12 University adaptation of digitalisation

Matti Lähdeniemi
Tampere University of Technology,
Information Technology, Pori Department, Finland

Olli Mertanen
Turku University of Applied Sciences, Finland

12.1 Abstract

Following strategies of different official organisation digitalisation is one of the main key issue to survive and get success just now and in the future. In the present paper the operational actions for implementations of digitalisation strategies are under discussion especially in higher education institutions (HEI), e.g. universities and universities of applied sciences.
Great demands and huge innovation capacity are set for HEI organisations to be updated for serving digitalisations skills of new generations.
Discussion is based on authors' diverse and active experiences, research activities and observations in promoting digitalisation in UASes and Universities.
Dr. Matti Lähdeniemi, Adj.Prof., Tampere University of Technology, Information Technology, Pori Department
e-mail: matti.j.lahdeniemi@gmail.com
Dr. Olli Mertanen, Emeritus, Senior Advisor, Turku UAS
e-mail: olli.mertanen@turkuamk.fi

12.2 Different forms of digitalisation in HEI´s

EU-strategy for education and training is pronouncing e.g. modernisation of higher education and digital skills and competencies (Fig. 1.). In Finland just like in other countries rapid changes and huge challenges are pronounced in strategies of meaningful organisations e.g. Ministry of education and culture, Confederation of Finnish Industries (EK), Tekes – the Finnish Funding Agency for Innovation.
There several to topics under discussion in the case of adaption rates and methods of digitalisation in HEI´s. Topics fits also to other topics which are under rapid change e.g. energy, environment and all of the new applications of technologies. When we are discussing rapid changes if education in HEI´s it doesn´t include only new applications just like digitalisation it includes also changes in topics e.g. economy, entrepreneurship, physics, mathematics. There are actually very rare topics staying in the stabilised state.
The history of active digitalisation started roughly from the invention of transistor. After microprocessors the digitalisation has followed the Moore´s law. Earlier digitalisation was clearly focused on technology sciences e.g. robotics, mobile phones, automation, intelligent vision, neural networks, 3D printing. Slowly also service and client based applications are in a more and more active role. Intelligent construction, intelligent clothes, clean tech, logistics, intelligent healthcare and whole social media. These topics among other things e.g. car tire with it´s own internet

address, deal more and more with big data and step by step the whole society is under digital control and guidance and also the intelligent innovation and development procedures are run by complicated digitalised algorithms.
Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business." and "Integration of digital technologies into everyday life by the digitalization of everything that can be digitised." are two trials to define what digitalization is.
In finish law for universities (Ministry of Education and Culture), it´s also very clearly stated that they have to take into account the surrounding society promoting the impact of research findings and the higher education is based on research. In the case universities of applied sciences it´s more clarly stated the regional needs.
The main topics under discussion in this paper are following: motivation jump of teachers and professors, role of students, wolf pits of funding, dead of best practices, tightly limited developments, order of degree programs, role and vote of business.

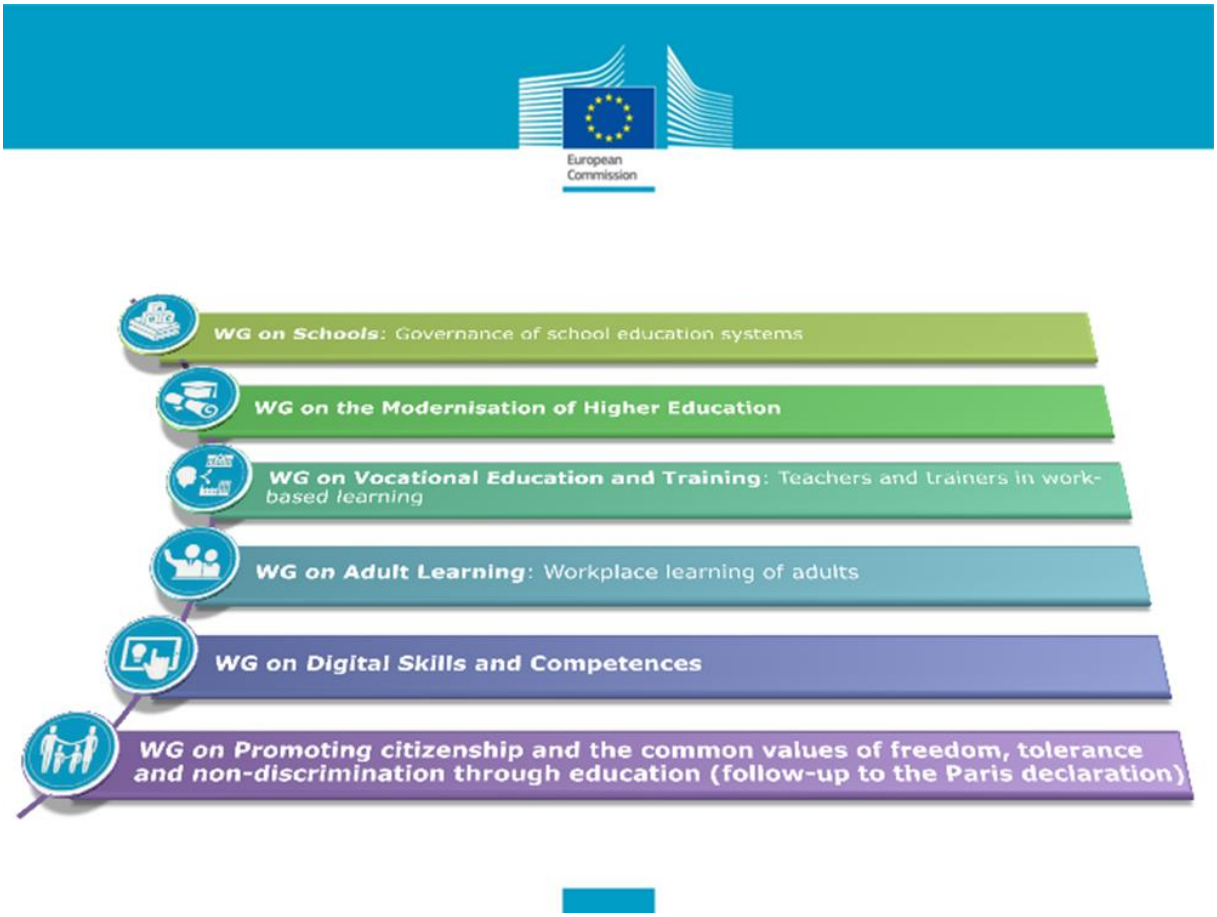

Fig. WG:s of EU strategy for education and training.

12.3 Role of students, teachers and professors

Students are very active in adaptation of totally new things, tools and cultures. This is also resource to activate and spread these new things. It also demands allowing spirit in the university. Following the history e.g. microprocessors, networks and their applications, which started nearly and only following students activities producing new courses and lectures and new type of degrees and university organise practical

surroundings and administration. This was also an easy way for university staff to get adapted into new culture. Professors activity was to initialise new branches of research leaving back anyway partially their earlier research field.

12.4 Dead of best practices

There are several working groups all around the world to study and test new methods e.g. in digitalisation and innovation producing useful and top quality best practices. The problem appear in dissemination of best practices which are dying because the application body is always making it´s own changes and the best practice has lost it´s benefit nature.

12.5 Limited developments

Research of digitalisation is living active phase but real applications are still very limited e.g. basic software tools and networks and interfaces are in use but in the development and revenues of business processes and models hardly nothing happens.

12.6 Future of degrees

The question is have we reached the time that culture of university degrees of working lives is going over? First step will be loosening administration norms to allow free mixing of studies between several faculties giving totally new degrees e.g. mixing social, engineering, art and culture. Additionally next step will studies with totally free combination made by student into his/her portfolio.
This portfolio gives tailored change to adapt into working life or start as an entrepreneurship. It is also easy to fulfil e.g. with lifelong studies following society needs.

12.7 Wolf pits of funding

New funding measures are needed when structure of degrees is changing. The use of risk money could be useful funding way also in education innovations. The same thing concerns also research. In this field lot of valuable work has been done at European level. Research funding is also needed in the topics which are not yet fulling scientific criteria. Courage to cut off long time research funding which has not any more scientific or business relevance.

12.8 Secondary and vocational education

In the previous discussion we have concentrated on HEI education but even more important are changes in secondary and vocational level maybe also at the level of day care. At these levels all of the teachers have degrees of HEI´s. Also this needs high activities of university lifelong learning for digitalisation and innovation and

modern entrepreneurship. Innovation based teachers are also needed in university faculties of education.

12.9 Role and vote of business

Working life is very active to take part into discussions for future needs and quality of education. Co-operation is acting well and similar co-operation between public sector and HEI´s will be needed. HEI´s have ideal and eligible targets which guarantees the status of autonomous HEI´s. It avoids also too short time client based demands for HEI education.

12.10 Conclusion

As a conclusion radical changes in HEI adaption of things and topics running with full speed in surrounding society and business. Main things will allowing wide scale freedom for foresight teachers and professors, full freedom to use young forerunner, intelligent and pioneer students. It´s also important that education doesn´t follow too long time earlier professional needs. New fully multidisciplinary structure of university degree where the student has big responsibility for his/her portfolio. Radical changes of funding system is also needed.

12.11 Bibliography

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