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NATIONELLA CENTRET FÖR UTBILDNINGSUTVÄRDERING
FINNISH EDUCATION EVALUATION CENTRE

AUDIT OF METROPOLIA UNIVERSITY OF APPLIED SCIENCES

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4.1 An evaluation area selected by the HEI

- Korkeakoulun itsearviointi

HEI as a learning organization: Innovation hub activities from the RDIL perspective

Initial state

Metropolia has selected the innovation hub operations using the RDIL perspective as a topic under ‘HEI as a learning organization’. This has been done to receive feedback for the development of the RDIL activities. The objective of development is to strengthen Metropolia’s capability to build research, development, innovation, and learning (RDIL) connections in a new way to address the challenges in the operating environment and in accordance with Metropolia’s Strategy 2030. In 2021, the state of RDIL activities was explored with a review done by the participatory sparring team (Parru). After the review, a development project was launched. It provides a roadmap for RDIL development. The development of RDIL is linked to the development of the degrees and the project improving Metropolia’s forecasting capabilities.

Strengths identified in the review included the positive attitude towards RDIL development as well as the existing roles to which RDIL is connected. Concurrently, some operating models (e.g. RDIL in the curricula of certain degrees, the RDIL menu, innovation hubs’ collaboration platforms, and the MINNO studies) were found. The RDIL development work can be linked to them from the perspective of the innovation hubs. The review acknowledged ambiguous and unestablished roles and tasks for several actors, processes, and units. It was observed that the innovation hubs and

the related platforms play a role in the implementation of RDIL. There were different views on what it would mean in practice and even a lack of awareness.

2022 action plans for schools and innovation hubs also indicated that the division of work, budget responsibility and operational RDIL practices between the innovation hubs, schools, lifelong learning services and RDI services are inconsistent and unclear. RDIL is implemented in many ways in cooperation with partners, schools, and innovation hubs. The progress of the systematic implementation of RDIL varies between degrees. Some of the observed shortcomings were corrected in the spring of 2022:

- Events to provide guidelines on entering RDIL credits were organised and the instructions were made clearer
- Communication from the learner's perspective was added to the OMA intranet
- Four workshops were organised for discussions between responsible parties
- The RDIL development work was included in the job descriptions of the coordinators of the innovation hubs' thematic areas
- RDIL was linked to the development plans of degrees.

Currently, the development of the RDIL activities includes incremental improvement needs as well as more profound needs related to the transformation of the current state and to a new kind of future. Some of the required steps for development can be planned ahead. At the same time, it is acknowledged that a considerable part of the measures can only be specified as the activities proceed.

Innovation hubs from the RDIL perspective in 2030

In the goal state, consideration is given to the objectives of Metropolia's Strategy 2030 and the challenges and opportunities arising from the operating environment. HEIs are expected to place strong focus on open research, development and innovation activities which are implemented in ecosystems crossing organizational, industry and sector boundaries. This requires that pedagogy emphasises learner- and phenomenon-orientation and a transfer to more phenomenon-oriented RDI activities in open learning environments. The perspective of innovation hub activities, the concrete manifestation of the goal state is as follows:

- Metropolia has an established role as an innovation and learning ecosystem actor in the Helsinki Metropolitan Area.
- Competence and innovative solutions for social phenomena are generated in ecosystems and on campus platforms in the form of cooperation transcending boundaries and through partnerships. Sustainable development directs the operations.
- Learning takes place in authentic learning environments on the collaboration platforms at Metropolia's campuses (HyMy Village, Smart Lab, Helsinki XR Center, Turbiini, Metropolia Proof Health, Urbanfarmlab, Robo Garage etc.).
- Metropolia is capable of responding quickly to changing competence needs.
- The number of new student- and RDI-oriented companies has increased, boosted by the

Campus Incubators programme of the city of Helsinki.

- Technology competence in the HEI community and ecosystems has become stronger in all innovation hubs. New emerging technologies and Metropolia's technological platforms (such as Helsinki XR Center, RoboGarage and AIoT Garage) have gained a significant role in phenomenon-based learning and in the innovative solutions to phenomena.
- Metropolia's management system and operations management have been renewed to respond to the challenges experienced in phenomenon-orientation, openness, and systemization.

RDIL roadmap – how to reach the goal state

Metropolia wants to proceed towards the goal state through a collaborative and dialogical approach and reflection, continuously updating its situational awareness and roadmap. Essential to defining the steps in the roadmap is to identify the matters in which it is sufficient to develop the current state and those in which a more radical renewal is warranted. The Complex adaptive system model presented in Figure 16 is the guiding frame of reference.

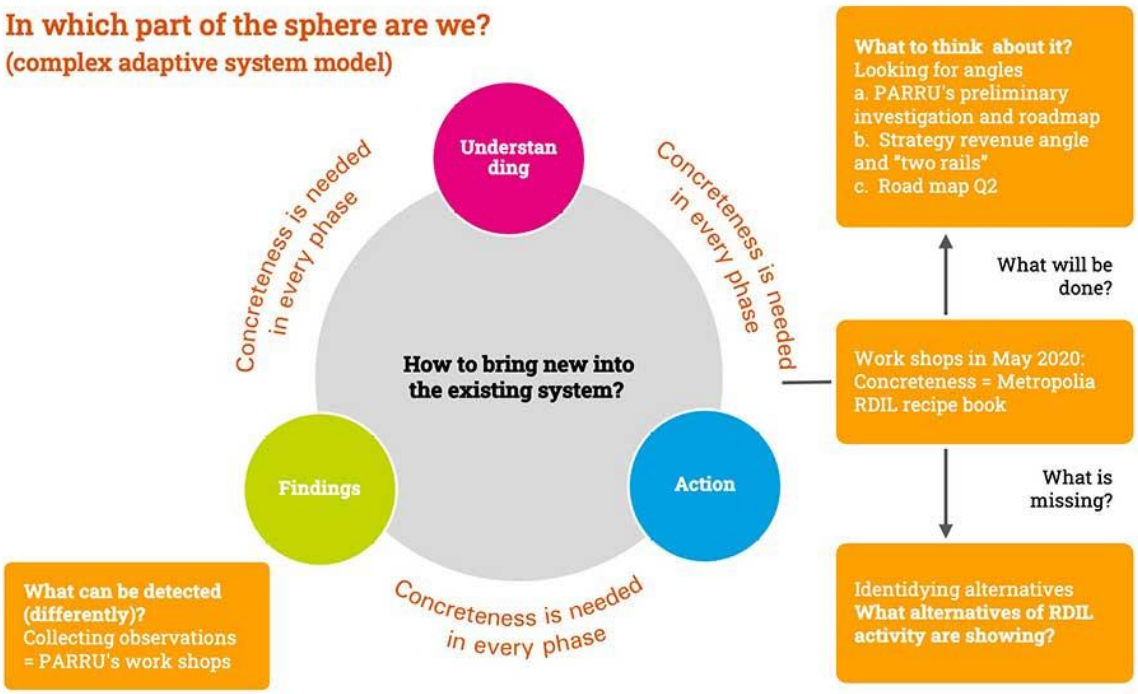

Figure 16 Complex adaptive system framework over the short term and long term in the RDIL development project.

From the perspective of **the current state**, emphasis is placed on making RDIL practices visible (the publication of a 'book of recipes' in the beginning of 2023), making use of good operating models, and facilitating cooperation between different actors. In addition, the needs and benefits of the RDIL activities to students, HEI personnel, companies and society are made visible. Table 2 presents the current key road map activities as they are perceived in the spring of 2022. Concrete measures are being worked on in dialogue between the RDIL actors.

Sharing best practices	Identifying, collecting, making visible and comprehensively utilizing the existing RDIL practices of the innovation hubs while integrating them in the perspective of the degrees and other flexible learning solutions.
Clarifying objectives, measures, and indicators	Making the annual action plans and indicators visible (including goals). Goals and measures are entered and monitored in the Tsemppi, Peppi and Halli systems.
Agency and cooperation	Clarifying and making visible the roles of RDIL actors (a role map and job descriptions) and intensifying cooperation between actors. Special focus on the role of thematic area coordinators as promoters of RDIL. Making the role map and job descriptions visible in the management system in the OMA intranet.
Projects and applying their results	Making the role and actions of students visible in projects (a project specific RDIL plan in Halli). Increasing the impact of the results and making them visible as well as communicating and utilizing them actively in learning, further research, and innovation activities.
RDIL in the internal development projects of innovation hubs	Students as project workers (the HyMy Village).
Innovation hubs and assignments from companies	Students as trainees and thesis workers, MINNO studies.
Clarifying the role of innovation hubs in relation to curricula and implementation plans	Making RDIL visible in curricula and implementation plans; pedagogical principles from the perspective of the innovation hubs and RDIL.
Clarifying the role of innovation hubs as an influencer	Defining and making visible the benefits offered by RDIL to students, companies, Metropolia and society.

Table 2: The current RDIL key road map activities in 2022

In terms of **transformation**, it is essential how the models of thinking and operating in the open RDI activities are integrated in Metropolia's daily operations. Table 3 shows themes and measures identified by 2030. Transforming them into RDIL road map activities happens through continuous joint development.

Ensuring a shared understanding of the objective and the frames of reference and lines of thinking in the open RDI activities	Verbalizing Metropolia's strategic objective 2030. The frame of reference of open science/innovation activities/learning and an open operating culture; open ecosystems as resolvers of challenges in society. Unlearning old thought patterns and adoption of new ones. Establishing the use of dialogue.
Establishing phenomenon-based RDIL activities	RDIL stemming from the challenges of society at the core of innovation hubs, phenomenon-based learning, innovative solutions; mission-orientation in directing and coordinating RDIL projects. Renewal of steering by the Ministry of Education and Culture (to accelerate RDIL).
Linking pedagogy to the identification of the operating environment and open phenomenon-based innovation activities	Learning in authentic learning environments as part of the innovation and research activities.
Management overhaul	Management is overhauled to make the phenomenon-based approach and strategic change possible. Renewal of the management system and operations management (phenomenon-based budgeting, shared management, partnership model, dialogic forums for RDIL discussion). Role assignments in innovation hubs and the enterprise architecture work to model the new management.
Forecast (information) in the building of links between management and RDIL	MEKY and RDIL projects are managed in parallel to ensure they are linked. Applying technology in forecasts (artificial intelligence and the AIoT Garage platform) in innovation hubs.
Establishing the use of platforms	Platforms to benefit learners, companies, and society. Innovation ecosystem cooperation with social impact is carried out regionally and locally. Strengthening the management of the innovation ecosystems and developing ecosystem services.
New corporate services accelerate the generation of new companies	Establishing the Campus Incubator programme cooperation between the City of Helsinki, Aalto University and Metropolia. The goal is 100 new companies per year.

Table 3: RDIL themes and measures identified by 2030

Strengths **Enhancement areas**

Strategy 2030
• A visionary and systemic strategy offers extensive opportunities for innovative RDIL solutions.
• The principles of thinking and action integrated in the strategy are in excellent alignment with the RDIL principles.

Investments in the preparation of RDIL
• The current state and needs of RDIL have been examined by means of a participatory process. This has also helped identify a clear motivation and commitment to the theme and the objectives.

Management of RDIL
• The directors responsible (RDI and Lifelong Learning) manage RDIL as a close-knit work pair in the RDIL spirit.
• RDIL work in the form of a project; the project is managed with a systemic approach (with the Three Horizons and CAS as the frames of reference).
• Operations management and the management system are renewed in such a way that enables the implementation of RDIL (among other things, phenomenon-based budgeting, the roles of coordinators of the innovation hubs' thematic areas and a platform coordinator, partnership model).

Enabling structures, infrastructure and practices already exist
• Several roles involving RDIL
• Innovation hubs and platforms
• Certain operating models, such as the MINNO studies
• Pedagogic guidelines have been updated (including phenomenon-based learning)
• Platforms have been made available for companies and students in upper secondary education, among others.

The Campus Incubator programme

Building a shared understanding
• Clarification of the RDIL entity and the vision of the future (current state, transformation, vision of the future; link to the strategy) and motivating the personnel (the first step: announcement in 2022).
• Making the need for and the multitude of benefits of the RDIL activities visible from the perspectives of students, companies, Metropolia and society.
• Defining concepts

Reassessment of lifelong learning practices
• Degrees based on professions and their phenomenon-orientation
• Degrees and innovation hubs as an entity with impact and providers of new and flexible learning solutions
• Learner-orientation and competence forecasts in lifelong learning
• The lifelong learning ecosystem of the Helsinki Metropolitan Area (the role of the innovation hubs)

Increasing the alignment and transparency of the activities
• Simultaneous development of RDIL both on a more comprehensive overall level and on a more specific concrete level.
    ◦ Taking the diversity of RDIL into consideration.
    ◦ Increasing the openness of the development process and decision-making (all key parties involved).
    ◦ Involving students and actors in Services.
    ◦ Clarifying the roles of the thematic area coordinators and platform coordinators.
    ◦ Strengthening shared management.
    ◦ Strengthening strategy-based operations management.
• Enterprise architecture work supporting RDIL

Enabling strategic change through
• the development of management, pedagogy, and the operating environment
• the development of the operating environment, competence, and capabilities of the HEI community.

Establishing business incubator cooperation (the Campus Incubator programme)

Strengthening the ecosystem and platform operations

4.1 Innovation hub activities from the RDIL

perspective

- Auditointiryhmän arvio

Innovation hubs and RDIL thinking show promise in bringing strategic goals to life

In Metropolia Strategy 2030, Metropolia strongly focuses on RDI activities, which are implemented ecosystems functioning across the entire organisation. This significant change compared to the previous organisational model is clear proof of a learning organisation. Metropolia has boldly set out to reform its organisation in the direction of phenomenon-based learning and a solution-oriented approach. The key players in the development are staff, students and companies in the sector.

To strengthen Metropolia's capability to build research, development, innovation and learning (RDIL), the HEI has started creating a preliminary roadmap for RDIL development. The goal is that RDIL is linked to degrees and forecasting capabilities. The audit team praises that Metropolia has gotten off to a good start in systematically identifying the key roles and actions needed for the roadmap. In the interviews, the staff felt the phenomenon-based teaching to be inspiring and motivating, but at the same time, the change to a new mindset is perceived as time-consuming. In addition, staff has manifold tasks to perform, and new structures need resources that are not necessarily sufficiently available. The audit team anticipate the possible risk of conflicts due to resources shared between RDI, especially the innovation hubs and teaching, which should be observed carefully. No change is ever quick, and this is something to bear in mind with RDIL reform. In interviews, staff often mentioned that they see Metropolia as an agile organisation. This opens up good opportunities to drive innovation in an agile way within the organisation. The audit team noted and agreed that the new positions of innovation directors still need further definition.

According to interviews, the innovation hubs structure supports Metropolia's strategic goal to be a bold innovator of knowledge and a builder of a sustainable future. The audit team encourages monitoring the strategy implementation and following staff feedback as the new organisational structure is implemented. Feedback can be reflected in ready-made channels, such as impact reviews and leadership forums. This allows the whole community to participate and enhances Metropolia's achievement of its strategic goals.

Student-centredness is a part of the phenomenon-based learning

Innovation hubs provide a good development platform based on innovation and ecosystem thinking. Students are well integrated into the reform and have the opportunity to learn in authentic learning environments, such as HyMY Village, Smart Lab, Helsinki XR Center, Turbiini, Metropolia Proof Health, Urbanfarmlab, Robo Garage etc. The students participating in authentic

learning activities are in direct contact with everyday customers. This feedback opportunity should be systematically utilised.

Visits to learning environments showed that students are given responsibility and work relatively independently on some projects. The importance of good supervision becomes even more critical as the student's responsibility increases. As such, working-life skills, as in the HyMY village, are very much at the heart of learning. Students will get a good starting point for working on research projects and working-life projects. This pedagogical starting point gives them a sound basis for working in the future working world, using a solution-oriented approach.

Metropolia is a multidisciplinary and artistic community. This also provides an excellent opportunity to exchange ideas across sectoral boundaries. Metropolia also plays an essential role in society as a mediator of open science through its new openings.

Metropolia's strength is development through interaction

As a learning organisation, Metropolia uses early involvement of broad expertise and opinions in its decision-making processes. The leadership forum mentioned earlier exemplifies Metropolia's striving for interactivity. Another is the 'Parru' platform (internal dialogue and sparring). The participatory service focuses on dialogue and co-creation and is used for planning and goal setting. According to the self-evaluation report, the service supported five strategic development projects. For example, in 2021, approximately 50 participatory planning events, some of them with external stakeholders, were arranged. The 'open science' approach also extends to individual projects, where sharing resources and results are encouraged. Metropolia uses ad-hoc task forces for specific tasks and problem-solving.

Semi-annual personal development discussions include the whole staff and hopefully provide the organisation with relevant information on the staff's well-being, motivation and satisfaction level. The workload and individual energy (work/leisure) balance needed special attention during the pandemic and constant continuous attention.

The lifelong learning concept includes continuous learning for not only the students but also the organisation itself, e.g. through close interaction with alumni. This offers another new perspective on Metropolia's opportunities for the future. Metropolia recognises that the alumni interaction should be more diverse. Today, it still seems to work on a case-by-case basis rather than with a systematic approach. Lifelong learning needs to be thoroughly established and communicated in innovation hubs. It could also be a source of renewal ideas and actions.

Learning in the long run

The RDIL road map to 2030 is based on a 'Complex adaptive system framework', a variation of the PDCA cycle. The core question is how to bring new elements into the existing system. Improvement through new rather than incremental elements sets a higher demand for learning. This is an ambitious goal. The RDIL road map to 2030 includes several actions which require

fundamental learning of new elements. The ‘Campus Incubator’ programme, a cooperation with Aalto University and the city of Helsinki, is one example of this. The aim is to be able to start 100 new companies per year by 2030.

The reform is off to a good start and has great potential. The audit team encourages further innovative reform.