

## Expertise sparkles and develops in interfaces

*Merja Koikkalainen, PhD, Principal Lecturer, Lapland University of Applied Sciences*

In a university of applied sciences, the closeness of the teaching to working life is a precondition for achieving expertise of high quality. All the actors involved have accepted this, and the direction is clear. Students appreciate the connections to working life and to related expertise that they receive during their studies. Businesses appreciate the availability of a skilled workforce. In addition, the teachers and staff of the university create a framework for this while also developing their own expertise and networks.

Contributions were requested for the first 2018 issue of the online magazine LUMEN on the theme “Learning and studying at the interfaces of R&D and working life”. In her column, Rector Riitta Rissanen of the Lapland University of Applied Sciences guides our thoughts towards the future and constant renewal, which will help us preserve the trust we have achieved among students, working life, business life, our own staff and our partners.

A big step towards increasing cooperation with working life was taken in the autumn of 2017, when all the fields of education in the Lapland University of Applied Sciences moved to an expertise- and problem-based curriculum. Expertise-based learning means that working life has supplied the starting points for defining the skill targets in the curricula. Problem-based learning means that the learning process is implemented in close cooperation with working life and that it has as its starting point the problems and other phenomena of working life, which are handled with a problem-solving process (Kangastie & Mastosaari 2016). The curriculum is used in both the day and multiform training and in graduate degrees in applied sciences. During their studies, the students interact and cooperate with several different partners from working life. These kinds of encounters arise in the implementation of study periods with working life, trainee periods and the writing of graduate theses.

Students have noted the change brought about by the new curricula. In January-February 2018, the first, second and third year students of the Lapland University of Applied Sciences were

asked for their annual feedback on studies and their organisation (n=1381, response rate 33%). The feedback related to cooperation with working life was at a good level. Compared to the previous year, the students were more satisfied with how they had received information on practices in working life. Working life had been taken into account in a wide-ranging way in the contents and implementation of the studies, and the students had participated in studies where they act together with working life. Although the results were better than before, there is still work to do to take the students' experiences of cooperation with working life to an excellent level.

In a report on the structural development of RDI activity prepared in 2017 by Arene (the Rectors' Conference of Finnish Universities of Applied Sciences), it is stated that cooperation with businesses, expertise in working life and the latest research form the basis of efficient R&D activity of high quality (ARENE 2017). R&D activity is undertaken partly with external R&D funding and partly with funding by the universities of applied science themselves. Most R&D activity is connected to the teaching activity in the universities of applied science. A good example of this is graduate theses done as part of an R&D project. The creation of new expertise is based on each teacher also undertaking the task of research, development and innovation (RDI), while actors in RDI conversely undertake tasks in teaching.

How is studying and learning at the interfaces of R&D activity and working life manifested in our activity?

Work & Study, new learning environments in working life, individualised study paths and alumni activity all bring working life closer to students. Helena Kangastie describes in her article how Work & Study gives new opportunities for students to combine working life with their studies. She also discusses the significance of learning environments and learning spaces for enabling learning by all the parties acting in cooperation: employees, students and teachers. In their article, Elisa Lahti and Jere Wessman describe the opportunities of the Demola learning environment. The article by Jonna Löf, Niina Riihiniemi and Merija Timonen discusses the development of expertise through individualised study paths made possible by open university teaching. The business mentors also participate in the development of expertise. Katja Mattila completes the theme with the thoughts of some alumni of the Lapland University of Applied Sciences on lifelong learning and cooperation.

Research and development activity in graduate degrees in applied sciences is presented in the article by Soili Mäkimurto-Koivumaa and Marika Kunnari. Leena Välimaa's article offers an interesting example of the multidisciplinary implementation of the integration of studies and the experiences we have had with it. Studying as part of a research and development project is reported on by Johanna Husa-Russell and Janne Hirvonen. Anne-Mari Väisänen and Sonja Niemelä bring along the important viewpoint of the student, and the examples by Timo Puukko illustrate the power of a multidisciplinary approach. Kalle Santala's article shows how teaching in the field of natural resources also makes use of the expertise and networks of RDI personnel. Mikko Vatanen describes how new curricula have enabled a stronger R&D-oriented connection between teaching and working life. His article also includes comments from students. Karoliina Majuri, Kirsi Muuttoranta and Mari-Anne Penttinen have chosen to write their article from the viewpoint of lifelong learning, including the recognition and acknowledgement of expertise. Petri Hannula, Petteri Pohja and Pekka Sonninen discuss the offerings of the eSports preliminary report. Päivi Hanni-Vaara, Pasi Satokangas and Marja Lempiäinen have made use of statistics in destination development and learning together, while Leena Välimaa writes on the development of teachers' expertise in research and development activity.

The international nature of combining teaching with R&D activity is also visible in Anzelika Krastina's article, which discusses the experiences of international students in studying management in different learning environments and projects. Andrea Reid, Audrey Gilmore, Arthur Kolb, Katrin Stefan and Esa Jauhola are developing a cooperation model for an international study module in graduate studies in applied sciences, which will be implemented partly virtually. Riia Valvimo, Saila-Inkeri Puukko, Jorma Mölläri and Jani Siivola write that the integration of RDI, education and working life motivates towards learning and developing international networking expertise. Reeta Sipola's article includes examples of cases where students are integrated in RDI activity – in pairs whose members represent different nationalities. The contribution by Renata Musifullina and Anzelika Krastina is about studying in cooperation across borders. Anja Mikkola, Jasmin Kaitera, Henna Merenheimo and Duy Dao Cong tell about their study trip to Iceland.

Juha-Pekka Snäkin and Sanna Tyni discuss the circular economy and the needs for developing research and expertise. Valtteri Pirinene examines the effects of the new building code on wood construction.

All the texts are characterised by enthusiasm, multidisciplinary, joint development and genuine interest in learning something new. Learning new things does not concern only the participating students, but everyone involved in the projects.

My warm thanks go to Rector Riitta Rissanen for her column. The students have been active in writing articles. I would like to thank all of them for detailing their thoughts and experiences. A valuable addition has also been the participation of representatives from working life in writing, and I would like to thank them too. The teaching and R&D staff have made the development work possible. Thanks to them for their expansive models and opportunities.

*Merja Koikkalainen*

Editor, Lumen 1/2018

#### Sources:

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