. The project has relied on three methods – campus visits, phenomenon-based discussions and Moodle courses – which we will explain in the following paragraphs. The final section of this article will review the impact of the above and of other network efforts.

Campus visits simulate studying at a university of applied sciences

"*Higher education is not for men*" is one way of crystallising a thought whose adoption influences men's prospects and choices in life. The campus visits of the Miestämö project aim to relate what college and university studies are

really like these days and to introduce the visitors to a campus environment. The visitors get the chance to familiarise themselves with university studies and different fields in practice and with a low threshold. If they find themselves especially interested in a particular field, they can have a closer look at it. The objective is to provide the participants with a functional introduction to various occupational guidance and career choices and to discuss the identification of one's own skills and future hopes and goals.

Information and experiences of studying today

A group of nine people, composed of the clients of the Sysmä municipality's activity centre and their counsellors, visited the Lahti campus. During the day, they were provided with a wide tour of the teaching facilities and educational opportunities. The dedicated facilities, such as the teaching facilities for working on materials, design and simulation, served as good ice breakers. At the same time, they added to the visitors' understanding of the versatility of academic studies. In the closing discussion, the visitors were provided with information on entrance exams and the channels through which to apply to a university of applied sciences.

The project contacted the employment services of Sysmä municipality again in June 2022. The feedback collected from the visitors was fairly positive. The diversity and opportunities offered by studies at a university of applied sciences had taken shape when seen in a campus environment and the visitors felt their practical knowledge of the education had increased. The parties agreed that the next visit to the Lahti campus from the Sysmä activity centre, which houses rehabilitative work activities and a workshop for youth, would take place in autumn 2022.

Thanks to cooperation with working life, another group visited the Lappeenranta campus and familiarised themselves with the university of applied sciences. In principle, the educational establishment is open to the public and anyone at all would be entitled to visit it, but not many people think of this if they are not presented with a separate opportunity to do so. On this occasion, the invitation was made by the project team and a group counsellor at the Laptuote foundation took them up on the offer. The project team was already familiar with the group of visitors from Laptuote through their participation in a Moodle course. Campus visits can therefore be carried out equally successfully as a day implementation or as part of more extensive work.

Image 1. The J. Hyneman Center is a well-equipped protolab at the Lappeenranta campus. (Image: Leinonen 2020)

Phenomenon-based discussions focused on dialogue on male-specific subjects

The method used for the production of male-specific data involved phenomenon-based discussions. Over the course of 2021, the project held a series of these discussions, getting together more than 50 participants made up of professionals working on men's issues and of individuals belonging to the target group. Some of the participants attended more than one of the discussions. A total of four phenomenon-based discussions were held online through Zoom, which enabled simultaneous participation from both Päijät-Häme and South Karelia.

The content and execution method of the discussions was planned in accordance with the principles of interactive online working and relied on, among other things, Sitra's toolbox on phenomenon-based thinking (2018) and the Timeout method (Erätauko-säätiö 2022). The guiding thought was to bring people interested in the theme together for an equal and inclusive dialogue which focused on a joint examination of the nature of phenomena related to male-specific work and the attendant causal relationships from various perspectives.

Image 2. The instructions for organising a phenomenon discussion have been compiled as an infographic.

Feedback on the phenomenon-based discussions was collected from the participants using Zoom's Polls tool at the end of each discussion. The collected feedback was used in the planning of future events and, ultimately, as assessment data on the usefulness of the discussion series in producing male-specific data. Based on the feedback collected from the participants, the discussions facilitated by the Miestämö project were successful in terms of both their content and execution method (Ojala 2021a).

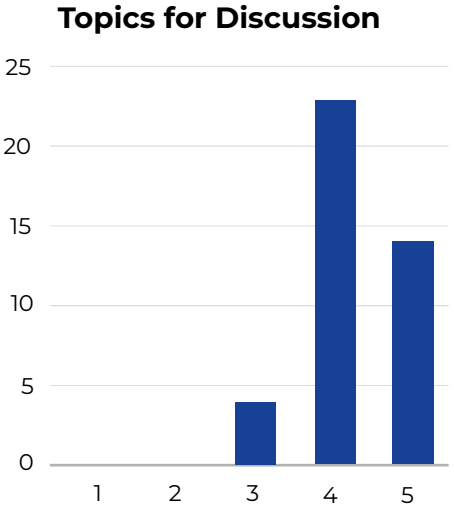

Table 1. The Results for question: Topics for Discussions. Likert-scale response options 1 = We did not discuss relevant topics and issues, 5 = We discussed essential topics and issues.

Moodle courses in cooperation with working life

The project developed ways of working and measures which can also be implemented in a high-quality manner online, while acclimatising men to the requirements of modern working life. Digitalisation has changed working life and information technology has become part of the everyday working life of Finnish workplaces in all occupations (Muilu 2021; Sutela et al., 2019). Digital skills are a basis for activities in working life, participation in training and education, and for taking care of errands online. Equal participation in the various activities of society requires sufficient digital skills and, when necessary, their updating according to everyone's own level of competence (TIEKE. Tietoyhteiskunnan kehittämiskeskus ry 2022).

In spring 2021, the project built a digital Moodle course which allowed participants to try learning in an authentic digital environment and expand their thinking on new training and job opportunities. The objective of the course was for participants to learn how to function in a digital environment, describe their own skills and competence, and use the skills obtained from the course when applying for education, training or working life. The course was composed of sections in line with the objectives, with the sections including assignments completed both

individually and in small groups. The course was piloted in cooperation with the Parik foundation and its participants consisted of nine clients of rehabilitative work activities completing the foundation's own digital course at the same time. The project workers attended the course meetings remotely, through Zoom. The virtual meetings also aimed to encourage the course participants to attend the digital meetings through different platforms, given that the adoption of the digital skills required in education and working life, and the use of information technology, are often impeded by different attitudes, such as a fear of damaging a device or the mix-up of data. In addition to increasing their digital skills, the individuals participating in various digital courses must gain the courage to use and experiment with the technology, which contributes to their learning and lowers the threshold for adopting new technology (Kansalaisopistojen liitto 2018).

The Moodle course has been held four times so far, over the course of 2021 and 2022, with different partners. Each of the courses was planned in cooperation with the respective partner to meet the participants' needs. A course was organised jointly by the Miestämö project and the Lahti OSKE LAB project of LAB University of Applied Sciences for immigrants with a university or college degree, the participants of which also participated in the integration training organised by Salpaus Further Education (see Ojala 2021b).

The overall number of the courses scheduled and planned for 2021 and 2022 was higher, but some of the courses had to be cancelled due to a low number of participants or tightening coronavirus restrictions. Challenges were also met in directing clients to the courses, because individual guidance would have been required.

Cooperation with services engaged in employment-enhancing activities

The Miestämö project was prepared in cooperation by LAB University of Applied Sciences and regional employment operators. The project's preparation phase included hearing the views of professionals working with unemployed men and men at risk of social exclusion in relation to modes of work that support the men. During the project's preparation phase, it emerged that the key factors preventing the social exclusion of men include the prevention of long-term unemployment and rapid, concrete solutions in promoting employment, as well as increasing and strengthening competence level.

In Päijät-Häme, the Miestämö project has been actively involved in the activities of the employment network of the Lahti area, which has 80 members representing a wide range of sectors and organisations working on employment issues. The employment network is coordinated and convened by the employment services of the Lahti Diaconia Institute (DILA). The employment network of the Lahti area aims to gather together the various parties in the area involved in employment matters and to increase their awareness of each other (Lahden diakonialaitos, 2022). One of the network's key missions is to support the client guidance work of the personal coaches in the local government pilots on employment. The local government pilot project on employment in the Lahti area constitutes part of the employment measures of Prime Minister Sanna Marin's government, which aim to reform the service structure and shift employment and economic services to the level of local governments (Aho et al., 2022). Structural unemployment, a low level of education and the migratory movement burdening the management of employment make the Lahti area challenging in terms of employment-enhancing activities. The local government pilot on employment in the Lahti area has sought to develop new solutions for the interfaces of labour market policies and education (Rita, 2020). The measures of the Miestämö project (campus visits, Moodle courses) introduced to the personal coaches in the local government pilot have focused on the interfaces of competence and working life skills, while aiming to support the coaches' client guidance work.

Another key mission of the employment network of the Lahti area is to support an increase in its job-seeking clients' awareness of the services promoting employment available to them and on different job opportunities. To this end, the network has planned events aimed at clients at the Palvelutori Service Centre in the centre of Lahti. The Miestämö project was part of the team developing one of these events, the theme of which was future working life and different opportunities for education (*Tulevaisuuden työelämä ja opiskelun eri mahdollisuude*t).

In the region of South Karelia, the central theme emerging from the development measures has been the prevention of men's social exclusion. This has revealed the men's perception of not being heard in various services and the need for updating competence and professional skills on guidance, coaching and employment services in relation to male-specific issues. The ways of working and operating methods created in the project would indeed be available for professionals working with men at risk of social exclusion.

In spring 2022, the national network of gender-equality work gathered together operators from South-Eastern Finland and the Päijät-Häme region. The participants comprised a diverse network of professionals who encounter their clients in different fields and in different settings. Among other things, the participants discovered that officials working at the ELY Centre have noticed that they need additional data on a gender-sensitive approach to work in terms of employment services. This is a need that the Miestämö project is able to meet, and it is indeed already planning a training day for experts, the themes of which will include the opportunities offered by gender-equality work and a gender-sensitive approach to work. Other themes to be discussed include labour markets differentiated according to gender and the impact that gender has on structural unemployment.

Close cooperation with working life plays a key role in the success of various pilot projects

The findings yielded by the campus visits included the observation that the factor which most influenced participation in the visits was a familiar group and counsellor with whom each participant was able to visit the new environment and university setting. This makes the threshold for seeking new experiences as low as possible, nearly imperceptible. What is required for the campus visits to materialise is a good working life contact and plenty of advance work and information.

The guidance can be viewed from the perspective of three different operators: the individual, a group and the wider community or an organisation (Vehviläinen, 2020). In the campus visits, these three levels came together and the goal was a meeting of equals characterised by dialogue. The clients of labour market services, in particular, tend to encounter many parties, services and operating methods in various situations involving guidance and counselling, due to which being subject to guidance has become normal and commonplace for them. Inspiring guidance and counselling is indeed difficult to achieve if the person being counselled is there because they are being forced to or due to a sanction of some sort. In her handbook on guidance work, Yhteistyössä kohti toimijuutta, Vehviläinen (2020) notes that when guidance is perceived as a social activity, it is easier to identify who decides on the process and who is interested in its outcome.

Together with the participants already at partial risk of social exclusion and in need of support, we also took note of the fact that a familiar group makes participation

safe. A slightly vulnerable group needs its own space and peace and quiet to get to know something new. Challenges may include the participants' passive attitude and the invisibility of motivation. A social atmosphere supporting autonomy promotes an individual's motivation and wellbeing (THL, 2020). Kindling motivation is a prerequisite for future-oriented activity (Raatikainen, 2018). This serves as a good reminder to parties working in higher education settings: not everyone pursues academic and career paths driven by their inner motivation or in a goal-oriented manner. Rather, they need appreciative and encouraging encounters which kindle their personal interests. It is precisely encounters of this kind for which the campus visits provide an excellent opportunity.

The phenomenon-based discussions brought together the employees of different organisations

Based on the feedback collected on the phenomenon-based discussions, the participants found the discussions rewarding and interesting. The need for joint discussions is pervasive in our busy age, in which many different parties operate within their own frameworks and job descriptions, with no time or opportunities for easy encounters in their daily settings, particularly in the midst of the pandemic.

A need for thematic discussions has therefore accumulated. One's own place within the various connections of working life contextualises when one can discuss shared issues in a situation that does not involve official liability or demand decisions, but is instead reserved for discussion and reflection. The premise for the phenomenon-based discussions was that there is no single truth or piece of information more valuable than others, but that the participants are equal and that somewhat half-baked ideas are indeed understandable when discussing difficult phenomena.

Employees are often fairly alone while performing their duties, outlined and guided by law. The danger posed by our busy times is that in-depth, structured thinking and discussion gets overshadowed by other work. The examination of phenomena shifts the approach to work from the individual to the collective, and from the personal to society. In respect of multifaceted problems, this provides broader opportunities for tackling an issue, managing it and viewing it from new angles, and for seeing a policy as a factor influencing an individual's choices. In total, more than 50 people participated in the phenomenon-based discussions.

Moodle courses provided an opportunity to exercise digital skills required in working life

The Miestämö project's Moodle course in particular emphasised how important it is to forge a functional relationship with the organisations which encounter the clients and guide them forward. Although it was noted in several different contexts that there is a need for precisely this mode of working and course content, more than one course had to be cancelled due to the low number of participants. It is therefore a legitimate question whether the unemployed persons we hope to see as clients recognise the same need as the professionals, or whether we are talking about an illusion in which the professionals think they know what a particular group needs in order to find employment. This is something on which we would need more data produced by the target group, in addition to the wishes expressed by the professionals.

All in all, cooperation between the different operators should be increased. What often stands in the way of this is the rush and the services' mutual "competition" over clients. There is no time, and sometimes not even the competence, for guidance and counselling. The guidance focuses on parties and services familiar to oneself and projects are often perceived as so transient that there is no time to learn more about them or seize the opportunities offered by them. There is room for improvement here for all service providers and projects as well: we should know how to communicate our own events and participation opportunities in such ordinary terms that one does not need to be an expert of any service to know what they pertain to.

The better a project is at finding the right locations at which to integrate into existing services and public sector activities, the more effective it will be. The project application of the Miestämö project does indeed state that once the project is over it is hoped that its ways of working and operating models would be integrated into the measures of the local government pilot projects and regional employment operators. As a mode of operation, the Moodle course has attracted the interest of other projects and educational establishments in which the platform is used, and it is possible that as a method, it will survive the project. The methods piloted in the project have been introduced to the personal coaches of the local government pilots, for example, and they are described in a publication on the Miestämö project. The purpose of the publication is to allow any working life partner interested in the method to give it a try and adopt it in their repertoire if they so wish.

Plenty of opportunities for cooperation in the field of gender-equality work

In addition to work involving employment-enhancing activities and the identification of skills, the Miestämö project has focused on gender-equality work. There is still plenty to do in terms of gender equality; the change has been rather slow, particularly in smaller localities and counties. Gender-related phenomena are often difficult to discern and notice, and we still need plenty of concrete modes of working and methods with which to start tackling the shortcomings.

On the other hand, this offers more room to manoeuvre and new forms of cooperation. One example of such cooperation is the website developed jointly by the Miestämö project and the association for mental health in South Karelia, MIELI Etelä-Karjalan mielenterveys ry.

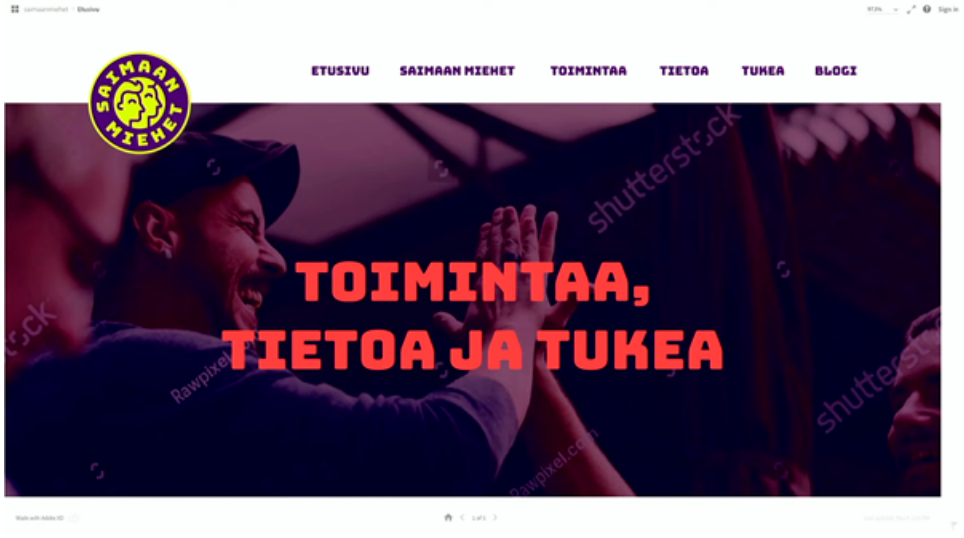

Image 3. The Miestämö project has developed The Saimaan miehet website for men to support their wellbeing.

In the future, the Saimaan miehet website will serve as a location in which to gather data, various support activities and events for men in South Karelia. While the website's content has been produced in close cooperation, the website itself will be maintained by MIELI Mental Health Finland once the project comes to an end. Co-creation of this kind has provided an excellent opportunity for bringing different competencies and resources together and for enriching them.

Another form of cooperation is still taking shape: a network of gender-equality work, which is meant to begin more regular activities in autumn 2022. The first meetings have already been held, the organising of the network's activities is underway and the hopes of the various operators in the region have been heard. The workshop held in April 2022 raised an interest in training organised for various professionals by the Miestämö project on the theme

of male-specificity and gender-based phenomena in the field of working life. There is a particular need for training different professionals and counsellors on how to master a gender-sensitive approach to work. In this respect, the workshop participants expressed a hope for more data, but also concrete tools and means.

All types of cooperation with working life are also key to the project's effectiveness. It seems that there is more room for this in the field of gender-equality work, as opposed to the field of employment services, which is already in the midst of major changes that are likely to narrow down cooperation and commit the resources of the organisations' employees to the conceptualisation and management of their own job descriptions. Fruitful cooperation therefore requires a suitable amount of static and open room for manoeuvring to provide a framework, but also the courage and strength to experiment with new methods and forms of cooperation within that framework.

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The changed requirements of nursing in working life

The operating environment in healthcare has been undergoing a major change in recent years. Digitalisation and changes in competence requirements, as well as the change in the administration and service system, are strongly reshaping nursing and its content and the competence of nursing professionals (Jauhiainen et al. 2017, p. 137; Poncette et al. 2020, p. 2). It is therefore important to develop the teaching materials to meet the requirements of today and tomorrow.

Based on these needs, an entirely new textbook on clinical skills, "Hoitotyön perusosaaminen", published on 6 May 2022, was written to respond, for its part, to the changed environment and competence requirements of healthcare. The "Hoitotyön perusosaaminen" book is aimed at future registered healthcare professionals. Its objective is for the reader to understand the significance of quality nursing and obtain information on legally responsible nursing and its safe execution. These increase the reader's own competence and professional skills (Blomqvist et al. 2022, pp. 3-4).

Nursing must be based on researched information, meaning the considered use of the best available topical knowledge on a patient's care and the consideration of their loved ones. The book, "Hoitotyön perusosaaminen" (2022), provides students with proven information on nursing and its execution. It is also based on the general guidelines on care. The professional skills of the nursing staff and their development influence the quality, safety, customer-orientation, effectiveness and costs of nursing (Blomqvist et al. 2022).

In this article, we focus on three of the aforementioned topics, which especially respond to the changed contemporary competence needs – client and patient

safety, digitality, and the ABCDE approach. The Client and Patient Safety Strategy and Implementation Plan 2022-2026, published in February 2022, includes four strategic priorities. The three topics of the book discussed in this article are included in the strategic priorities as follows:

- Strategic priority 2: Thriving and competent professionals.
- Strategic priority 3: Safety first in all organisations (objective 3.2: Ensure safe remote and digital services and objective 3.3.: Safety culture is the foundation of our daily work).

Among other things, the strategy emphasises support for and ensuring competence, training, and safe operations in all service processes (STM 2022, 14-15). For example, in Strategic priority 2, skilled professionals are expected to master the use of the ABCDE approach and aspects related to digitality. A skilled healthcare professional must know how to care for a client and patient holistically, accounting for different dimensions.

Client and patient safety

Up to 13% of healthcare expenditure is spent on remedying medical mistakes and the resulting harm, 9% of which would probably have been preventable (OECD 2020). At a national level, this expenditure could be as high as EUR 1 billion a year (STM 2022). The Finnish Institute for Health and Welfare (THL) has estimated that 700-1,700 people in Finland a year die because of adverse events (Roine et al. 2017). Client and patient safety is something for which healthcare as a whole is responsible, and it cannot be delegated to a single person in charge of client and patient safety. Adverse events can never be eliminated entirely, but the harm they cause can be limited with protective structures and systematic operating methods (Roine et al. 2018).

For the operating models of client and patient safety to be realised in practice, the workplace community must have a positive learning and safety culture. Everyone must be willing to learn and turn any mistakes into situations to be learned from. Thereby, client and patient safety can improve by addressing the reasons for the mistakes (Otala 2014). The key dimensions of safety culture according to the Canadian Patient Safety Institute (CPSI) (2007) are 1) a culture based on information (the key data related to safety are collected and analysed, and the improvement suggestions based on them are implemented); 2) the reporting culture (an atmosphere of confidentiality in which employees have the courage to report safety incidents and improvement

suggestions without fear of being blamed); 3) a learning culture (where safety incidents are viewed as learning opportunities); 4) a just operating culture (a balance and understanding between the perspectives of an organisation and the individual); and 5) a flexible culture (in which people are able to effectively adapt to changing demands) (Kuosmanen et al. 2018).

Education is an important part of the adoption of a safety culture (Kaila et al. 2014). It is therefore unfortunate that it is in almost no way apparent in the curricula of institutions of higher education or the continuing education on offer. When the teaching on client and patient safety is limited to isolated individual aspects, nursing students and healthcare professionals are unable to reconcile theory and practice, and the competence is not transferred to clinical nursing (Steven et al. 2014, Tella et al. 2016, Langari et al. 2017). According to the Client and Patient Safety Strategy, client and patient safety must be included in the basic, further and continuing vocational education of the social welfare and healthcare sector (STM 2022, pp. 28-29). The basic education on client and patient safety must include education on the principles of client and patient safety; system-driven thinking in client and patient safety; the reporting and learning procedure for safety incidents; human factors; as well as the processes and operating methods of client and patient safety (STM 2020, pp. 30-36). Continuing professional education increases the growth of a healthcare professional's human capital, which is visible as increased competence, psychological capital, physical and mental health, and in the attitudes of employees. The results achieved with the systematic education of client and patient safety include primarily changes in attitudes (Niemi-Murola & Mäntyranta 2011, Wong et al. 2010). There is much to develop in training and education that would help in removing attitudinal and administrative obstacles (Kosonen 2019). According to Tella et al. (2015), Finnish nursing students have received less education on the reporting of safety incidents than UK nursing students and need more opportunities to practise the reporting of safety incidents.

HaiPro safety incident reports have been submitted since 2007 (Kuusisto et al. 2019). Although the number of reports is increasing (Liukka 2021), which is a sign of good safety culture (Saarikoski et al. 2017), the development measures implemented on their basis often remain minor (Liukka 2021). The person submitting a safety incident report must describe the factors that contributed to the incident. This refers to the prevalent circumstances and operating models, allowing the development of protective mechanisms

that can prevent a recurrence of such incidents. This allows the development of systems-related factors (systems approach) that influence individual operators. The systems approach recognises that safety incidents arise from the combined effect of the various parts of a complex system and their operation. Incidents and human errors arise from the contributory effect of factors susceptible to them which nevertheless result from the management and processes that steer an organisation's operations. The various protective mechanisms in use are also part of the system (Helovuo et al. 2012). The education and training on client and patient safety must focus on identifying system-level mistakes and protections against them and help healthcare professionals and students identify their own roles as part of overall safety. New employees must be provided with comprehensive induction (Sosiaali- ja terveysministeriö 2022).

In their own work, every professional must commit to key client and patient safety measures (protections), including the correct identification of clients/patients (Kinnunen et al. 2019). Standardised communication methods from aviation, which support safe and systematic communication, have been introduced to healthcare (Helovuo 2012 et al.). These safety-increasing operating methods should also be included in the basic education of nursing to ensure every operator understands the purpose of the operating models and does not take shortcuts in their execution. The most well-known protective mechanisms in healthcare include various checklists (operating theatre checklist, medication administration checklist, etc.) and operating models such as the duplicate checks conducted in pharmacological care.

The training requires both literature and online material. Following the "Potilasturvallisuus" book by Helovuo et al. (2012), textbooks on healthcare have also dealt well with client and patient safety. "Asiakasturvallisuus sosiaali- ja terveysalalla" by Kurki et al. (2021) provides a comprehensive look into safety in the social welfare and healthcare sector. Guidelines on patient safety and risk management, as well as on the investigation of safety incidents, published by the Finnish Society for Patient and Client Safety ("Potilasturvallisuus ja riskien hallinta" and "Vakavien vaaratapahtumien tutkinta") can also be used in the education. The "Hoitotyön perusosaaminen" book published in the spring of 2022 includes content related to basic competence involving client and patient safety, including the various dimensions of client and patient safety (the safety of equipment, nursing, and pharmacological treatment);

serious safety incidents; standardised communication (client identification, the principle of closed-loop communication, ISBAR communication, and CRM Crew/ Crisis Resource Management); safe nursing environments; the restriction of client mobility; and risk management (Blomqvist et al. 2022). Freely available materials for education focused on client and patient safety are still scarce, but as the education material increases, the training will also become easier. The Client and Patient Safety Strategy (2022) calls for regional centres of expertise to define occupation-specific competence criteria in cooperation with educational institutions and institutions of higher education (STM 2022). Client and patient safety still needs to improve a great deal before the new Client and Patient Safety Strategy's vision (Finland is a model for client and patient safety in 2026 – eliminating all avoidable harm) can be achieved.

Digital services in healthcare

For future generations, digital health services are not just an extension of the current services, but an unconditional expectation. Yet it is also important to consider service users who do not possess either the skills or opportunity to use digital services. Future healthcare professionals must indeed also be provided with good skills and competence in digital services during their studies (STM 2016, 4). At the national level, the use of remote, or video, appointments progressed rather slowly until 2019. The Covid-19 pandemic rapidly increased the number of digital and remote healthcare services, so much so that today, remote services and appointments are commonplace in public sector healthcare (Pyörälä 2021).

Jauhiainen et al. (2017, pp. 138-139) have surveyed data on future social welfare and healthcare services and competence needs. According to their study, one of the new areas of competence is digital competence, which means, in addition to technical skills, more in-depth skills which provide the professional with the understanding to respond to complex challenges. The Finnish National Agency for Education's (EDUFI) Competence Structure 2035 survey (Leveälahti et al. 2019, pp. 5, 46, 110) also reviews "the changing importance of sectoral competence needs and key competences", extending until 2035. The level of requirements involving basic digital skills in the social welfare and healthcare sector is growing.

Finland is already one of the most advanced countries in the use of digital services in the public sector. Traditional sectors are also in the middle of a major transition in the private sector. Artificial intelligence and robotics are already

enabling entirely new kinds of services and will continue to do so in the future (STM 2016, p. 34). However, rather than having any intrinsic value, digitalisation is a means to and the enabler of cost-effective and better, more people-oriented service. Service development should indeed start from the perspective of customer needs and aim for services that are provided holistically and at the right time (STM 2016, p. 35).

The digitalisation of healthcare changes the nursing relationship between a client and a healthcare professional. It is a permanent part of modern-day professional skills. Clients also look for information online, and professionals must be able to direct them towards the right information. This is an important skill for nursing students from the outset of their studies. Skills in critical reading and source criticism play an important role in high-quality nursing and the guidance of clients (Blomqvist et al. 2022).

Data protection is an important aspect of digitalisation and digital health services. Everyone is entitled to the protection of their personal data. Data protection is a fundamental right, securing the realisation of an individual's rights and freedoms in the processing of personal data (Blomqvist et al. 2022).

Chapter 3 of the book "Hoitotyön perusosaaminen" examines the overall nursing process, the structural recording of nursing, and information technology. The book briefly introduces digital services in healthcare. Future aims include directing digital services increasingly towards the improvement of health services and service processes, as well as towards responding to clients' individual needs and reducing physical services. Sound and functional digital services can facilitate a client's service process, accumulate cost savings, and increase the efficiency of healthcare, while not forgetting the clients who use traditional methods like telephones or in-person visits (Blomqvist et al. 2022). Citizens in modern society are accustomed to being provided with services at the hour of their choosing, easily and rapidly. Good examples of this include online banking, online grocery shops, and various streaming services. This places pressures on our healthcare system, and it is important for future healthcare professionals to gain a sufficient amount of know-how for the use and development of these services during their training.

Artificial intelligence has gradually expanded from the fields of defence and space exploration, for example, to healthcare as well. In healthcare, artificial intelligence is used in areas such as the diagnosis of various conditions, the preparation of treatment recommendations and surgical procedures and, to an increasing degree today, also in preventive healthcare. While artificial intelligence is not replacing nursing professionals, it assists them in decision-making and is an integral part of future healthcare (Neittaanmäki & Vähäkainu 2018). Today's healthcare already relies on artificial intelligence a great deal. Eksote's homecare nursing uses the Gillie AI solution, which analyses entries made in the patient management systems, screening the data for specific markers that can predict a decline in a patient's general state, for example. Artificial intelligence can also alert staff to multiple entries concerning a client's pain and recommend that the client's pain medication be checked. High-quality AI-assisted analysis of data collected on a client by various sensors is also already possible, allowing the client's condition and any risk factors to be analysed.

The strategy of LAB University of Applied Sciences defines service innovations and solutions, including the advancement of health and smart self-care, as the Health Care Unit's core competences (LAB University of Applied Sciences 2022). It is therefore important to develop both curricula and teaching materials to respond to these needs. Students must also understand future scenarios if they are to understand and boldly develop future health services.

The ABCDE approach

The ABCDE assessment is a structured tool for assessing a patient's condition in practical nursing situations. ABCDE stands for Airway, Breathing, Circulation, Disability and Exposure. The approach is suitable for all nursing situations – non-emergencies and life-threatening emergency situations alike. It guides the staff to first examine a patient's vital signs and then to perform curative measures in their order of priority, based on urgency. The approach can be applied to all patients, children as well as adults. The advantage of the approach is that while the patient's condition can be assessed based on sensory observations alone, it can be specified with the help of various monitoring equipment and measurements (including oxygen saturation, respiratory sounds, ECG, blood pressure and blood sugar) (Suomen Sairaanhoitajat 2022).

Assessing a patient's vital signs correctly in various nursing situations is an essential part of the patient's examination and treatment. Furthermore, the systematic assessment of a patient's vital signs is an important part of client and patient safety (Suomen Sairaanhoitajat). Such a correctly performed assessment also enables the identification of critically ill patients and the start of early treatment, improving treatment results and even saving patients' lives (Downey et al. 2018). Elliott's article (2021) also points out how significant the role of safe and high-quality nursing is in the assessment of vital signs. The systematic assessment of vital signs and the early initiation of treatment can also reduce the costs of both healthcare and an individual client. Correctly performed assessments can likewise have a positive effect on patients' treatment times. When a patient's need for care is assessed correctly as early as possible, the treatment can be started as soon as possible, and any further complications thereby possibly even anticipated or prevented. This provides the patient with the right kind of treatment as early as possible, preventing a deterioration of their condition or illness (Javanbakth et al. 2020).

Suomen Sairaanhoitajat and the Finnish Medical Association (FMA) aim for the ABCDE approach to become the standardised approach to assessing a patient's vital signs in Finland as well, regardless of the treatment facility (Suomen Sairaanhoitajat 2022). Furthermore, the Finnish Current Care Guidelines on resuscitation (Elvytyksen käypä hoito -suositus 2021) mention that the first and most significant link in the care chain is precisely the identification of anomalies in a patient's vital signs and a deterioration in their general state before the situation progresses to a possible cardiac arrest (Käypä hoito -suositus 2021). The European Resuscitation Council (ERC) also recommends the use of the ABCDE approach.

The “Hoitotyön perusosaaminen” book explains the ABCDE approach and its significance in a patient’s care. The book explains the meaning of each letter – what it means in practice with regard to the monitoring and treatment of patients. The book also gives clear directions on how to perform various patient measurements based on evidence (such as blood pressure measurements) to provide nursing students with comprehensive and clear instructions about the correct operating method. On top of this, the book includes practical examples of various patient and treatment situations. Based on all of these, students are better able to apply their theoretical knowledge to practical nursing. For example, rather than blood pressure measurement remaining an individual procedure to be completed, the student understands its significance for the patient’s treatment.

The competence requirements of a general nurse as a backdrop to professional growth

The contemporary Finnish healthcare system is strongly based on the competence of professional nurses (Silen-Lipponen & Korhonen 2020, p. 3). In the spring of 2022, this also became apparent in the nurses’ strike.

The Finnish nursing degree is governed by national and international legislation, and by Directive 2013/55/EU which, to ensure the competence of nurses, defines the competence criteria which all nursing students must meet by the end of their studies. The curricula must be drawn up in a way that ensures that the objectives of the criteria are fulfilled. The education materials must be based on nurses’ competence requirements and respond to the changes in nursing and service needs. The above dimensions and the “Hoitotyön perusosaaminen” book are based on these competence requirements. In terms of information technology and records, the requirements emphasise data protection and the provisions governing it, to which the book introduces first-year students. Various remote services and health technologies are likewise mentioned in the competence requirements and presented in the book.

Client and patient safety is a key part of nurses’ competence requirements. By the time a student graduates, they must master the key knowledge related to client and patient safety. They must know how to prevent safety incidents and advance client and patient safety at all stages of the care process. It is also important to know the safety incident report system and appreciate safety incidents as a process, as the competence requirements reveal (Savonia-ammattikorkeakoulu 2020).

A project for developing the assessment of a general nurse's (180 credits) basic professional skills was launched in 2018 to harmonise the core skills involved in the training of general nurses and their assessment. The project defined the core competence provided by a UAS bachelor's degree in nursing, which corresponds to the competence required in the EU area. The project also produced a national test for assessing this core competence (180 credits). The ABCDE approach is also part of these competence requirements and provides a sound basis in basic nursing for students in the field. The students familiarise themselves with and use the ABCDE approach from the outset of their education, and the assessment is applied throughout the studies. This allows students to deepen their own skills in applying the approach to the care of different patients and various nursing situations. It also ensures that students have mastered the correct use of the ABCDE approach by the time they graduate. The objective of the common competence requirements is to harmonise the quality of education and training in nursing and to ensure that they respond to future competence needs. For its part, the "Hoitotyön perusosaaminen" book supports the achievement of nursing students' competence requirements and helps students focus on the basic skills nursing requires. It also helps the students prepare for the content areas of nurses' national tests in a practical way while applying up-to-date theoretical knowledge (Blomqvist et al. 2022).

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Suvi-Maaria Tepora-Niemi

Trust in multidisciplinary cooperation to assist in the employment of people with a partial capacity to work

Introduction

Partial work capacity and rehabilitation to support coping at work concern nearly all people in Finland at some stage of their working lives. Among the working-age people in Finland, 1.9 million, or 55 per cent, have at least one chronic illness or injury (Tilastokeskus 2011). Of them, 600,000 people estimate that illness or injury impact their work or employment opportunities. Of the people with partial work capacity, 400,000 are employed and 200,000 are unemployed. About 65,000 people with a partial capacity to work who are currently outside the labour market estimate that they have the capacity to work and they would like to work (Sosiaali- ja terveysministeriö 2019). Thus, the employment of people with a partial capacity to work is important not only on the level of the individual but also for society and the national economy. Inclusion in the world of work is a significant aspect of an adult person's life, whereas not being in the labour market is a considerable contributing factor towards marginalisation. Being outside the labour market is also linked to poorer health, and a self-reinforcing spiral is easily formed between deteriorating health and unemployment. In this spiral, poorer health exposes a person to unemployment and, on the other hand, being outside the labour market makes them susceptible to health issues. (West 1998, 24; Rahkonen & Lahelma 2002, 286; Järvikoski & Härkäpää 2011, 86; Tepora-Niemi 2020, 17)

The Finnish Government's target has been set to raise the employment rate to 75 per cent by 2025 (Valtioneuvosto 2021). According to the Government Programme of Sanna Marin's government, one method to achieve this target is to employ people with a partial capacity to work in the open labour market in accordance with their abilities and skills. This will also prevent prolonged unemployment and disability and increase the inclusion in the world of work of those who are disadvantaged in the labour market. Article 27 of the UN Convention on the Rights of Persons with Disabilities recognises the right of persons with disabilities to work on an equal basis with others (Yleissopimus vammaisten henkilöiden oikeuksista 27/2016). However, according to a study conducted by the Advisory Board for the Rights of Persons with Disabilities and the Human Rights Centre, the right to be employed and to work on an equal basis with others were deemed to be realised the least. In particular, attitudes seemed to be an obstacle to finding employment and working (Hoffren 2017, 3-4).

As a measure for employing people with a partial capacity to work, the Ministry of Economic Affairs and Employment and the Ministry of Social Affairs and Health jointly implement a Work ability programme in 2021-2023. The programme is divided into 22 regional development projects. The Work ability -programme aims to identify the support need of people with a partial capacity to work, provide them with individual and well-timed work ability and employment services, and to develop services for employers to facilitate the recruitment of people with a partial capacity to work (Valtioneuvosto 2021). Cooperation between the Ministry of Economic Affairs and Employment and the Ministry of Social Affairs and Health in the regional Work Ability projects aims to address the decades-old challenge and enable people with a partial capacity to work to be employed in the open labour market. The LAB University of Applied Sciences wants to be a development partner for companies and actors in the Päijät-Häme region in solving employment issues and achieving the objectives of the Work Ability project. The cooperation in the Work Ability project is an example of the regional development carried out by the LAB University of Applied Sciences. This article describes the implementation of the Päijät-Häme Work Ability project in 2021 on the basis of interviews with persons who worked in the project and provides recommendations based on study observations to support implementation.

The regional Päijät-Häme Work Ability project: support for work ability and supported employment

The Work Ability project of the Päijät-Häme wellbeing services county is divided into two work packages: (1) support for work ability in future health and social services centres, and (2) the supported employment operating model and its development. In the work package of support for work ability, project employees aim to increase the competence of professionals working in the basic level healthcare and social welfare with regard to identifying the need for support for work ability, assessing work ability and providing support. Customer-centred operating methods will be created for the provision of support for work ability, which will help the client harness their own resources.

The work package of supported employment outlines the foundation of multidisciplinary work by using methods of service design to describe the responsibilities and roles of healthcare and social welfare sector actors, Kela, the employment office and the employees of the local government pilot on employment on the supported employment service paths. A subcontracting model has been prepared for the boundary between job coaching and the exemplary employment of disabled persons, and the supported employment operating model is aligned better with the job coaching model based on quality criteria. The model will be piloted with the long-term unemployed and clients of rehabilitative exemplary employment and services for substances abusers (Päijät-Hämeen hyvinvointikuntayhtymä & Sosiaalialan osaamiskeskus VERSO-liikelaitos 2020).

On 7 May 2021, persons who had worked in the project and the management of the Päijät-Häme joint municipal authority discussed the core elements guiding the project's processes and placed them in the work ability programme "sun" shown in the Image below.

Image 1. The elements of the Päijät-Häme Work ability programme. (Image: Marjut Suokas)

Project assessment

The task of the regional Work Ability projects is to implement the administrative objectives in accordance with the national programme. The purpose of the assessment study is to determine the practical impacts of implemented vocational, political or administrative measures (Jokinen; Seppänen-Järvelä 2017, 151). This article analyses the implementation of the Päijät-Häme regional work ability programme from the perspective of practical actors, in other words, project employees (bottom-up). The understanding of the practical actors is reflected against the administrative level of the programme, and an assessment is conducted on whether the administrative measures are correct, adequate and clear so that they improve the employment of people with a partial capacity to work in the Päijät-Häme region (top-down). In this article, the administrative level refers to the management of the Päijät-Häme joint municipal authority for wellbeing as a regional actor (Seppänen-Järvelä 2017, 152; Weiss 1995).

On the level of the actors (bottom-up), the study aims to assess what opportunities the actors had to implement the project's objectives and develop working methods. It also assesses what the change in the employment of people with a partial capacity to work means in reality in Päijät-Häme. The research questions cover the opportunities to implement the work ability programme, as experienced by the persons who worked in the project in Päijät-Häme (bottom-up). Their experiences are also reflected against the management level of the joint municipal authority for wellbeing (top-down). (Seppänen-Järvelä 2017, 152; Weiss 1995).

The research questions are:

1. Which factors make change possible and which are obstacles to change?
2. How do the employees view the impact mechanisms of the changes and the measures to implement the changes?

The research data consists of interviews with the persons who worked in the Päijät-Häme Work Ability project. The interviews were conducted online in March-May 2022. Meticulous notes of the contents of the interviews were prepared. The data was analysed by means of a theory-driven content analysis, applying the tradition of implementation research (Seppänen-Järvelä 2017, 152; Weiss 1995). The data was analysed by a researcher

who knows the subject area of the Work Ability project well but is not in close work contact with the persons carrying out practical work in the project.

Intention and a respectful attitude are a foundation for improved employment

In accordance with the project plan, the starting points of the Work Ability project are cooperation that transcends administrative and sectorial boundaries and a shared intention to raise the employment level to 75 per cent. The elements of this target include multidisciplinary cooperation that transcends administrative boundaries between healthcare and social welfare, the employment administration, the Social Insurance Institution of Finland and the third sector, as well as social advocacy and cooperation with companies that employ people with a partial capacity to work or disabilities.

A multi-sectoral approach and early support for work ability based on client needs

The structures and functions of the healthcare and social welfare sector will change in the social and health services reform, and this change will also include an opportunity to develop the support for work ability services. The Päijät-Häme region has adopted a comprehensive approach to the development of services to support work ability, instead of just focusing on the assessment of work ability, which is generally considered to be part of support for work ability. This understanding has been initiated by the project employees (bottom-up) as a result of their encounters with clients in need of support for work ability (Seppänen-Järvelä 2017, 152; Weiss 1995).

The project employees have come up with an idea of a service palette, which a client in need of support for work ability could, together with their designated contact worker, use to individually select services that improve their prerequisites for employment. The basic principles behind this are a focus on the client's needs and personalised support. The services supporting employment could include a physician's services, vocational and medical rehabilitation, physiotherapy, increasing the client's working life skills through training, work trials, paying a subsidy or mental health and substance abuse services. To deploy the service palette in the wellbeing services county, the management level of the joint municipal authority (top-down) should, on the strategic level, take into consideration the message conveyed by the employees on the importance of focusing on client needs. In this way, they would set in motion service coordination for support for work ability in accordance with the service palette philosophy (Seppänen-Järvelä 2017, 152; Weiss 1995).

According to the project employees, support provided for and time allocated to development by the management of the wellbeing services county should help integrate support for work ability in the thinking of basic-level employees in healthcare and social welfare. This means that training provided in the sector could be attended and new information concerning the healthcare and social welfare sector could be learned during work hours. Two different approaches have been proposed for the organisation of support for work ability: work would be integrated in the duties of all basic-level employees of healthcare and social welfare, although this involves the risk of spreading the responsibility for providing support for work ability too thinly. An alternative approach is to centralise the work carried out concerning support for work ability to a fixed team of employees interested in and motivated by support for work ability, who would all report to the same supervisor.

The results of the project indicate that employees would like the management level to issue a stronger mandate transcending the administrative boundaries for the development of work (top-down). There is no separate legislation on the development work, but work is carried out at the interfaces of several laws. However, in the basic work, there often is no time for structural healthcare and social welfare tasks, although the Social Welfare Act (30 December 2014/1301, section 7) includes an obligation to perform structural social welfare work. In the healthcare and social welfare sector, it is necessary to carry out change work and to adopt a new way of thinking so that the services will function in the future as well. For the change work to function, the dialogue between the employees (bottom-up) and the management (top-down) should be more intensive to ensure an awareness of what the real change need in support of work ability is and to use the resources towards shared objectives (Seppänen-Järvelä 2017, 152; Weiss 1995).

The work ability coordinator pilot in the project consisted of service development based on client needs. The work ability coordinator supports the supported employment client in the process and coordinates the multidisciplinary work needed by the client. The pilot has shown that the work of the work ability coordinator offers considerable benefits to the client. After the project's pilot ends, support for work ability will continue to need a coordinator of multidisciplinary work. According to the employees who worked in the project, such a person working at the interface of healthcare and social welfare should be available in every health and social services centre (bottom-up) (Seppänen-Järvelä 2017, 152;

Weiss 1995). It is also important that the content of the coordination of support for work ability is made known, so that basic-level healthcare and social welfare employees are aware of what the coordination work entails and that there is a better understanding in society at large of what support for work ability is.

The coordinator of support for work ability may, depending on the client's need, be an employee of healthcare, social welfare, employment office, local government pilot on employment, or a similar party. Pursuant to the Social Welfare Act (30 December 2014/1301, section 42), the coordinator can be a personal worker or, in accordance with the local government pilot on employment, a designated personal coach. According to the project employees, people with a partial capacity to work often do not need social welfare services and, therefore, they also cannot have a designated personal worker pursuant to the Social Welfare Act. Instead, they may have somatic illnesses or a limited ability to function, which is why, if anything, they need the services of a physician and a public health nurse as early as possible, or Kela-sponsored rehabilitation (bottom-up) (Seppänen-Järvelä 2017, 152; Weiss 1995). This is why support for work ability has been expanded in the Päijät-Häme region to include support for both work ability and the ability to function. This makes the approach and work easier for healthcare employees to adopt. In the healthcare sector, it would also be important to have an employee who coordinates support for work ability on a long-term basis. It is important that the management provides solid support and a mandate for embedding the work of the coordinator of the support for work ability, especially as there is no statutory obligation to perform the work (top-down). (Seppänen-Järvelä 2017, 152; Weiss 1995).

A challenge to the successful development of work ability is that physicians and healthcare professionals often do not consider support for work ability to be that interesting and rather view it as a social welfare service. However, the professional assessment of work ability is carried out in a multidisciplinary team instead of it being the duty of a physician or a social worker alone. The development work is also hindered by the development fatigue experienced in healthcare, as employees work under the pressure of reforms and the added workload of procedures and treatments postponed due to the coronavirus. The interviewed project employees felt that working in multidisciplinary networks was less familiar in healthcare than in social welfare. Multidisciplinary development work should be made more visible to promote the adoption of an instructive working method. A practical measure

to accomplish this, brought up by the project employees, would be to use the Kanta service as a communications tool in a multidisciplinary network (bottom-up) (Seppänen-Järvelä 2017, 152; Weiss 1995).

In Päijät-Häme, a well-functioning model for support for work ability has been implemented in Heinola, where the development of the model began in 2008. In the model, a public health nurse plays an active role. Their work is client-centred, extensive and long-term. In addition to the public health nurse, the model includes three designated physicians, and, when needed, a social counsellor is also actively involved. In this way, the activities in line with the model offer genuine support for the unemployed. The Päijät-Häme wellbeing services county seeks to deploy the functions of this model more broadly, so that the real reasons for the need for support could be addressed better in the health examinations for the unemployed and that advance measures could be taken to prevent situations prolonging the need of clients for support for work ability.

Different paths towards the open labour market in supported employment

In Päijät-Häme, job coaching is provided for persons with disabilities or persons who seek the services for the disabled for other reasons. Job coaching is a form of personalised, goal-oriented guidance and coaching that enables clients to transition to the open labour market. If job coaching cannot be tailored for an individual to prepare themselves for transitioning to the open labour market, they can be referred to exemplary employment for disabled persons.

An individual participating in exemplary employment for disabled persons works in a sheltered workshop or as a trainee with an employer and is paid an incentive pay of EUR 0-12 per day. The person participating in exemplary employment usually pays the sheltered workshop a maintenance fee for lunch and coffee, for example, and this fee may be higher than the incentive pay. Thus, individuals participating in exemplary employment for disabled persons may need to pay out of pocket for their participation (Verneri.net 2022). The individuals participating in exemplary employment for disabled persons are usually on a disability pension as well, which may be a factor that raises the threshold for pursuing employment in the open labour market.

In accordance with the objectives of the supported employment work package, a subcontracting model of employment in a group format has been established between job coaching and exemplary employment for disabled persons. The aim of the model is to facilitate the

transition from exemplary employment to job coaching, which prepares the participants for entry into the open labour market. In practice, the members of the group participating in the subcontracting model are hired as employees and they go to the same workplace as a group. They are paid for the work they perform and pay taxes on their earnings. They also receive support from the social welfare services, and an exemplary employment counsellor supports them in the practical aspects of their work. This will also facilitate the expected subsequent transition to the open labour market without the group's support. The exemplary employment counsellor also supports the employer who hired the group, should a need arise.

In Päijät-Häme, the demand for job coaching for disabled persons is higher than the available job coach services. The persons referring individuals to the supported employment services should identify and be aware of the difference between job coaching, employment in a group format, exemplary employment, rehabilitative exemplary employment and exemplary employment offered by the special welfare district, so that the clients are directed to the appropriate services. The number of potential participants would be even higher than it currently is, but the personal workers of many clients are not aware that the service is available without a disability diagnosis. In addition, the concept of a disabled person in the Finnish language is narrow and stigmatising, and disability is considered to mean a developmental disability (Tepora-Niemi 2020, 21-25). Persons being referred to job coaching often have neuro-psychological issues, not a disability diagnosis.

Another objective in the supported employment work package is the streamlining of the service paths in supported employment through service design. This work has been carried out with the municipality of Hollola, in particular. The supported employment service paths do not describe solely the transitions between the social welfare services and support measures, but also involve collaboration with companies, job coaching and transitions to the open labour market. As a rule, the paths are designed to focus on the client and to empower them. For the wellbeing services county to be able to apply the service paths for the benefit of the entire county, the establishment of service paths calls for genuine intersectoral multidisciplinary collaboration, a respectful attitude and listening by both employees and the management (bottom-up; top-down). The modelling provides examples that have helped demonstrate the need for diverse services and, in particular, for multidisciplinary intersectoral work

and broad-mindedness. A digital service palette for clients of supported employment is also among the ideas brought up in the planning of the service paths. The implementation of the palette in practice calls for dialogue between the management and employees as well as willingness from the part of the management (bottom-up; top-down) to adopt a multidisciplinary approach and a new way of thinking, to advocate for the rights of persons with disabilities and people with a partial capacity to work and value these persons as individuals (Seppänen-Järvelä 2017, 152; Weiss 1995).

In Päijät-Häme, cooperation is being established between the employment office and the Centre of Economic Development, Transport and the Environment (ELY Centre) to create a job coaching model based on quality criteria. The management level (top-down) and the employee level (bottom-up) of the Päijät-Häme joint municipal authority for wellbeing collaborate by interviewing supervisors whose work is related to supported employment (Seppänen-Järvelä 2017, 152; Weiss 1995). These interviews help to develop the division of work and the establishment of the employment model based on quality criteria.

Conclusions and recommendations

In Päijät-Häme, the implementation of the Work Ability project began in the form of remote work in 2021 due to the exceptional circumstances caused by the coronavirus. Remote work continued throughout the year until it was again possible to return to in-person work as well in the spring of 2022. Due to the exceptional circumstances, the launch of some project functions was delayed, but new ways of working, which will also benefit the project, were also learned. In 2022-2023, the project will be better equipped to genuinely produce new initiatives. The following should be taken into consideration in the development work:

- Sufficient support from the management of the joint municipal authority for wellbeing. According to the project employees, discussions about the importance of the project conducted internally at the management level of the joint municipal authority and between the management level and employees were important in terms of successful change work. The opportunities of the employees to proceed with the changes would improve through increased possibilities to influence the change work and the project employees' strengthened competence in development work. In addition, better training opportunities to expand the understanding of the professional contents concerning support for work ability and supported employment, for example, would also benefit the project employees.

- Strengthening the self-determination of people with a partial capacity to work. Self-determination includes the individual's right to feel capable and to maintain and apply their abilities (Beauchamp & Childress 2001; Topo 2012, 287-288). The core of support for work ability and supported employment is building the confidence in their own abilities and skills of persons who have been outside the labour market and have partial work capacity. The confidence must be built and strengthened over the long term on the level of an individual and society. The individual's experience of being capable is mirrored in the community and society in which they belong. Successful support for work ability and supported employment will strengthen the individual's confidence in their own skills and help them in the dialogue with the employer.

- Need for private-sector employers. The matters concerning support for work ability and supported employment encompass more than developing work in social welfare and healthcare and cooperating more closely with the employment administration and Kela. An essential aspect is to reach private-sector employers and market the philosophy of support for work ability and supported employment to them (Hakala & Klem 2018). Similarly, the subcontracting model developed in the Päijät-Häme Work Ability project is a good and important initiative for a new kind of employment method. However, it also highlights the fact that supported employment is not a matter that is internal to the healthcare and social welfare sector, but it is important to increase the awareness of supported employment in society and, in a more targeted manner, among employer companies.

- Active involvement of the third sector. Third sector organisations that operate nationally and locally should be involved more closely in the modelling of the work ability service in Päijät-Häme. Several projects concerning people with a partial capacity to work and in which the third sector plays an important role were under way in Päijät-Häme in 2022. The work of organisations should be harnessed for support for work ability, since the organisations have specific information related to and competence in, for example, providing adaptation training for certain somatic illnesses, rehabilitation, as well as services offered to different illness or disability groups to support employment (Verainen 2022).

- Building trust between different actors. More broadly, influencing the attitudes towards and preconceptions of the employment of people with a partial capacity to work is important for increased equality and non-discrimination in society (Kerätär 2016; Tepora-Niemi 2019, 119-133; Sivunen 2020; Heino-Holopainen 2022). Trust builds trust (Järvensivu 2022). For employees, the core of support for work ability and supported employment is the appreciation of another person and their competence across professional boundaries. It enables exchanging ideas and becoming inspired in a new way about doing things (Järvensivu 2022). More important than trust transcending professional boundaries is to trust that people with a partial capacity to work are valuable and skilled individuals, who have equal rights to recognise their own abilities and receive remuneration for the work they perform on an equal basis with others (Yleissopimus vammaisten henkilöiden oikeuksista 27/2016).

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03

Data and technology for wellbeing

Emilia Laapio-Rapi, Pekka Korvenoja & Jan-Erik Palviainen

Service Design Methods in the Development of an Acute Care Unit

Background

Public health care sector organisations have faced several challenges in recent years. An ageing society, the Covid-19 pandemic, and a lack of resources have decreased work satisfaction among nurses and other health care personnel. These factors have also affected client satisfaction and quality of care, even in patient safety. Acute and emergency care units have possibly faced these challenges more than other units due to the special features of care and 24/7 open service hours. Due to a lack of primary care resources, acute and emergency care units are also quite often the first contact for clients in need of care.

The acute care and emergency services legislation changed in 2018 (Sosiaali- ja terveysministeriö 2022). The legislation means acute and emergency care units have also started to care for more primary care patients in joint emergency care units. This has led to an increase in the number of clients in acute and emergency care units. The demands of work, skills, and knowledge have changed rapidly, and nurses, both experienced and those who have newly graduated, need strong competence to work with clients they have not treated before.

The increased number of clients and lack of resources have changed the service system and its needs. Design service methods are a possible method for solving these problems. This article presents a case that used the service design method in the development of an acute and emergency care unit. The development process was conducted with the LAB Social and Health Care campus team (LSC) and another expert (ELR) from the Faculty of Social Services and Health Care.

Service Design as a development method

According to Tuulaniemi (2013), service design helps organisations recognise service needs, innovate new services, and develop already existing ones. Service design enables a combination of new and old knowledge in various ways. Service design adopts the design process's workflow, combining iterative and active approaches. The service design process is flexible. Service design also enables solution-oriented ways of working and enhances the interprofessional approach. (Miettinen 2014; Stickdorn et al. 2018.) Service design can be seen from different perspectives. It can be seen as a mindset, a process, a toolset, a shared interdisciplinary language, or even as a management view. Service design sets five principles: it is human-centred, collaborative, iterative, evidenced, and holistic. Human orientation includes all participants and their experience in the process. A collaborative approach engages people from various backgrounds in the process. An iterative process departs from traditional development processes especially from the experimental perspective. The process moves quite quickly to testing and piloting new ways of working, and mistakes are allowed. It is often flexible, and returning to older phases is always allowed. (Stickdorn et al. 2018.) Service design methods have been used in health care settings especially from clients' perspective. However, the method remains quite unfamiliar for supervisors and personnel in their own work.

The pilot case

One acute and emergency care unit took part in this development process, which utilised a service design method approach. Service design methods included several workshops for supervisors and personnel. The process and workshops were conducted with three experts, who coordinated the process.

Development process started with a discussion of development needs with supervisors. After commitment to the process, actions and objectives were presented and discussed. Before the workshops, gathering background information included interviews with two nursing managers and statistical information, including client satisfaction and patient safety information. After an understanding of the current situation with background information was gained, the workshops started. Personnel and supervisors' workshops were held separately. Supervisors took part in four workshops, and personnel in two. All the workshops were held in person. The three experts exchanged information to consider in the different workshops. Joint webinars for personnel and supervisors were held after the workshops during the end phase of the development work. The process is presented in Table 1.

Timetable	Function	Content/Theme	Responsible person
November 2021	Start of process	Commitment to process, plan of actions needed	LSC + ELR
November 2021	Gathering background information and preparing workshops	Supervisor interviews, client satisfaction information, personnel work satisfaction information	LSC
December 2021	Workshop I for supervisors	Gaining an understanding of the current situation in the acute and emergency unit	ELR
	Workshop I for personnel	Gaining an understanding of the current situation in the acute and emergency unit	LSC
December 2022	Workshop II for supervisors	Setting objectives for future actions	ELR
February 2022	Workshop II for personnel	Finding solutions for development needs	LSC
February 2022	Workshop III for supervisors	Finding solutions for development needs in relation to objectives	ELR
March 2022	Testing and piloting	Implementing solutions: personnel questionnaire, development groups begin	Acute and emergency care unit's supervisors
April 2022	Workshop IV for supervisors	Results of piloting and testing solutions	ELR
May 2022	Webinars for all participants	Presenting results to personnel and discussion of these and future plans	LSC + ELR

Table 1. Development process structure and phases.

Using service design method in developing process

The supervisors who participated in this process were unfamiliar with service design. The key elements of involvement and a flexible process were discussed with them at the beginning of the first workshop. The first workshop focused on gaining a real understanding of the current situation and development needs. The supervisors produced more than thirty different development factors during the workshop, and all were also discussed. They then selected the three major themes from these factors which they felt were most important and acute. After the workshop, the gathered development needs were analysed using a qualitative approach. The results of the content analysis were sent to all participants.

The second supervisors' workshop focused on devising objectives related to the development needs found in the previous phase. The supervisors named six objectives that they evaluated as realistic and approachable. Each objective was discussed and viewed separately. The third workshop focused on finding possible solutions to achieve these objectives. The solutions were then tested in the acute and emergency care unit.

The fourth and final workshop focused on the results and feedback from piloting solutions. One key factor that needed to be solved was the legislation-based change of actions in the acute and emergency unit's services. With a pilot time, the supervisor had the opportunity to clarify the personnel's points of view and desires related to new kinds of processes and decided to start planning new ways of organising services in acute and emergency care units. These results and plans were then presented and discussed in joint webinars with the personnel. The three experts who conducted the process communicated systematically between workshops.

Results and experiences from case

Based on the supervisors' feedback, they would have been unable to produce a structured and planned process for development by themselves. They also recognised the need for joint discussions focusing on a specific theme and wanted to continue these in the future. Joint webinars held for personnel also afforded a clearer insight into everything undertaken during the process. Altogether, the participants felt they had gained some new tools and motivation for developing the acute and emergency unit and its work. Based on the feedback, the service design approach is very suitable in health care settings because of its holistic and human-centred nature. Similar views have been expressed by Stickdorn and Schneider (2021).

From the organisers' perspective, the process conducted with the LSC and an expert was very successful. The shared workload allowed a focus on core issues and the expertise of each expert. The knowledge flow and support between the team increased satisfaction with this demanding process. Furthermore, the results of both the personnel and supervisor workshops supported the need for development actions. Team members were able to work in a committed and trustworthy environment. There were also joint learning experiences.

There are a few future development needs for such expertise development work. The team was working together for the first time, and it took time to build teamwork and find effective ways of working together. In future, it would be beneficial for team members to know each other beforehand. The service design method requires trust and confidentiality between all members, and this means all team members need to be trusted. In this case, all the team members were motivated and committed to finishing the process. This enhanced and greatly helped with teamwork and confidentiality.

Enhancing cooperation with working life

Cooperation between the University of Applied Sciences and working life is based on legislation. Universities of Applied Sciences must serve working life and regional research, development, and innovation (Ammattikorkeakoululaki 14.11.2014/932). The reinforcement of cooperation between organisations and working life is also presented in the LAB University of Applied Sciences' strategy and objectives (LAB University of Applied Sciences 2022). With these demands, we must find new ways to work and develop regional workplaces. Traditionally, working life cooperation in health care services has been understood as clinical placements and other clinical settings or traditional research and development work.

In this case, it was possible to test and pilot the University of Applied Sciences' expert-driven service design process, but the main responsibilities for development remained with working life. The experts' role was to coach and introduce new ways of working for supervisors and management. Service design and management consultation are not new in public sector organisations. However, these services have not traditionally

been provided strongly with University of Applied Sciences services. Service design as expert consultation and other expert consultation services remain a relatively new product for the wellbeing unit service list.

In this pilot case, it was possible to respond rapidly to acute and emergency care units' development needs. The LAB social and health care campus team (LSC) model made it possible to start and support the experiment according to a fast timetable. The LSC team experts were able to produce the required background information and start gathering background data immediately after the commitment of both parties. It was possible to start expert work without heavy development project bureaucracy and funding applications. The fast start and rapid process made it possible to start focusing on development needs and real-life acute problems. Expert resources were also easier to calculate with this kind of small expert group work. The fast reaction to real-life problems also received positive feedback from working life. The service design process and small expert group work also made it possible to modify the process and content based on working life needs. Attempts are often made to resolve working life conditions and personnel satisfaction through educational solutions rather than consultation. Education is often needed but takes a long time to produce results. The pilot case also made it possible to target actions at real life and real problems. The supervisor and personnel could bring out the concrete issues that affected their working life and conditions. The process allowed immediate concentration on them.

The work in small expert groups enhanced the confidentiality of the entire process. The participants were also able to reveal difficult and sensitive information to each other in the presence of an expert. Small group work also allowed discussions and deeper understanding and listening. With these discussions, it was possible to name and focus on the real problems instead of those that seemed problematic. Passing on information was quick and efficient throughout the process. The small number of participants also made decision making efficient.

It is fair to say that in this pilot case, such expert-driven work can help working life to solve acute problems and the development needs of working life within a reasonable time, which is an important factor in the feeling of being helped. The cooperation with working life led by the LSC team and an expert was well structured, and resource management was efficient. The teamwork and the division of the various parts of the process were based on each member's

expertise. This was also the first service design process for the Faculty of Social Services and Health Care unit. In the future, we need to build a variety of different development processes that the organisation can sell as a package. Selling service design expert consultation also requires a new way of handling arising development needs. We need to recognise what needs to be solved quickly, and what can undergo the more traditional development process. This also requires new expertise and skill from LAB University of Applied Sciences experts. However, such cooperation between the LSC and experts was found effective, easy, and well managed from the organisational perspective. It also provided a frontline view of the working life challenges facing the acute and emergency unit's work. This knowledge can be utilised in planning development work with working life.

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Working life impact through strengthening and pre-piloting wellbeing technology

Introduction

The "**KOHTI – Technology supporting living at home and care**" ("Kotona asumista ja hoitotyötä tukeva teknologia") project is part of the national KATI project, which promotes the application of new technologies that support living at home and home-based services. The programme develops, pilots and implements technology that supports living at home. In addition, the programme aims to promote companies' innovation activities and business operations of companies and personnel wellbeing. The programme involves the development of a new operating model for coordination at a national scale, which supports cooperation between social welfare and healthcare sector actors and companies in the piloting and implementation of technologies. The KOHTI project is implemented by the home-based services of Päijät-Sote in cooperation with the LAB University of Applied Sciences (THL 2022).

The importance of universities of applied sciences

The universities of applied sciences were established in the 1990s when vocational education and post-secondary education were combined. One of the objectives was to improve the competence of the population and to better align studies and competence with working life. Practices were also harmonised in Europe and the Nordic countries. The operations in Finland were launched in 1991 with pilots that resulted in permanent authorisations to provide education. To obtain such authorisation, a university of applied sciences was required to demonstrate its working life orientation, regional influence, and applied research, development and innovation activities. In other words, the universities of applied sciences were developed in

cooperation with working life and the surrounding society from the outset. The universities of applied sciences have since established their own profiles by focusing regionally on different competence areas while enriching the concept of higher education through the launch of master's level degrees in 2002. At the latest, this brought the objectives and operating methods of the universities of applied sciences closer to universities (Välimaa 2019).

The universities of applied sciences have been increasingly important throughout their existence for a variety of reasons. First, digitalisation and servitisation have played a major role in the considerable transformation of competence needs. Completely new competence areas and vocations have since emerged and need skilled employees. Meanwhile, universities of applied sciences have been able to modify their offering through specialisation studies, for example. These models have enabled rapid responses to educational needs at the boundaries of different competences when required and the establishment of proactive programmes that serve working life.

The most recent reform in the sector was the universities of applied sciences reform in 2014. As a result of the reform, the funding model became performance-based, which forced many educational

institutions to undergo reorganisations and mergers (Välimaa 2019). At the same, the share of teaching in the funds generated from operations is declining in the operating model, and there is an increased focus on RDI activities and other service sales.

Through many changes and twists and turns, the universities of applied sciences in Finland have established their position in society and working life as partners that produce new talent and also generate entrepreneurship and new innovations for various sectors.

The university of applied sciences' role in making working life stronger

Cooperation with companies can be divided into three areas in the university of applied sciences:

1) pedagogical aspects,
2) organisation of teaching, and
3) development environments.

Because the universities of applied sciences conduct applied research and development, the activities have traditionally focused largely on problem-solving. Problem-based learning (PBL) has been the most popular pedagogical approach in teaching. It uses learning methods that focus on real-life challenges and their solutions. The approach highlights initiative, group work and meaningful learning. At best, students can demonstrate their competence not only to each other but also to working life representatives. This aims to narrow the gap between teaching, research and companies (Poikela 2002). Additional nuances and dimensions to PBL have also been provided by phenomenon-based learning, which gives developers and learners the freedom to view problems more broadly and potentially transcend competence area limitations.

In the curriculum work and organisation of teaching, cooperation with companies has manifested as learning based on case studies and projects. Study unit contents and the structure of teaching have thus been designed completely based on challenges experienced by society or companies. This approach has been taken with the contents of individual study units, or several objectives have been integrated into one module that involves studying and developing a customer's operations. Students have thus had the opportunity to concentrate not only on the content of teaching but also on the customer organisation. Pedagogically, the objectives have been embedded in the work to be performed, in which the student can demonstrate their competence and build their personal competence portfolio.

Cooperation with companies can also take place in various development environments. Such hubs have been generated around specific special expertise and are often guided by the strategic objectives of the universities of applied sciences. The development environments are settings for cooperation between experts, companies, organisations, researchers and students. They are built around a specific subject area and offer services and project cooperation. Development environments can be described as networks, with the environment itself striving to lead the network. They are also linked to other existing national and international networks of similar actors. The networks in universities of applied sciences also pursue cooperation with teaching staff and students. At its best, the development environments offer a project learning platform and a phenomenon-based learning opportunity.

Technology testing based on needs

As the population ages in our society, the customer volumes will grow, and the homecare labour force will decrease. Technology is used to address the increased need for services. The objective of the National Programme on Ageing is to improve the wellbeing of ageing individuals and enable them to live at home for as long as possible through smart technologies that support customers' autonomy and independent living (STM 2020, 34). The "Technology supporting smart ageing and care at home programme" (KATI) coordinated by the Finnish Institute for Health and Welfare, which was launched as part of the National Programme on Ageing, consists of six national projects. The KATI programme promotes the utilisation of new technologies in home-based services. The technology is developed in partnership with companies, customers and employees (THL 2022).

The KOHTI project being implemented in the Päijät-Häme region is one of the projects in the KATI programme, and its objectives include strengthening the participation of customers, increasing personnel wellbeing, developing the activities by testing new technologies, and developing an operating model of technology testing and implementation between the LAB University of Applied Sciences and Päijät-Sote, which is the region's public social welfare and healthcare organisation. Päijät-Sote is also one of the national pioneers in the application of technology in homecare. For example, 175 customers of the regular homecare services receive remote care in the region (Päijät-Sote 2022).

The LAB WellTech development environment of the LAB University of Applied Sciences has developed an

operating model in which a higher education environment can provide support for social welfare and healthcare actors in the acquisition of wellbeing technology equipment. LAB WellTech was established to improve and support technology implementation processes in both the public and private sectors and to develop the preparedness of technology companies to work in successful cooperation with actors providing social welfare and healthcare services. LAB WellTech is a good example of a strategy-based development environment provided by universities of applied sciences.

The testing environment has provided a home environment for testing various technologies that support living at home, and pre-pilots were conducted to test exoskeletons, remote measuring equipment and various sensor technologies. Exoskeletons are wearable technology that provide the wearer with additional support increasing the employee's performance. The exoskeleton helps reduce the employee's physical strain. The test home is an environment that features equipment from several different technology actors, such as sensor and camera technology that detects activity and falls, equipment that supports wellbeing, medication dispensers and social robots. The test home serves as a learning environment in which students, social welfare and healthcare actors, and companies can brainstorm together and further develop wellbeing technology solutions. For technology actors, the test home offers a vantage point for product demonstrations, which are low-threshold opportunities for social welfare and healthcare actors to learn about and familiarise themselves with the existing solutions.

Impacts through pre-pilots

In the spring of 2022, LAB WellTech organised fall-detection technology testing. One of the challenges in healthcare and homecare in the Päijät-Häme region is to reduce the risk of falls among its homecare customers, improve the quality of alarms, anticipate which customers present a fall risk and thus increase customer safety. The current solutions are not automated, which makes them sensitive to human factors. Customers may either not understand that they could call for help when needed, or they do not want to do it. These are the only two reasons that cause situations where a customer may have to wait for help, sometimes lying injured on the floor for a prolonged period. The goal was to start a pilot of fall-detection equipment from different suppliers and test their compatibility with Päijät-Sote's systems.

LAB WellTech provided the setting for conducting user tests on the equipment

of a total of three equipment suppliers. The testing situations began with students' reports on falls among homecare customers and the possible scenarios. The report was based on interviews with homecare employees, which resulted in 17 different fall scenarios. The testing environment and situation were created in the test home, or the homelike simulation environment of the LAB University of Applied Sciences. The test home simulates a homelike space with couches, beds and other furniture, which may cause challenges for the functioning of fall detection sensors. The actual test situation included a workplace representative from homecare, user testers from the LAB University of Applied Sciences, and students. The students' role was to demonstrate various fall situations and to learn user testing. The public sector was represented by the care personnel. This cooperation created a practice-oriented learning situation, direct benefits for the public sector from the testing results, and an opportunity for companies to develop in the co-creation environment created by the university of applied sciences.

The user testing provided an impartial report on the solutions of different equipment suppliers and their functioning in detecting falls for Päijät-Sote's home-based services. The pre-pilots were useful from the perspective of several different actors. The simulation space that served as a learning environment for students and cooperation with working life strengthened the students' competence in innovations that detect falls among the elderly and in company cooperation. The companies received a report on the testing conducted. The evaluation framework used as the basis of evaluation assessed the equipment from the perspectives of impact, technical suitability, ethical applicability and usability. The benefits provided by the pre-pilots for the public sector, or Päijät-Sote's home-based services, were considered considerable, with the greatest benefits found in resource allocation and as a direct result of it, costs. The pilots of various new technologies are considered arduous and time-consuming. Therefore, impacts are sought from a model in which a pilot comparable to an authentic user environment can be conducted in a higher education environment, which provides fast results that support decision making. According to the public sector, one of the participants or the LAB University of Applied Sciences being an impartial facilitation partner also provides the cooperation model with a setting for open discussion with equipment suppliers.

Strengthening technology competence

Technology implementation requires smooth cooperation between many different actors. The implementation is an extensive project, in which high-quality planning and organisation ensure a good outcome.

Image 1. Homecare magazine cover. (Image: Piritta Mattila)

Before new technology solutions are implemented, it is important to identify the needs of both customers and homecare personnel and present justifications for the benefits of technology implementation. Personnel should be convinced of the functioning and usefulness of technology and have a positive attitude towards the use of technology. Resistance to change can be alleviated with sufficient training and implementation support. (Johansson-Pajala et al. 2019).

Personnel's attitude and motivation towards technology are key, and supervisors play a significant role in the successful implementation of technology. Bringing out tangible benefits solidifies the acceptance of technology. It is important that supervisors themselves have a committed and motivated approach to change. It is important to consider employees' technology preparedness, ensure proper orientation and keep technology competence up to date (Alhonen et al. 2020).

One of the objectives of the KOHTI project was to improve personnel's wellbeing at work and to develop competence. The measures implemented by the LAB University of Applied Sciences to meet this objective included:

a) the publication of the Kotihoidon kuvalehti ("Homecare Illustrated") magazine

and

b) the organisation of the "*Work in transformation*" (Työ muutoksessa) event, which provided coaching for supervisors.

An illustrated magazine to strengthen acceptance of technology

The objective of the Kotihoidon kuvalehti magazine aimed at Päijät-Sote's homecare employees was to influence the technology-related impressions and emotions in homecare and thus increase acceptance of technology. The publication included photos and articles describing the opportunities provided by technology in the homecare operating environment from the perspectives of customer and employee safety and wellbeing. In addition, several pages included QR codes to videos. Both printed and electronic editions of the Kotihoidon kuvalehti magazine were distributed to both supervisors and stakeholder actors in home-based services in all Päijät-Sote's homecare facilities such as rehabilitation and customer assistance services.

The themes featured in the Kotihoidon kuvalehti publication included "*In safe hands*", "*An independent life*", "*Remote care supporting the customer's health and wellbeing*", "*Fall prevention*", and "*Supporting self-care*". The first theme brought out the impact of the exoskeleton on employee ergonomics and wellbeing at work, as well as on the customer's sense of safety in situations involving lifting and moving. The "*Independent life*" theme covered the importance of automated medicine dispensers as supporters of customers' independent life and the safety of their pharmacotherapy. Remote care supports customers' coping at home, and the section about remote care also described the opportunities for social contacts through the remote connection. The theme of fall prevention highlighted the importance of balance and included a customer story about a customer strengthening their balance and reducing their risk of falls through a balance test and exercises tailored for them based on the test results. The "*Supporting self-care*" theme covered the impact of remote measurements on the customer's participation in and commitment to self-care. The customer's increased understanding of their own state of health also supports their compliance and satisfaction (LAB-ammattikorkeakoulu 2022).

More detailed feedback on the magazine will be collected during the autumn of 2022, but a preliminary survey indicated that such a coaching-based operating method is considered to strengthen technology acceptance and increase customers' understanding of the application of technology. The publication itself includes plenty of information that benefits care personnel, customer assistance, customers and their next of kin. The publication can thus be used during service need assessment visits to introduce the existing technology clearly and understandably to customers.

Supervisor coaching as part of strengthening technology acceptance

The objective of supervisor coaching was to increase supervisors' competence in and shared understanding of technology and the benefits it offers in the homecare operating environment, strengthen technology acceptance, and motivate employees to use new technology.

The "*Work in transformation*" coaching took place in April-May 2022. The supervisor coaching consisted of three sessions lasting three hours each at the LAB campus on Mukkulankatu. Each session had a different theme and content. In the coaching planning stage, a survey was conducted among supervisors to map their needs and wishes regarding the coaching. The survey results emphasised the need for sharing good experiences and peer support.

The first coaching session covered wellbeing technology at a general level, and the supervisors had an opportunity to trial various technologies. There were four separate test stations, where the attendees could familiarise themselves with the support provided by virtual reality to induction, the alternatives offered by remote measurement equipment in the care provision, the benefits of fall detection equipment from the customer's perspective, and the

Image 2. Simulation learning in home-care supervisor training. (Image: Päivi Kousa)

possibilities provided by a wash and dry toilet seat in the maintenance of the customer's autonomy. The participants could discuss the technology presented at each station and express what aspects of each technology they potentially found exciting, intimidating or worrisome, or what presented challenges (Lahti 2022).

The theme of the second session was a motivated supervisor. This dialogue-based workshop included discussions on and provided insights into technology acceptance and the supervisor's motivation and attitude towards technology. The attendees shared their experiences of the benefits of technology to customers, employees and the supervisors themselves during the session (Kousa 2022a).

The third coaching session included a simulation based on case studies, with the aim to strengthen technology management skills. The objective of the case activities was to engage the attendees in a participatory discussion about managing technology implementation and to view the daily work of supervisors and motivating the working community regarding technology implementation from different perspectives (Kousa 2022b). In the joint discussion after the simulation, the participants reflected on the ideas, information and skills they had gained from the exercises and compared them with their earlier competence and own experiences (Suvimaa 2014, 13).

A feedback survey was conducted among the participants after the completion of the coaching package. According to the results, the participants found the coaching important and felt that there would also be a need for it in future. The aspects considered most important included the opportunity to test technology, sharing good experiences, peer support and the working community simulation. Motivating the working community and change management were highlighted as key issues. The supervisors felt that the coaching had improved their skills in technology management, and they had obtained tools for managing technology implementation and use in their daily work. In future, the plan is to continue cooperation with Päijät-Sote and to offer coaching similar to the supervisor coaching piloted in the KOHTI project to social welfare and healthcare employees, supervisors and management on a nationwide basis as well.

Conclusions

The universities of applied sciences play an important role in working life cooperation at many levels. Various development projects implemented in the co-creation environment strengthen cooperation with companies and the RDI activities, providing students with opportunities to learn in different environments in cooperation with working life. Networks established at an early stage and the orientation on working life are prerequisites of high-quality education that meets the changing needs of working life.

Strengthening competence will increase the skills needed in managing the implementation of wellbeing technology and technology acceptance among both supervisors and employees. The impacts of pre-piloting are visible at many levels, as cooperation with social welfare and healthcare organisations and users contributes to product development in companies and the subsequent increase in business operations. At the same time, the social welfare and healthcare organisation gains access to an extensive selection of technology that has undergone impartial testing, and this information can be utilised in the procurement process. If the procurement processes of social welfare and healthcare organisations are carried out with a focus on the need for technology, usability assessment receives less attention. This involves a risk that factors related to the usability of the technology solution until the implementation stage will not be detected, and this may cause safety issues. Assessing the viewpoints related to the procurement process through different assessment criteria will then also support social welfare and healthcare organisations' procurement objectives. The assessment can cover the technology being procured from the perspectives of impact, ethical operating principles, technical applicability and usability. LAB WellTech enables companies to develop their business operations at every stage of product development and thus generates new information accessible to several different actors.

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Strategy-based value co-creation – Ecosystem perspective

Introduction

The vision set for LAB University of Applied Sciences' The Best of Both Worlds 2030 strategy is the development of working life by means of research, development, innovation and training (LAB, 2022). Projects aiming to develop working life can turn into natural forums of co-creation that produce wide-ranging added value for an ecosystem's operators. In co-creation of this kind, the dimensions of value creation cover economic and social objectives and the value perceived by customers (the value-in-use), which is also linked to impact reviews (see Perks, Gruber & Edverdsson, 2012; Grönroos & Voima, 2013; Greenhalgh et al., 2016). Examples of a macro view into ecosystems include the conceptual framework introduced by Rinkinen and Harmaakorpi (2018) of business operations within the context of innovation policies. The following paragraphs take a closer look at the co-creation of value through the example of a working-life development project.

Co-creating value within ecosystems

The co-creation of value can indeed be reviewed as a strategic choice in an RDI project which combines the strategic objectives of a university of applied sciences and a working life organisation. When the project brings together the teaching of the university of applied sciences, the learning that occurs in working life and the utilisation of technology, it is justified to study the co-creation of value

from the perspective of an ecosystem through both learning and the use of technology (see Crosling et al., 2015; Leppisaari, 2020). The ecosystem perspective has been popular in the development of social welfare and healthcare services in Finland since the late 2010s. A partial backdrop to this is the increase of complexity and wicked problems in society, which has led to the realisation of how necessary co-creation is for problem solving and society in general (Head & Alford, 2015). At the same time, the rise of new public governance has expanded the theory and practices of multidisciplinary and multi-level collaboration in development work (Torfing et al., 2012). Due to this, attention in the study of collaboration shifted from the study of partnerships and networks toward the study of collaboration as ecosystems which have drawn their inspiration from both biology and the system theories of learning organisations (see Engeström, 1987; Senge, 1993).

Crosling et al (Crosling et al., 2015) have presented a model (Image 1) which appears to be useful for promoting the co-creation of value within ecosystems. What lies at the core of the model is cross-sectoral dialogue with a service's end users at different levels of an eco-

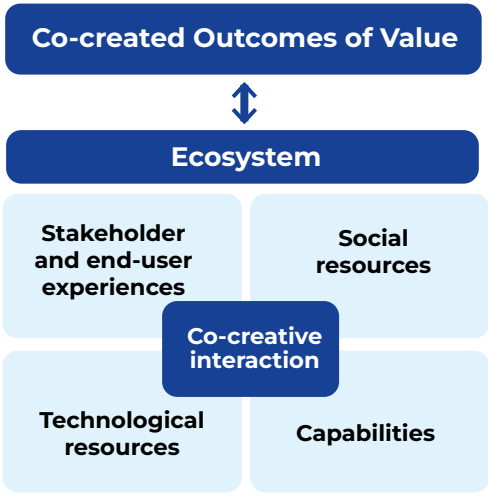

Image 1. Ecosystem value co-creation. (Image: Malin 2022, based on Greenhalgh et al. 2016, 401)

system. The co-creation of value within ecosystems requires the diverse sharing of resources, capacity and experiences in the forums of collaboration (Crosling et al., 2015).

Nordling et al. (Nordling et al., 2021) have also studied innovation ecosystems in the reform of social welfare and healthcare services. Based on a pilot project, the developers drew up a process model for service innovation, the initial steps of which emphasise the identification of development needs, shaping these needs

into a problem that can be solved, and integrating multidisciplinary skills into co-creative workshops to promote value creation (Nordling et al., 2021, pp. 16-17).

Ecosystem models stress collaboration between multiple operators. Successful project preparation within an ecosystem requires value to be examined from the perspectives of all those involved. From a theoretical point of view, a planned project may become a boundary object between different social worlds (Bowker & Star 1999). In a project developing work ergonomics with the help of technology, the different social worlds are represented by a working life organisation and its employees, the customer of the working life organisation, the perspective of the technology provider and the university of applied sciences, serving as the developer. The boundary conditions for the co-creation of value are the laws and regulations governing operations in social welfare and healthcare. In projects implemented with external funding, the project application must also comply with the funding criteria. This article, however, focuses on studying the framework of working life collaboration. Successful project preparation produces what is referred to as a solution which is mutually

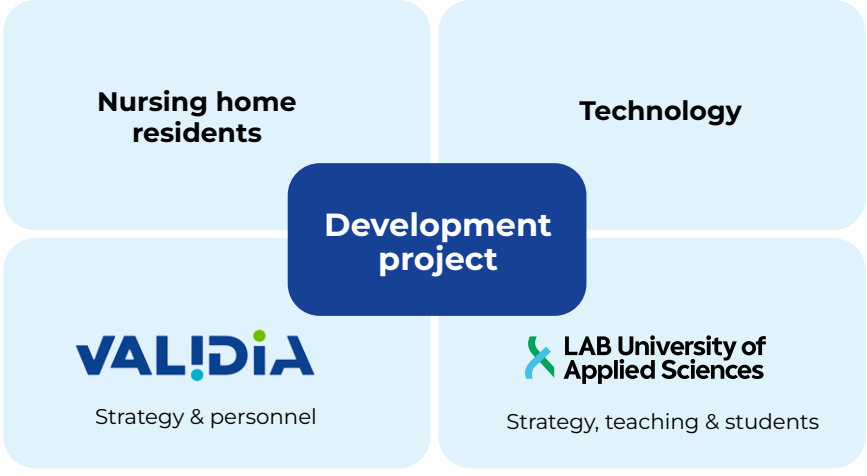

Image 2. A development project as a boundary object of co-creation. (Image: Malin, 2022)

beneficial for all those involved starting from the development's planning phase (Mele et al., 2022). Image 2 shows an example of the position of project preparations in an ecosystem which co-creates value.

The simultaneous extension of development to the various interfaces of an organisation is essential for ecosystems. Points of contact of this kind, which enable collaboration, may also turn into obstacles blocking the flow of information and development. In social welfare and healthcare ecosystems, points of contact have been found to form not only between different branches of activity, but also between private and public sector services. In co-creative ecosystems, obstacles to success can be overcome by building the development activities from the very beginning in such a way that the set objective is the creation of value for all parties involved.

The preparation of a development project creates a basis for value creation

The example of co-creation examined in this article is the preparation of a development project in which a working life party and a university of applied sciences planned a project to be implemented together. The core in the co-creation of value in a development project is to solve a problem significant to working life. In this article, we will be looking at a case in which the problem solving focuses on improving the work ergonomics of staff engaged in care work and reducing the work's physical workload. Various musculoskeletal ailments are fairly common among care workers, according to the findings of a Finnish study (Stolt et al., 2018). The most physically taxing tasks in care work involve bathing, dressing and moving residents (Nelson, 2006). Recurring tasks of this kind expose the staff to musculoskeletal symptoms and diseases which impair their wellbeing at work at the same time as sickness absences incur additional costs to the organisation (e.g., Mayeda-Letourneau, 2014).

Studies have also found a link between physically taxing work and increased sickness absences in all age groups, including workers aged 40 or under (Mänty et al., 2022). A worker's exposure to recurring physical stress and rotating movements of the back also increase the risk of early mortality and disability pensions caused by musculoskeletal diseases (Shiri et al., 2018; Ervasti et al., 2019a; Ervasti et al., 2019b).

A Finnish study investigated the effects that positive changes in physical workloads and factors related to the working environment have on the

reduction of sickness absences. The data used in the study consisted of cohort data gathered from the employees of a major Finnish city (5,731 observations). The employees were asked whether they experienced physical stress in their work (awkward postures, rotation of back, repetitive movements, standing, sitting, walking, heavy physical effort or lifting and carrying heavy loads and vibration). They were also asked about any stressful factors in their working environment (noise, weak or disturbing illumination, solvents, gases or irritants, heat, cold, draft or temperature fluctuations, dry air, dust and dirt, moisture and dampness and mould). (Shiri et al., 2020).

Over a five-year follow-up period, 11% of the employees participating in the study reported positive changes to their workload, while 13% reported the same for factors related to the working environment and 8% of positive changes to both. The number of short (1-3 days), medium-length (4-14 days) and long (more than 14 days) sickness absences was lower among those who had experienced positive changes than among other groups. Positive changes to both an employee's workload and factors related to the working environment cut the amount of sickness absences by 41% within a year from the changes and by 32% within two years of the changes (Shiri et al. 2020). What can be concluded from these results is that all improvements involving physical stress can potentially reduce the number of sickness absences which, in turn, could be interpreted as value creation for the employee, employer and society.

Both Finnish and international studies and programmes have sought to reduce the physical workloads related to care work (e.g., Fagerström, 2013; Geiger, 2013). New technological applications have offered novel opportunities for reducing these workloads (e.g., O´Connor, 2021). This includes the potential harboured by innovations. The Covid-19 pandemic has nevertheless presented new challenges to the advancement of ergonomic care work, given that the possibilities for guidance and direction in working methods have been limited due to the low amount of classroom teaching. Online training and digital applications provide promising solutions to this problem, meaning that remote coaching and the added value created by new technologies can be integrated into a project developing working life as solutions that create new added value (Webb et al., 2022). A key element of success in development work is the co-creation of value (Lee, 2018) as a strategic approach in which the systematic perspective accounts for the need to reconcile hybrid learning environments with customers, staff and the organisation.

The factors identified in the background of the project aiming to reduce care workers' physical workload and improve their work ergonomics include changes in the social welfare and healthcare sector. The work in the field is changing at a rapid pace. The number of ageing customers and customers with multiple conditions is increasing, while diminishing resources must be optimised. The sector is shifting from the previous system-oriented operating model to a more customer and people-oriented operating model. The COVID-19 pandemic has accelerated the deployment of digital services in social welfare and healthcare services. However, the extent to which digitalisation is taken advantage of in patient work requiring physical encounters is still minor. Technological applications for the lifting and moving of patients have been developed, but remote or virtual guidance for their deployment and use is not yet available. The people who benefit most from this kind of support are those who care for those patients with conditions that are the most difficult to treat. The physical stress of their work exposes them to accidents and sickness absences and jeopardises their wellbeing at work and working capacity.

The purpose of the development project is the development of care work through the concurrent use of technology and digital services. The organisations targeted by the project are intensive assistance units in which the staff's physical workload is heavy and the tasks include assisting residents in movement and mobility. The individualised development needs of digital support are investigated by means of service design and in cooperation with staff and customers. Solutions for the needs are developed in workshops aiming to create new operating models for the deployment of technologies relying on digitalisation and for daily patient work. The workshops are led by the teachers and project staff of the physiotherapy unit of LAB University of Applied Sciences. The workshops map and compare the usability of the available technologies. An operating model of digital support will be piloted during the project with the selected technological applications. The results of the study to be conducted in the context of this part of the project will be used as a basis for objectively gauging the value that the solutions create for employees and the customers. The results of the entire project will be used to develop training that supports the deployment and use of digital technology for the lifting and moving of patients. The way forward in utilising technological solutions has already been indicated by earlier development projects carried out in the

field of social welfare and healthcare services (i.e., Heikkonen & Rasi, 2022).

The objective of the project is to create new operating models for the deployment of technology in the tasks and duties of the social welfare and healthcare sector.

1. **An operating model** that strengthens the active role that an employee engaged in patient work has in reducing their physical workload will be created for the deployment and development of digital services by means of service design in such a way that digital services are easily accessible for citizens with varying abilities to function.

2. **New operating models** for using technology in the lifting of patients and assisting them in moving will be developed in social welfare and healthcare work. The skills learning will be supported by technological applications which provide data on the stress placed on a worker's body in tasks involving assistance, thereby guiding them towards more optimal loads in heavy tasks involving assistance.

Working life's perspective on co-creation: Validia Oy

The working life party in the co-creation project is Validia Oy. Validia is Finland's oldest and only company focusing solely on services for the disabled. Validia produces living, rehabilitation, day activity and personal assistance services for the disabled across Finland. Validia's living services have more than 1,000 residents across Finland and employ more than 1,500 people.

The company's strategic objective (Validia, 2022) is for Finland to be the best country in the world for the disabled. Validia aims for quality leadership in services for the disabled. This entails the creation and development of various solutions that support disabled persons' quality of life. The versatile solutions involve new ways of working as well as technology and digitalisation. They allow the company to provide disabled customers with increasingly individualised and better services.

Quality leadership at Validia means that the company is open-minded in trying new ways of working while functioning as a trailblazer and setting an example for other service providers and the upcoming wellbeing services counties in Finland. Both services for the disabled and the social welfare and healthcare sector in

general are in need of novel solutions. The strictly regulated provision of social welfare and healthcare services and increasingly intense shortage of care workers in Finland pose challenges for high-quality operations. Validia's ambition in terms of the new solutions is to offer meaningful work for social welfare and healthcare professionals and new kinds of career paths for both trained and untrained personnel.

With the deployment of technology and robotics, the company pursues a new way of working and increasingly individualised services for customers. Validia believes that it is high time to develop models of care work and integrate new health technology solutions therein. From a customer's point of view, Validia wants to improve its availability, make residents' lives worth living and support their rehabilitation and ability to function. From the perspective of employees, Validia wants to offer more meaningful job descriptions, reduce the stress of care work and find ergonomically sound solutions.

The new way of working involves the personnel's structure and supporting work with the help of technology and robotics. The use of technology and robotics allows different groups of professionals to work in the assisted living services of social welfare. They also contribute to ensuring customer safety. The deployment and use of technology and robotics require their benefits to be taken seriously and considered part of care work.

The development project will be carried out at Validia's Lahti unit. The unit provides assisted living services for the disabled and covers 46 housing units for families, couples and those living alone. The care work in assisted living services for the disabled is carried out round the clock, with residents having a variety of physical, cognitive and social challenges. In addition to physical assistance, the residents need guidance in the management of everyday life and running daily errands. The care work is often physically taxing, and the residents' other problems may also be a source of mental pressure on the employees. The assistance tasks may also be lengthy and take several hours at a time. The residents often need care during the same short period of time during working days, which also increases the employees' stress due to the uncertain division of workloads.

Value-creating service design in ecosystems

When moving on from a project's planning to the development measures, digital service design is a promising method in ecosystems co-creating value (Bela, 1996; Osterwalder et al., 2014; Kalbach, 2016; Stickdorn et al., 2018; Mason & Knights, 2019). Digital service

design can be put to use from many different angles. It can be used in the development of new digital platforms which can support the deployment of new technology. When developing solutions, we should also consider value creation over a longer period of time and from different perspectives. The planning of solutions for the challenges of working life development should indeed start from the premise that the solutions can be used for the induction of new employees in working life once the project is over. In universities of applied sciences, the same solutions could correspondingly be used as part of teaching students. By linking research premises, along with the aforementioned perspectives, to service design, the solutions also allow the collection of long-term and high-quality data for the purposes of academic research.

Successful solutions can also be achieved when the users of the digital services participate in the co-creation of the services (e.g., Bianchi, 2021). The participation of the working life party's staff in value creation can be supported with the use of flexible design methods (Neuvonen & Malin, 2022) in the context of collecting data on development needs. Sensitivity and ethnographic methodologies are likely to be required alongside digital tools (see Rhoades et al., 2017) in the development work, so that the perspective of severely disabled residents – their experience of the care work – can be taken into account at every stage of the development project. It is indeed important to pay attention to how the residents perceive the new technologies that lighten care work in their own everyday lives. If their perceptions are negative, the solution does not create value for the residents. The consideration of this perspective will probably require increased focus on the ecosystem through the inclusion of specialists on disability, in particular, in the project work.

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Jonna Sirviö & Katariina Velling

Growth through technology – wellbeing technology as part of SME's business operations

Introduction

According to Statistics Finland's population projection, people aged 65 or over will account for 35% of Finland's population by 2070. This trend is also visible in the regions of Päijät-Häme and South Karelia, where the projection estimates that people aged 65 or over will account for more 30% of the population by 2040 (Päijät-Häme 30.18% and South Karelia 33.5%) (Suomen virallinen tilasto (SVT) 2019). Elderly people who are in increasingly poor physical condition and in need of assistance will be living at home, and the number of elderly people living alone is also set to grow. In step with the above, we will also see an increase in the need for home care and services produced for the elderly at home.

According to a study by the Finnish Institute for Health and Welfare (THL; 2018), technology is used in a variety of ways as part of the everyday life and home care of the elderly in different regions. Its use is also generally limited to public-sector services. In contrast, the range of services provided by private service providers and the home-based services of private social and healthcare enterprises use very little technology, even though they have produced 12% of all home care services since 2018 (Alastalo et al. 2018). This results in inequalities in the position of the customers of public and private home care services and disparity in the quality of the services provided for them. The Finnish Government's Futures Review (2018) calls for equal social and healthcare services and the reduction of wellbeing and health inequalities. According to the review, this should be achieved through the cooperation of different operators (Valtioneuvosto 2018).

Technological advances will change the production of social and healthcare services, and technological solutions will become increasingly integrated into the home care of the elderly and services brought to homes. Technology helps us improve the availability of services for the elderly particularly in remote areas, and to provide diverse support for caring and healthcare, safety, and the promotion of self-motivation and wellbeing (Hammar et al. 2018). The importance of wellbeing technology is highlighted in the Ministry of Economic Affairs and Employment's publication Sustainable Growth and Wellbeing – Health Sector Growth Strategy for Research and Innovation Activities. Roadmap for 2020–2023 (Valtioneuvosto 2020). It acknowledges that recovery from the coronavirus pandemic requires innovations as well as new solutions and data. The roadmap also emphasises the adoption of new operating models and technologies in the social and healthcare sector.

The irregular use of technology in enterprises providing home care services is, above all, attributable to private enterprises' lack of information and experience in the opportunities offered by technology and its usability in service operations. The costs of technological equipment and digital solutions are expensive investments for small enterprises. Investment decisions therefore need to be supported by data and experience of a technology's compatibility with an enterprise's operations as well as research, development and innovation skills (KOHOTE – kotihoitopalveluihin teknologiaa ja digitalisaatioita 2022).

The reinstatement of services and operations post Covid-19 and preparation for new equivalent pandemics have increased enterprises' need and interest in digitalisation and the use of technology, and the development of new products and services with the help of technology. Given how dangerous the Covid-19 pandemic proved to be, particularly for the elderly population, there is a great need for multiple societal measures that aim to protect the elderly and other high-risk groups, especially those already in the scope of regular service and home care (Kestilä et al. 2020).

Managed by the LAB University of Applied Sciences, the **KOHOTE (Technology and digitalisation for home care services)** and **TUULI (Technology to increase new business in home care)** projects engage, together with enterprises and third-sector operators, in real-life experimentation with technology, with the aim of increasing knowledge and the courage to use technology and tapping into the benefits it can offer. These projects focus on wellbeing technology that improves interaction between enterprises and

customers as well as the public and private sectors, promotes customers' independent ability to function, ensures safety in customers' daily life, and enables growth and increased business for the enterprises.

The activities of the KOHOTE project cover the Päijät-Häme region, while the TUULI project is active in South Karelia. The projects' activities are identical, which means the results provide comparable data on the regions and their future development needs. The need for the projects became evident in discussions held with the regions' public and private sector social and healthcare operators. The ageing population in the regions means growing numbers of customers for the service enterprises – the services needed are expected to increase exponentially with the number of people in relatively poor health living at home. Attracting staff to the sector is currently challenging, which is why the service providers need to plan solutions that facilitate the work, thereby increasing its appeal. The project activities are described in Image 1.

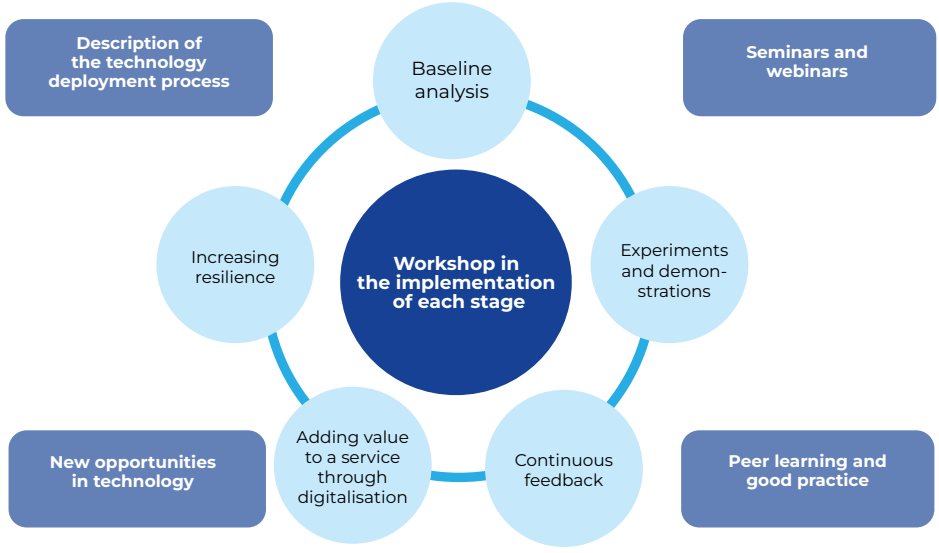

Image 1. Project activities.

Image 2. Workshop. (Image: Jonna Sirviö)

Workshops point the way ahead

Together with enterprises and the third sector, the projects implement inclusive regional workshops in which the participants, under the leadership of experts, explore the project's various themes, including knowledge management, the continuous development of technological skills and identifying the challenges related to the deployment of the technology. Feedback is collected during the projects from the enterprises' management, employees and end users. This feedback is analysed in the workshops, in addition to which the participants discuss ethical issues related to the use of technology and how to assess the technology. The key objective is to create an understanding of the future and of the changing ways to provide services to customers and their loved ones. The customer and their loved ones also participate in the workshops, giving voice to the customer's perspective.

The workshops constitute a central and major part of the projects' implementation. They strengthen cooperation and the forging of networks between the regional operators. Peer learning also plays a key role – both the best ideas and good and bad experiences are discussed and shared. The workshops are aimed at all operators in both regions, regardless of whether they participate in the technological experiments carried out in the projects. The workshops therefore function as platforms for creating a model process for the deployment of technology in the projects (Image 2).

They also provide a chronological order, ranging from the initial expectations and thoughts to the deployment and use of technology. The effects are mirrored against the enterprises' own business operations, with the aim of prompting ideas about how to reshape the selection of services with the deployment of technology and possibly give rise to new forms of services. The management and employees together figure out the operating methods most suitable and effective for their enterprise. The workshops with the enterprises give every participant a chance to share their experiences of the results of the projects' technological and digital experiments and to engage in dialogue with technology companies.

So far, the workshops of the KOHOTE project have mapped the current situation in technology and the related skills, as well as the expectations and fears technology evokes. The data gathered from the first workshop was further supplemented by a questionnaire, which provided a more comprehensive picture of the skills in the region. A total of 18 enterprises responded to the questionnaire. The opportunities offered by technology from the perspective of an enterprise, employee, customer and the customer's loved ones were discussed together with the participating enterprises prior to the start of the first experiments. A total of four enterprises took part in this workshop. The workshops will continue in the autumn of 2022 and spring of 2023 with an analysis of the experiences yielded by the experiments and ideas on further development.

Experiments as a change-inducing resource

The experiments must always have a clear objective, beginning and end. The aim is for the testing to be conducted in a defined environment, produce new data and innovations, and provide an opportunity for finding new ways of working. The experiments can also focus on finding ways to improve employment and encourage entrepreneurship. The experiments allow for verifying the usefulness of the tested activities before they are deployed more extensively in an organisation. They also provide the opportunity to produce new data that can be used in decision-making, for example (Kokeilevasuomi.fi 2022).

The projects conduct trials of technological and digital devices in enterprises' own daily operations or in the LAB WellTech development environment. The experiments are based on the enterprises' own needs and expectations. The projects also involve organising demonstrations that allow a larger group of enterprises and third-sector operators to get an extensive introduction to wellbeing technology and

various digital systems that can be used in knowledge management, for example. The demonstrations are given in test homes of the LAB University of Applied Sciences or via remote connections. They bring the technology companies, experts and projects' target groups together to think about technology's impact and benefits in service production. They can also lead to innovations that facilitate care work. The demonstrations will begin in the autumn of 2022 and will continue until the spring of 2023. They will also be held on a smaller scale, with the project experts of the LAB University of Applied Sciences presenting technological solutions to various target groups, according to each group's needs.

In the TUULI project, practical experiments will be conducted between the summer of 2022 and the spring of 2023 in South Karelian small and medium-sized social and healthcare enterprises in terms of the technological and digital solutions selected by the enterprises themselves. The solutions have been selected based on each enterprise's core operations, with a focus on maintaining the ability to function and rehabilitation, for example, or on care and nursing services. The solutions selected for public sector operations have also functioned as pioneering solutions in the technologies being tested by the enterprises. The practical trials are conducted in each enterprise's own operations. The starting point of each is to produce a service that either increases the enterprise's efficiency or the quality of its services. So far, practical trial periods have been agreed on with four enterprises in the region, each of which will conduct at least one trial period. The minimum length of the periods is three months, so enough data on each solution's effectiveness in the pre-planned context can be collected for both the project and the enterprise.

In the KOHOTE project, the practical trials which got underway in the summer of 2022 were based on the kind of technology the enterprises wanted to test, based on their responses to the questionnaire. Pharmacy automation, keyless entry and remote nursing stood out as by far the most interesting and sought-after experiments. The first trial in the summer of 2022 consisted of two SMEs deploying the Tamro Smila care service – a mechanical medicine dispenser with an integrated possibility for remote care. Nine of the devices were supplied for the trial. Another two SMEs began trials on keyless entry in the summer. The customers for this trial were selected on the basis of an existing possibility for keyless entry with the help of a mobile app. These customers had a Päijät-Sote emergency phone at their disposal. In the autumn, we will start another two trials which will test sensor-based data on customers' ability to function and physical activeness.

Operators in the region will be provided with extensive data on the trials, published on the LAB WellTech website. The experiments provide an easy and risk-free way for the enterprises to gain first-hand experience of various technological solutions, without costs or a commitment to a lengthy agreement. A good successful experiment can be recognised based on results that enable cost savings and improved services.

Deployment requires skills and feelings of success

Without concrete experiments, the enterprises will not gain skills or feelings of success. The projects provide the enterprises and third sector operators with an opportunity to give technology and various digital solutions a try in their own operations and daily work. During each trial, an enterprise and its employees have the chance to implement technological solutions in cooperation with technology companies and the project's experts, who provide guidance and support and collect data on the trial's benefits and potential challenges. This enables the enterprise to produce data for the project, itself and the region's other operators.

From the perspective of private service providers, the deployment of technology involves multiple challenges observed during the projects. Most technology companies are currently providing services solely to the public sector, and familiarisation with the range of services they offered is perceived as too difficult and laborious. For example, many licensing issues related to the production of remote care also feel too heavy and bureaucratic, and entrepreneurs do not necessarily have the wherewithal for the time-consuming processes and for completing the required documentation. The project includes identifying which applications the enterprises must prepare and with whom they should file them. The results of these investigations are recorded in the guide for the technology's deployment process. This guide will be the concrete output of the projects, composed of the materials produced and feedback collected in the workshops and of good practices. The guide is aimed at social and healthcare enterprises operating in the regions and will be freely available for use nationwide. It will facilitate and lower the threshold for the use and deployment of technology. The guide will also clarify the ways in which enterprises and third sector representatives can together make use of the opportunities offered by technology, and how to organise its procurement as a joint operation. The guide will be published in the Theseus series of the LAB University of Applied Sciences.

Use of technology requires cooperation between public and private sector operators

The number of customers needing home services will grow in the future. It is therefore important to take a step back and examine the cooperation between the public and private sectors and consider how to improve it, with the customer at the centre of operations. The projects will investigate the kinds of cooperation models that can be built so that customers in need of home care services get the right kind of assistance at the right time.

Typically, a customer's service path begins when they contact public sector social and healthcare services. This contact is followed by advice, guidance or a home visit made by a customer or service adviser, during which a statutory review on the customer's service needs is prepared. This review results in the customer either being directed to private sector services or being given a public sector service decision on home care. Even in the case of a service decision made by a public official, the customer is provided by law the right to select either a public or private sector operator as their service provider (Laki sosiaalihuollon asiakkaan asemasta ja oikeuksista 22.9.2000/812).

For this freedom of choice to be realised, the customer is informed of the service providers that can meet their needs. When a customer's need for services is great, the services are often organised by a public sector service provider, because a private sector operator cannot be offered. The reason for this is often simply the public sector's greater resources. In this context, "resources" means staff and the technology used alongside the traditional pairs of hands to ensure that customers are provided with the care they need. On the other hand, the legislation, still partly open to interpretation, slows down the deployment of technology in the private sector, and the operators' opportunities for increasing their business with the help of technology (Hallituksen esitys eduskunnalle laeiksi sosiaalihuoltolain ja ikääntyneen väestön toimintakyvyn tukemisesta sekä iäkkäiden sosiaali- ja terveyspalveluista annetun lain muuttamisesta sekä niihin liittyviksi laeiksi HE 231/2021).

Safety at work through technology

Technology also plays a role in ensuring occupational safety. The construction industry has been relying on various solutions improving occupational safety for quite some time now, in the form of wearable exoskeletons, for example. A wearable exoskeleton is meant to

reduce the loads on a person's body and muscles. Such technology has already been introduced to some extent in workplace environments in the social and healthcare sector, in which musculoskeletal diseases are one of the major causes for employee absences. ERP systems are another solution that can improve occupational safety. Mobile ERP systems have been part of work planning and implementation in the field of home care services at both public and private sector service providers for quite a long time now. In addition to organising work, these systems also contribute to ensuring occupational safety, given that the staff can communicate their location through the system.

The deployment of technology in SMEs active in the social and healthcare sector can require even significant investments. Investments that influence occupational safety will nevertheless pay for themselves by preventing absences attributable to musculoskeletal diseases or risks to occupational safety. Despite this, technologies that tangibly lighten the work are yet to be observable to any significant extent in the sector's fieldwork, even in the public sector.

Conclusions

If we are to care for a growing number of customers in the future, we must study the opportunities that technology and digitalisation offer in the production of care. A great many future customers will be comfortable with using technology such as tablets, smartphones and computers. Those aged 70 now will find the technology acceptable, which is why we should already begin to prepare for new services.

The labour shortage observable in both regions is also a national trend and challenge. According to the Ministry of Economic Affairs and Employment, the availability of labour in the social and healthcare sector has continued to decline, particularly among practical nurses and registered nurses (Työ- ja elinkeinoministeriö 2022). By utilising various technological means, such as remote care, home visits can be carried out without the attendant travel times, which means that caregivers will be left with more time to visit the customers who need actual physical assistance. Technology can also ease the work itself, allowing employees with partial work capacity to continue working.

In both regions, public social and healthcare services provided at home are implemented within the KATI (Technology supporting smart ageing and care at

home) programme. Funded by the Finnish Institute for Health and Welfare, the programme aims to increase the use of new technological solutions as support for living at home within the context of home-based services. The KOHOTE and TUULI projects provide SMEs and third sector representatives with a way to keep up with technological advances. They also support these operators in the deployment and use of the technology. Given that many SMEs also produce services for public sector home care based on framework agreements or service vouchers, it is important to create cooperation models and methods that ensure customers can be provided with high-quality equal services. The experiments allow the projects to create new cooperation between the public and private sectors. An experimenting and agile society does not happen by itself. Rather, it needs innovative operators like the LAB University of Applied Sciences and a new kind of cooperation that transcends boundaries. We also need close cooperation between public and private sector care producers.

The trials and tests produce feelings of success and serve to dispel the caution surrounding the use of technology in the enterprises. The projects' experiments therefore play an important role in lowering the threshold of deployment. Together, the entrepreneurs and their employees join the project experts in assessing the experiments' results and discussing a particular device's compatibility with the services they provide. The experiments allow the business operations and service production to be examined from a new perspective. The technological solutions being tested are based on the enterprises' hopes and their desire to produce data on how suitable the technological solutions are for their daily work, and what their effects on the enterprises' businesses are.

The projects will continue until the end of August 2023. By this point, the projects will have developed a technology deployment guide in cooperation with the enterprises and third sector operators which will be distributed widely to the regions' operators.

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Hannele Tiittanen & Annamaija Id-Korhonen

Knowledge Management – a new competence requirement in social and health care organisations

Digitalisation is changing how we operate in the organisation, and the involvement of all personnel in the continuous development of organisations is growing, the Social, Health and Welfare Foresight Group (OPH 2018) anticipates in their scenario report about changes in employment and skills. The most important factors in the report were considered the growth of personalised services, customer understanding, and service design, for example. As digital and technological development is fast, information and knowledge management has also become an increasingly important issue in organisations to achieve their strategic aims and compete in markets with other organisations. How knowledge is managed and organised in organisations and the knowledge management competence of the personnel are improved at all levels in organisations have become increasingly significant (Davies & Sure 2006; Chong et al. 2011). Moreover, social and health care organisations have become increasingly dependent on knowledge and how they utilise and facilitate information (Laihonen & Saranto 2021).

Knowledge management refers to those methods and processes that are used when handling knowledge effectively and efficiently in organisations. It is how people create, share, and use knowledge and communication between each other (Schopflin & Walsh 2019; Davies & Sure 2006). Information management is often used alongside knowledge management. It is related to systems in organisation, and how knowledge is stored, transferred, and managed in an organisation's systems (Schopflin & Walsh 2019). Both are needed to achieve the organisation's strategic aims. The need for knowledge management competence development has been observed in organisations and education. The Rectors' Conference of Finnish Universities of

Applied Sciences (Arene) has responded to the competence development needs by updating the recommendations of the general competences concerning degrees in universities of applied sciences. For example, in bachelor's degrees, the graduating student should be able to benefit from the possibilities of technology and digitalisation in their own work and to develop solutions that anticipate the future of their own field by applying existing knowledge and research and development methods (Arene 2022).

The Ministry of Education and Culture and the Finnish National Board of Education have created the Competence Foresight Forum whose task includes analysing the future working life skills needed in different fields. In addition, its task is to promote the discussion between education and working life and to make recommendations for the development of education. Table 1 illustrates the digital skills which future professionals will need in health care and social services by 2035 (OPH 2022). Most are also related to knowledge management.

Health care	Social services
competence in the utilisation of digital solutions and digital platforms	digital active citizenship
digital information sharing skills	digital information sharing skills
digital communication skills	digital communication skills
knowledge assessment skills	knowledge assessment skills
expertise in the protection of personal information and privacy	expertise in the protection of personal information and privacy
basic digital skills and time management skills	competence to identify digital skills gaps
digital content reprocessing and integration skills	knowledge retrieval skills
digital collaboration skills	digital collaboration skills
knowledge management skills	
ability to develop digital content	
expertise in protecting physical and mental health from the risks of digital environments and technologies	

Table 1. Digital skills needed by 2035 in health care and social services (OPH) professions.

The improved knowledge management competence of professionals has a significant impact on organisations' functions. In a literature review, Hujala and Laihonen (2021) have categorised several positive main effects knowledge management has on social services and health care. Knowledge management improves performance in social services and health care by reducing errors and costs, for example. It improves the decision making and quality of services by providing reliable information. It also supports faster sharing of information. This has an impact on better patient/client safety and increased innovation capacity. It drives a culture change in the organisation, where the organisation learns with its people. Learning organisation increases personnel's motivation and commitment to the work they do. Knowledge management also improves the organisation's ability to anticipate and manage risks in the complex environments of social services and health care.

Specialisation studies responding to the working life need

To respond to the working life need, the 14 universities of applied sciences launched an UUDO project, Uusille Urapoluille Digisote-osaamisella (New career pathways with the competence of digitalisation in social and health care) funded by the Ministry of Culture and Education. As a result of the project, the "Multidisciplinary competences in developing digital health and social care services" study was produced. The programme focuses on information management, digital services, and service design in the social services and health care sector. The specialisation programme started in the spring of 2021. The first group of more than a hundred students around Finland graduated in May 2022, and the second group of students started their studies in April 2022. The specialisation programme emphasises the working life need of digital services and professionals' competences in promoting digital services and the ability to guide the clients in digital service environments in the social and health care sector. The programme also aims to generate the novel multidisciplinary competencies which are needed in the current reform of social services and the health care service structure. The programme assignments are development tasks that encourage the sharing of knowledge related to information management, digital services, and service design in the social services and health care sector with partner organisations. This cooperation also provides the opportunity to benefit the "SotePeda 24/7" open study materials in partner organisations for their staff, even though they are not participants

in a programme. A much larger group of professionals may thus benefit from the competence development of digitalisation in social services and health care (UUDO project application 2020).

Image 1. The structure of multidisciplinary competences in developing digital health and social care services, specialisation education. (Image: Hannele Tiittanen & Annamaija Id-Korhonen)

The specialisation programme was built as flexible as possible to meet the diverse needs of professionals and working life in different places in Finland. However, the focus was clearly on information management, digital services, and service design in the social services and health care sector. The programme consists of 30 ECTS credits, and just one course is required for all, Service Design (5 ECTS). During the Service Design course, students learn the basic competences of service design, and the idea is to practise the implementation of the practice-based service design project in small groups. The implementation of service design thinking and tools continues in small groups in a development work project (10 ECTS) according to the curriculum. The topics of the development projects came from the social and health care organisations and responded to the real development needs and/or were part of the ongoing development projects.

It was possible to choose 50% of the programme studies from the set of courses. “Expertise competence in digital services and knowledge management in social services and health care” has eight courses, each worth 2 ECTS. From those courses, it is obligatory to choose 5, for a total of 10 ECTS. In addition, 5 ECTS need to be chosen from the offer of 18 courses, and from the two credit courses if not chosen for inclusion in the obligatory 10-credit package.

In the first implementation of the specialisation programme, the Knowledge Management Competence (2 ECTS) course and Basics of Knowledge Management (3 ECTS) elective course proved very popular courses: 90 professionals studied in both courses. For example, the course content covered how knowledge management can be applied in social services and health care, how

knowledge is used to support decision making, and the role of the social service and health care client as a producer, user, and beneficiary of the digital services.

Implementation of knowledge management studies in specialisation studies

This chapter presents the implementation of the knowledge management studies included in the specialisation studies in more detail.

Basics of Knowledge Management (3 credits)

This course was provided as an elective course for the students in specialisation studies. The learning outcomes of the course were as follows:

- The student can describe the concept and meaning of data management.
- The student can describe how different kinds of data are used in making decisions in social and health care.
- The student can describe the client's role in producing, using, and utilising data.

This course was implemented as a MOOC course. The course was situated in the national DigiCampus Moodle environment. It was an automatically implemented course, planned so that the course instructed students in studying the material and doing the exams independently. The exam was automatically corrected by the learning environment, and the student received the results and information about whether they had passed immediately after the exams.

Knowledge Management Competence (2 credits)

The learning outcomes of the course were as follows. The student should be able to:

- explain what knowledge management means
- describe the related concepts of knowledge-based management
- analyse information and know how it is used to support decision making in social welfare and health care
- describe the principles of evidence-based activities
- collect, analyse, utilise, and evaluate data
- assess the role of clients in health care and social welfare as producers, users, and utilisers of information. (Curriculum of multidisciplinary competences in developing digital health and social care services, specialisation education 2020)

This course was implemented as a web-based course. The course consisted of an initial webinar with learning assignment instructions and good practices of knowledge management presented by national experts from the Finnish health care organisation. During the Knowledge Management Competence course, the participating students, most experienced professionals from the social welfare and health care field, had active web-based discussions about the current situation of renewal in social services and health care as the importance of the knowledge management, and how it is everyone's responsibility, how good leadership is needed in knowledge management and the challenges related to leadership, and the need for unified information systems and the consideration of the customer interface. Many discussions were related to the client's position in the service system, and how to build trust by understanding the client.

In a web-based group assignment, the participating professionals were familiarised with the knowledge management practices in each other's organisations. They prepared and presented 28 e-posters, which provided a good overview of the knowledge management practices in different organisations throughout Finland. Making the knowledge management visible and sharing the good practices from different organisations increased participants' knowledge management understanding in practice. The posters were presented in the webinar at the end of the course. The assessment of the course was based on individual assignments in web-based discussions and group assignments and poster presentation.

The course feedback revealed that most of the students were very satisfied with the course's implementation, and the course promoted their knowledge-based management competences in their daily work. The development ideas in the feedback were that all the instructions should be very clear at the beginning of the course. Students should also be informed sufficiently early of the course's preliminary activities before it begins. The development ideas will be implemented during the second implementation, starting in November 2022.

Knowledge management competence is needed

Training in knowledge management is not yet widely available for professionals in social services and health care. As there is an increasing need for knowledge management competence in working life, the universities of applied sciences were ready to collaboratively respond to the working life need. The programme implementation is done in tight working life cooperation. During the specialisation studies, 35 development projects were

carried out by students with the social and health care organisations. Most of the development projects were connected directly or indirectly with knowledge management. Students undertook development projects, which had as many as 10 ECTS credits, in small teams of three to four professionals. Project processes benefited the service design process and methods in close cooperation with working life organisations. Students produced a report about their process, as well as a PowerPoint presentation, to present the results of the development project in higher education and for their working life cooperation organisation. Students also produced a blog about their development project to support the dissemination of their projects' results. The blog texts are on the webpages of the universities of applied sciences participating in specialisation studies.

The development projects were undertaken for individual local or national organisations, cities, or larger regions. For example, the development project for the organisation was the implementation of Microsoft Teams in a service home for the elderly in the Päijät-Häme region (Forsblom et al. 2022). The project's development task was to organise the internal information flow and collect the necessary materials on one electronic platform. The purpose was to rationalise and save personnel's working time, as well as to react faster to sudden changes. The better personnel are informed and updated, the safer the care for the service home clients. There were also some similar development projects related to organising the information, such as "Developing multidisciplinary communication using the Microsoft Teams environment in the Turku region" (Kiviluoma et al. 2022). An example from the Lapland Hospital District in northern Finland was a knowledge management project for sleep apnea patients' care process (Hirvonen et al. 2022). The development task was to make it clear to the professionals and sleep apnea patients where the information was stored and used during the treatment process. The development project provided a good basis for the digitised treatment process for the professionals and patients. In addition, patients' rights will be better fulfilled in the future, when they have the right to receive information about his treatment when they request it.

The development idea for the next implementation of the specialisation studies concerning the dissemination is to produce a web-based publication of the results of the student development projects to promote the dissemination of the results of development work of students and organisations together and more widely. This is how it is

possible to disseminate good practices throughout Finland to support knowledge management competencies.

Improving the social services and health care organisation's functions, developing the processes, planning the future, and achieving the strategic objectives require professionals at every level to understand what and where information is needed, and where and how it is produced. Most importantly, they must understand how the information is used in providing and developing higher-quality, more effective, and more cost-effective services based on the needs of the area's inhabitants.

Leaders in social and health care organisations naturally play an important role in supporting the professional growth of nurses and other employees. Currently, competence in knowledge management varies considerably among leaders and managers, which may also lead to a situation in which employees' professional growth may also be inhibited (Karsikas et al. 2022). When the social and health care experts' and professionals' knowledge management competences in four areas –technological skills, data production, data analysis, and utilisation of information – were measured, the best was estimated to be data production and the worst utilisation of information (Laihonen & Saranto 2021). An important part of utilisation is understanding the data and its possibilities. Before this, data cannot be utilised in decision making to its full potential or be applied to the context. Leaders also play a key role in acting as the knowledge managers to foster a culture and environment to support knowledge sharing and learning in the organisation. They should also be involved in the development of knowledge management policies and standards in their organisation (GOV.UK 2022).

Information and knowledge management entails up-to-date and high-quality informed decision making. The goal is for the information to collect the causal link between the measures, develop activities, and predict the target resources where they are most needed. The benefits for welfare areas and social and health care services professionals are up-to-date and comprehensive social and health care information, which helps the service provider provide and develop higher-quality, more effective, and more cost-effective services based on the needs of the area's inhabitants (Sosiaali- ja terveysministeriö 2021).

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Hannele Tiittanen, Annamaija Id-Korhonen, Arja Sara-aho & Pirjo Tuusjärvi

Educational material produced in international cooperation promotes the implementation of technology in the field of health and wellbeing

Today, people are living longer, and general fragility is thus increasing, as are various age-related long-term illnesses. The ageing of the population is therefore accelerating demand for healthcare services. In addition to the growing demand for healthcare services, there is a huge shortage of healthcare workers in Finland, as elsewhere in Europe. The situation has raised questions about the future organisation of healthcare and has challenged healthcare providers and municipalities to seek more efficient, cost-effective, and sustainable ways to deliver services. A wider adoption of technology and digital services has been seen as the solution.

The era of innovative technology in the social care and healthcare sector challenges the skills and competence of current and future healthcare professionals. They need to be able both to use innovative technology and to be innovative in the development of new technological solutions.

This increases the need to collaborate with the healthcare and technology/ICT sectors, as it is important to strengthen healthcare professionals' understanding of technology. It is also necessary to increase technology professionals' knowledge of the health sector for which they develop new technological solutions.

Image 1. NICCoLLa project's international students from social and health care and ICT fields. (Image: Annamaija Id-Korhonen)

It is therefore important to modernise the current curriculum of higher education institutions to produce education for "future-proof" professionals in both healthcare and the technology sector. This is enabled by developing methodologies and transdisciplinary courses that include theory and practical experience, and that focus on teaching the use, implementation, and development of new technology and ICT solutions in healthcare and wellbeing environments.

This article presents the teaching and learning material produced in the international collaboration of the NICCoLLa project partners.

Multidisciplinary curricula development in the NICCoLLa project

The objective of the Erasmus+-funded **Network for Innovative Care Competence Learning through Labs (NICCoLLa)** project is to improve the education of care and wellbeing professionals, as well as technology and ICT professionals. In a future that will see the importance of technology continuing to grow, "future-proof" professionals with multidisciplinary expertise in the field of care and ICT will be needed. It is also important to encourage patients and clients to participate in the development of future care technology.

In response to this challenge, the NICCoLLa project bridges ICT and social care and healthcare by providing a new study module of 30 ECTS that

- integrates challenge-based and living lab learning in education
- enhances knowledge and a positive attitude towards technology
- increases innovation in health and wellbeing.

The study module consists of six 5 ECTS study courses, the content of which has been built in cooperation with the NICCoLLa project partners. The interdisciplinary perspective in this work has been strong because it has been possible to combine the expertise of a university that offers ICT/technology and higher education institutions that offer social and health education.

The close transnational cooperation online and at the meetings between the partners, have enabled a common understanding of how the different courses are related to each other, and what kind of study package is the result to achieve the project's goals.

During the intensive weeks organised for students (in Lahti 2020 and Breda 2021), the content of the courses has been produced, and the implementation has been piloted for the students and their feedback on the implementations has been collected.

Examples of the produced education material and course implementation

The main idea of the course objectives of the 30 ECTS study module is that all six 5 ECTS courses are easy for teachers to use and can be implemented in different universities, and they also provide students and teachers with new course materials, including detailed manuals. The aim is that the material will be in general use in universities of applied sciences at the European level.

In some of the courses' learning processes, it is also intended to cooperate closely with working life organisations. The aim is that the learning assignments combine the learning process and the development of the real challenges of working life. Students will thus learn how to solve real-life challenges, and the course will also create added value for working life organisations. The courses and learning outcomes of the learning process are presented in Table 1.

Working with clients/patients using care technology

The Working with clients and patients using T & I course focuses on user perspectives and the usability of T & I, and on patient/client centred digital solutions and patient/client safety. The aim is that international higher education Health and wellbeing (H&W) and Technology and Innovation (T&I) students share the goal of learning to develop client and patient-centred, efficient, and accessible T&I solutions for clients in multidisciplinary teams. In a technology-driven world, functional and secure information systems and devices are a significant safety factor. In addition,

Course	Name	Learning outcomes After completing the course, the student will be able to:
1	**Working with technology/ICT in Health & Welfare as an expert and professional**	» Select and apply technology that fits the specific case (fit for purpose). » Translate caring needs to specific technology for developing caring applications. » Understand the needs of a client or patient, and how technology can be beneficial to supporting that need. » Understand and apply a methodology to select the right mix of care and technology.
2	**Working with clients/patients using care technology, focusing on user perspectives and usability of T & I**	» Explain concepts and the knowledge base of patient and client safety. » Assess and analyse needs and challenges of clients and patients. » Analyse what professional competences are needed to promote the design and implementation of safe care technology. » Discuss their responsibilities in relation to patient and client safety issues. » Develop client/patient centred digital applications in multidisciplinary cooperation.
3	**Ethics**	» The student is familiar with the moral process so that they can reflect clearly on ethical problems within the field of technology and care. » The student can apply ethical principles so that they can form and defend an opinion on ethical problems within the field of technology and care. » The student can analyse ethical dilemmas and their consequences in technology and care so that they can take ethical responsibility.
4	**Transdisciplinary co-creation of Technology and Innovation solutions**	» Describe the value of co-creation based on transdisciplinary formats. » Describe the processes of co-creation and participatory frameworks. » Describe best practices of co-creation. » Use available tools/techniques in co-creation. » Practise problem solving through co-creation in challenges of implementing technological solutions in health and well-being by companies or organisations.

Course	Name	Learning outcomes After completing the course, the student will be able to:
5	**The "future-proof" professional in the H&W sector; focusing on changing attitudes towards care technology**	» Adopt a critical attitude towards technology in the field of care and wellbeing. » Assess and affect the attitudes of professionals within an organisation during the implementation of (new) technologies.
6	**Service design for health and wellbeing technological solutions**	» Describe the knowledge base, concepts, and process of service design in the development of a digital customer-oriented product, service, or process. » Recognise the possibilities of technologies in designing customer-oriented health and wellbeing products, services, and processes. » Involve end users in the innovation and development process by using service design tools. » Design a customer-oriented product, service, or process using service design methods and different implementation methods.

Table 1. The courses and learning outcomes.

software constitutes a large part of medical devices. For their safe use, there are the same requirements as for physical equipment (Ministry of Social Affairs and Health, 2022).

Future Social and Healthcare and Technology and Innovation professionals should activate citizens to take better care of their own health. This can be done by working together in designing innovations and new tools to improve patients' and clients' lives. For end-users and Health and Wellbeing's professionals safety and ease of use are in the center.

The objective of the course is to encourage students to understand the needs and challenges of clients and patients at an international level: what kind of competences do professionals need to be able to promote the successful design and implementation of care technology in the future? to develop innovative thinking and explore client/patient-centred technologies to make a client-centred demo-app testing the practical solutions with clients.

During the course, there are lectures, videos, websites, articles, and several learning tasks to help students achieve the objectives that will be assessed. The course starts with a short introduction to HCI and patient safety. Immediately after this session, which can be conducted either in the classroom or online, every student should post at least one discussion of the topics. The idea is to already encourage ongoing discussions between course participants from the beginning of the course.

The next phase is to get familiar with clients' and patients' experiences and expectations of using healthcare technology. Students are asked to discuss technology's responsibility in new patient and client safety in health and welfare care services. During the course, they design a client-centred safety demo in multidisciplinary groups, and at the final seminar, every group presents their demo. The final seminar is open to customers and end users, which is an opportunity to receive feedback from clients.

It is well known that approximately every tenth patient in hospital suffers adverse events (WHO 2017), but social care and healthcare providers and medical device vendors also suffer and can be traumatised. Health and welfare technology must provide evidence-based benefits and be safe to use. The safe implementation of health IT and digital medical devices requires shared responsibility between vendors and social- and healthcare organisations.

Ethics

The ethics course is designed to teach students how to reflect ethically on moral dilemmas. The purpose is not to present a moral view for the students to follow but to allow them the tools to create their own moral worldview. The final view the students have at the end of their course is ultimately irrelevant, as the course is intended to teach them how to come to the conclusions themselves.

The course is based on a principlist approach to ethics that examines several ethical principles. It is based on students' examination of several principles commonly agreed to be good. The students spend the first half of each lesson to examine ethical principles such as justice, informed consent, respect for autonomy, or confidentiality. The students examine different views of the principle while discussing their own viewpoints, and how they come to understand them.

The second half of the lesson deals with a case study. The students examine a specific dilemma to see how the principle applies in this case. The case studies can change from year to year. A case study bank is being created that will have several different

cases for the teacher to choose from. For example, when dealing with informed consent or respect for autonomy, the question of mandatory vaccinations may come up. Case studies can be changed based on the group of students, or what is happening in the world. The Covid-19 pandemic presented several interesting new topics for discussion. Furthermore, if the group of students is mostly engineers, more engineering-based cases may be chosen. This allows a fluidity in the course that can keep it fresh and allow it to be tailor-made for the students.

One of the two main assignments in the course is an essay in which students defend their viewpoint on a dilemma. They are only assessed on how well they defend that position. The students also do a presentation in which they show multiple sides of a dilemma to demonstrate that they can see other points of view.

At the end of the course, the students will have developed tools to better understand ethical and moral dilemmas. Through the case studies, the course can be constantly updated to keep up with the times and be tailor-made for the students' interests. The students will develop their own moral worldviews that allow them to better understand their field, the relationship of healthcare and technology, and most importantly, themselves.

Transdisciplinary co-creation of T&I solutions

The Transdisciplinary co-creation of T&I solutions course focuses on the disciplinary language gap, and the successful design and implementation of care technology. Transdisciplinary co-creation of technology and innovation solutions is necessary, the development requires many points of view, the most important of which is the customer's, who uses a digital solution to be developed, for example.

It is therefore important to bring all the parties – citizens, companies, third-sector actors, and the public sector – together to identify and solve the needs and problems associated with the service ecosystem and services. Co-creation plays an important role in promoting seamless service processes that take individual customer-specific needs and the availability of the services into account. Co-creation focuses on the identification of developmental needs, as well as a goal-orientated effort to solve them (Kauppinen et al., 2020).

A co-creation solution is formulated during the co-creation process. Participation in co-creation requires an ability to deal with uncertainty. The participants may use a different language, and it is sometimes difficult to understand each other. Even conflicts may happen. A skilled facilitator is therefore needed in the process. Co-

creation requires the grid and flexibility of all the involved parties. The uncertainty regarding the result of co-creation at the beginning of the process is common and can be unpleasant for the participants, and the facilitator is the one who supports the process and builds trust in participants (Kauppinen et al., 2020).

The course of co-creation is planned so that students start with an introductory MOOC course. Contact learning then deepens the understanding of co-creation and identifies the best practices and processes of co-creation. The next phase involves student teams solving a practice-based challenge from the company, healthcare centre, hospital, or project. The idea is to bring together the competences of different disciplines and use methods of co-creation in solving them. The students also practise separate roles in the team process. It is necessary to practise implementing the methods used in facilitating teamwork. Innovations occur at the edge of different disciplines, and the voice of the customer must be central.

Service design for health and wellbeing technological solutions

The focus of the Service design for health and wellbeing technological solutions course is on service design in developing health and wellbeing (H&W) technological innovations. Service design is a human-centred approach which is increasingly viewed as an essential element of high-quality services. Service design trusts engaged clients and stakeholders in social and healthcare service development. Involving users as an integral part of the solution leads to greater client satisfaction, outcomes, and efficient resource allocation. (Naar et al., 2018; Saco & Goncalves, 2008.) Service design is suitable especially when there are complex and challenging phases in the development and innovation process. Service design uses creative and analytical thinking and benefits the multidisciplinary teams in working together and maximising ideas and the support of different expertise (Van Oeveren, 2022).

The multidisciplinary approach is essential in the Service design for health and wellbeing technological solutions course. The course is targeted especially at higher education students studying in health and wellbeing programmes, and students studying in technology and innovation programmes. The students work in multidisciplinary teams and benefit from each other's expertise during the course when they are developing the digital or technological health and wellbeing product, service, or process for the target group or organisation they choose. The students follow the service design process and use the service design

tools during their development process. In the process, the students respond to real working-life needs and work with real user target groups, involving them in the development process.

After completing the course, students should be able to describe the knowledge base, concepts, and process of service design in the development of a digital, customer-oriented product, service, or process. They should also be able to recognise the possibilities of technologies in designing customer-oriented health and wellbeing products, services, and processes, and involve end users in the innovation and development process by using service design tools. Finally, they should be able to design a customer-oriented product, service, or process using service design methods and different implementation methods.

The benefits and effects of the produced educational material

To meet the needs of working life related to the competences of digitalisation and new technology skills, it is necessary to include and introduce the teaching and learning materials produced in the NICCoLLa project to the study programmes of future social care and healthcare professionals.

It is also beneficial and possible to offer course material for technology and innovation programmes as a minor subject of 30 ECTS for students in the study programme. Each of the 5 ECTS courses can also be implemented as a separate course, which provides more flexibility for integrating the courses into the curriculum.

The generated course materials include detailed manuals for the students and teachers so that the courses are easy to implement and realise in different higher education institutions. Since the NICCoLLa project partners are from the Netherlands, Spain, Portugal, and Finland, the results of the project can be considered to have an impact on higher education at the European level.

In addition, the created teaching and learning materials can be offered to professionals in working life as further education studies. Since the materials are available online, it is possible to study flexibly at a time that suits the learner best.

Conclusions

The added value of the multidisciplinary cooperation in the NICCoLLa project for the development of social and health education reduces the language gap between health and technology. Combining different perspectives in the development of teaching material increases the students' understanding of the customer's needs, and how to meet them, possibly with the aid of new technology.

It is also important to highlight customer and patient safety at the European level when promoting the use and development of technology. As a result of the NICCoLLa project, students and professionals have a platform for exchanging best practices for patient and client safety improvement, despite differences in the culture and functioning of healthcare in different countries.

In connection with the development of technology and its adoption in the social care and healthcare sector, ethical questions have also come to the fore. Evaluating the advantages, disadvantages, risks, and consequences of technology is essential, and it is necessary to support social care and healthcare professionals to act in an ethically sustainable way. Developers of technological solutions must also take ethical issues into account.

Finally, to quote Jordi Linares from Universitat Politècnica de València - Campus of Alcoi, one of the NICCoLLa project partners, in the project's second newsletter in January 2022: "It is very important, and this is what the NICCoLLa project strives for, that the technology world and social and health care sector, work hand in hand in the design of new tools with a single objective: to improve the lives of everyone, patients, clients and professionals" (Niccolla 2022).

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Service Innovations for Health and wellbeing is one of the strategic focus areas of LAB University of Applied Sciences. The research, development and innovation (RDI) activities of this focus area aims at enhancing sustainable health and wellbeing of individuals and communities in holistic and effective ways highlighting life cycle and preventive approach as well as systemic thinking.

This publication provides insightful perspectives on the promotion of health and wellbeing 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.

The RDI projects are tools which enable the co-designing, piloting and development of the novel and enhanced operating models, processes and services and service chains which sustain health and wel-lbeing in cross-sectoral and multidisciplinary collaboration providing lasting impact on regions' wellbeing and vitality.

This publication disseminates results and impact of the presented RDI projects highlighting the significance of collaboration with the working life. This publication seeks to increase dialogue related to the complex challenges of health and wellbeing and encourage us all to join forces in exploring possibilities and novel solutions to tackle the challenges.

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