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The evaluation of higher education in technology

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The evaluation of higher education in technology was conducted in 2019. The evaluation produced an overall picture and information about the state of the educational provision in the field, the competence base and the working-life relevance of degrees. The evaluation focused on the strengths and development needs in the field, as well as on the ability of higher education institutions and the higher education system to develop the provision of education in response to the changing competence requirements and future operating environments. The evaluation questions were:

1. What is the current state of the educational provision in the field of technology?
2. What knowledge base is the development of the educational provision built on?
3. What processes and networks are found in the field of technology in relation to the development of educational provision?

A wide range of data was used in the evaluation: feedback surveys (Bachelor's graduate survey, AVOP graduate feedback questionnaire [bachelor's, master's], Master's degree career monitoring survey), data from Statistics Finland, education statistics from the Vipunen database, field-specific and degree-level self-assessment surveys, focus group interviews (both joint interviews for the four evaluations of educational fields and specific to the field of technology), and case studies. In addition, the preliminary conclusions and recommendations were discussed at the field-specific stakeholder seminar. The results of the seminar also served as evaluation material.

Based on the evaluation, **the key strengths** of higher education in technology are:

- Higher education in technology **offers students added value in the form of good employability and a good level of income**. The added value in terms of earnings varies to some extent between different higher education institutions. Therefore, sharing good practices identified in the field of technology can improve the labour market success of students.
- Higher education institutions **maintain well their working life connections and networks**. Universities and universities of applied sciences are eager to learn about the needs of working life and to develop their education accordingly.

- **The need to renew competence in society as well as one's own competence** is recognised in higher education in technology. Universities and universities of applied sciences possess the ability for renewal and reform as well as the will to carry out changes.
- **The higher education communities are international** in the field of technology. They offer Finland an excellent opportunity to serve as a path for highly educated immigration, provided that graduates from other countries can be better integrated into Finnish society and workplaces during their studies.

The key recommendations for higher education in technology are:

- The educational profiling of higher education in technology has not been adequately done. In addition, there exists no clear vision at the national level regarding the strategic direction or leadership to implement it. **New incentives for cooperation and specialisation must be set up for the steering of higher education institutions.** Digitalisation should be used increasingly to ensure the regional availability of education.
- **Higher education in technology** offered by universities and universities of applied sciences **must be developed as a whole**, and the overall structure of higher education in the field must be examined boldly and open-mindedly at the national level. There is not enough cooperation spanning the two levels of education. Instead of maintaining separate systems, common technology and service infrastructures should be built and utilised.
- **The weak appeal of higher education in technology is a national problem**, the roots of which are deeply embedded in societal development. The insufficient availability of competent workforce with a background in technology already restricts the growth opportunities of companies. To address this problem, purposeful national measures must be adopted urgently.
- **No ambitious long-term vision exists for the reform of continuous learning.** Immediate measures must be taken to compile a national vision and commit different participants to the required reform. The production-oriented approach should give way to a customer orientated approach, and competence must be placed at the core of continuous learning. Higher education institutions and working life should develop long-term partnerships to help them anticipate competence needs and strengthen foresight activities.

Keywords: competence base, continuous learning, educational profiles, educational provision, evaluation, higher education, higher education institutions, internationalisation, steering of higher education, technology, universities, universities of applied sciences, working-life relevance.