



Round table Skills and Competences.

Reflection

4-5 June 2018, Dresden/Merseburg

Michel Albertijn, Tempera

In advance. This first workshop on skills and competences was especially based on casuistry. The various presentations and visits included the views and experiences of individual businesses and organisations. The workshop participants were given an insight into how businesses, educational institutions and other stakeholders deal with digitalisation and competencies from a practical point of view.

This is not a traditional report. The presentations of the workshop are used as a starting point and this text reflects across the various presentations and visits and builds on the messages of the various speakers during the two-day workshop. The report presents a search through the material of the round table to detect the main learning points, directions, challenges, ... on digitalisation and competence policy.

Experiences of partner countries. During the first workshop the different international partners in the ESF-project presented how each country or region shapes its digital competence agenda and how this vision translates into specific initiatives. These different visions and actions vary in the extent to which they focus on changes in the curriculum or even reaching out to the business community. 'Changes in the curriculum' include the implementation of new teaching technology, the combat of digital illiteracy and a focus on supporting vulnerable citizens. Actions towards the business community include initiatives for SMEs and their employees, for whom digitalisation is often a threat. The policy agenda of the Flemish social partners, as written in the SERV-vision statement 'The transition to a digital society: towards a comprehensive policy agenda' stands out by its attention to both education and work and by the detail of the advices therein.

"Reducing media disruptions." This message sounded throughout the two-day workshop: digitalisation entails different job contents. The required competencies for workers change and these changes occur faster than before. In Li-il and HFC Prestige, the two companies in the chemical sector which explained their experiences on day 1, tasks have shifted from execution to control. Employees in these organisations increasingly act as monitors of the ongoing processes. Digitalisation implies – at least in the chemical industry – that work and jobs become more abstract. One of the speakers described digitalisation as weeding 'media disruptions': people make mistakes and as digitalisation reduces human intervention it also reduces the number of errors.

Both companies think about their digitalisation process as continuous. In their presentations, they outlined their current situation but also the direction in which they want their digitalisation efforts to evolve. However, a clear end state was never defined. The technological opportunities offered by digitalisation change quickly and so do business applications. Nothing suggests that digitalisation is a one-time shift. It is continuous process that will imply continuously changing required competencies and skills.

Required competencies and skills: look ahead or respond quickly? When it comes to policy development, we may wonder how changing skills can be traced most efficiently, and how they can be timely implemented in the training and education offer. Flanders has been experimenting with competence forecasts since several years. These forecasts map shifts in competencies proactively to allow for a timely identification for training and education partners.

The German Dual VET system takes a different approach. It is not really future-oriented, as is the case with competency forecasts, but rather puts priority on responding quickly to current developments and new business requirements. Mr. Jens Hofmann (SBG Dresden) stressed that an update of a national dual VET Standard may last up to one year. During this period, the social partners and governments must clarify the contours of the new standard but must also adjust the curriculum for vocational education and in-company training standards accordingly. The function of an, operator in the chemical industry for example, received such

an update: the complex adjustment, with an eye for both batch and continuous production, was completed within one year.

The ambition of such a reactive approach are lower than that of a competency forecast: responding to needs instead of proactively predicting them. But the approach has two distinct advantages:

- high validity: training efforts correspond to real needs
- a quick effect: a training program is adapted within one year

"Our IT department is essentially a one man show." Within both chemical companies, digitalisation presents a minority of employees with an equally complex and challenging task. "To be honest, only five of our employees are able to oversee everything," said one speaker. These are core workers with a view of the entire production flow, that control the entire process and can intervene on it. It was striking that his company did not need more of these workers. Digitalisation provides automation, efficient processes and fewer mistakes. Therefore, a limited number of employees that have such a broad overview over the entire process, is sufficient.

Are social skills really that crucial? Throughout the workshop, the increasing importance of complementary and generic skills was widely shared. Next to (new) technical skills workers also require strong(er) 'soft skills'. However, the experiences of the two companies made us doubt whether social skills are really as crucial as presented. The two companies in the chemical sector described a digitalisation that shifts technical manipulations from workers to robots/machines. The majority of the employees see their job content change towards more passive supervision and monitoring. Digitalisation does not imply a more complex task, but rather a more supervisory role and a more monotonous job. Based on the experiences of these two companies in the chemical sector, we can, of course, not make general or far-reaching conclusions. However, this observation does make us doubt whether the demand for stronger social skills is really that pressing in the whole business community.

Possibly, part of the call for social skills could be explained by the uncertainty surrounding the future. Although it is clear that digitalisation makes certain tasks or jobs will disappear, future needs are difficult to identify, let alone to describe precisely. In this perspective, the demand for better social skills could be interpreted as a 'general solution' reflecting a more complex environment that requires more ad better communication, without detailing that environment. So perhaps, much more social skills could not be necessarily required.

Insert social skills routinely in technological training. The Merseburg University of Applied Sciences does think more attention to social skills is relevant. The university innovatively applies this focus in the curriculum, not by separate lessons or courses, but by devoting attention to it in each course. The university expects students to write a report on every project they are working on. On a few pages, students evaluate the progress and problems of cooperation. Reflection and communication skills are thus built into each course through an entire study program.

Facilitate lifelong learning. The same Merseburg University offers employees extensive facilities to update their knowledge. Long-run day programs enable that people studying part-time but at the same time remain in the labour market part-time. Some training programs span several years, in which a working student spends two days a week at the university. As such, individuals who have been active on the labour market for a while, have the opportunity to receive further higher education in addition to their often highly technical previous training. Campus facilities such as childcare facilitate their entry.

Organisationally, there is little or no consultation or coordination with the employer. The university imposes annually and unilaterally the fixed week days on which courses are given (which may vary annually); potential students should arrange their schedule with their employer.

Partnerships. Educational institutions and businesses in Sachsen-Anhalt also interact, just as in other regions. For example, the Merseburger Innovations- and Technology Centre (MITZ) functions as a business centre and incubator for SMEs with a focus on new technology. Simultaneously investing in a central role as a regional partner for innovative STEM initiatives and mediator between businesses, the educational community and other stakeholders.

Start-up **Exceeding Solutions** is one of the tenants in the Technology Centre. The company is the brainchild of University Professor Uwe Heuert and an example of a new synergy between education and business. The university teaching of Mr. Heuert and the management of its start-up are surprisingly intertwined. The University of Merseburg allows Mr. Heuert, in addition to his teaching, to manage its company. Illustrative of this close relationship is that the company's employees also engage in courses and lectures. It is unclear to what extent such synergies and knowledge exchange are omnipresent.

The rapprochement between education and business remains a quest. Where Exceeding Solutions is an example of cooperation, education and business in other areas still remain two separate worlds in Saxony-Anhalt. The message of prof. Thomas Martin that teachers from the Technical University Merseburg have no structural contacts with companies in the area, was striking. This is a surprising finding because for a number of technological study consists almost a one-to-one relationship: almost all students find a job in the chemistry industry or on the InfraLeuna complex.

"Fear of IT." A recurring issue for the two chemical companies was to limit the "fear of IT" to their employees. Various employees fear digitalisation and the implications for their task. The companies are trying to overcome this by allowing employees to understand the rationale behind the new process, gradually implement digitalisation, less threatening test runs in which employees get acquainted with new methods ...

It remains a rather strange story. Anno 2018, almost all active employees have grown up with information technology and other technological innovations. Information technology was constantly present in their lives over the last 30 years, both in their professional environment

and privately. Such technologies became more user friendly and easier to adopt over time. Basically, 'fear of IT' should not play such an important role.

Perhaps 'fear of IT' reflects more a 'fear of change', a concept which, in itself, has little to do with digitalisation. Or perhaps it is rather 'fear of education', reflecting employees' low enthusiasm for (re)training.

New learning methods and materials. Digital technology has the potential to revolutionise the education and training system: distance learning, online courses, virtual reality, ... the new possibilities that digital technology offers are undeniable. SBG Dresden examines for instance how to strengthen its programs through augmented reality techniques.

To date, very little of that potential materializes, however. Several speakers told about intentions to implement online classes, showed an experimental site to provide access to a laboratory setting on the Web, or presented organisations' views of the possibilities ... None of that, however, was fully used into daily training practice. The two-day workshop brought no convincing and far-reaching examples of successful innovations in teaching methods. Not even in a technical university whose affinity with technically innovative solutions may be assumed. Trainers rely especially on "everyday" low-tech tools: the teacher prefers chalk and a blackboard, training managers use scoreboard to check the required competencies, companies provide guidance and training of new employees based on expertise of other employees ...

Also, Li-II and HFC Prestige choose for a modest approach when it comes to in-house training. Throughout their two stories the focus was especially on on-the-job training. They emphasize the importance of placing newcomers alongside experienced operators, formal mentoring, combining part-time work and training ... Throughout the workshop, little suggested that new learning technology lives up to its promises.

"Making education more interesting." Perhaps it is therefore important to shift the focus from educational technology towards innovative socio-educational organisations. "Making education more interesting" describes the views on education of Michael Steed described HFC Prestige. In his business, every trainee passes an introduction, but the company chooses for project work in retraining and even a Trainee Get together BBQ. Education may have less need for high-tech tools, but more on inspiring methods and pleasant learning and teaching methods.

It is reminiscent of what Robert Went from the Dutch Scientific Council for Government Policy described during the Brussels kick-off event as "learning while earning". A focus on workplace learning outside of the classroom, that submerges employees in practical knowledge and experience. Or as Jens Hofmann plastically expressed in the workshop: "Digitalisation resembles baking a good pizza: you need the right ingredients."

Program round table Skills and Competences

4-5 June 2018, Dresden & Merseburg

Monday, June 4, 2018

9:00 to 9:15	Welcome by the host organization: Mr. Günthel, SBG Dresden
09:15 to 09:30	Introduction to the program, presentation round Mr. Hofmann, SBG and all other partners
09:30 to 10:15	Presentation Digitalization Measures Li-Il GmbH Mr. Dirk Csuthy question round
10:15 to 11:00 a.m.	Presentation Digitalization Measures HFC Prestige Manufacturing Deutschland GmbH Mr. Michael Ros question round
11:00 to 12:00	Discussion on the topics in the two presentations with all partners, moderated by Mr. Hofmann
13:00 to 13:45	German dual system in the future and SBG Digitalization efforts + questions and discussion Mr. Jens Hofmann
13: 45- 15:15	Digit Mentalisation efforts on education and training so far in the partner countries. Subsequent discussions and partner presentations
15:15 pm- 15:30	Overview and conclusions Moderation: Mr. Albertijn (Tempera)

Tuesday, June 5, 2018

9:00 to 10:30	Visit at InfraLeuna GmbH
11:00. - 1:00 pm	Visit at Mitz with introduction of e-government project and a related IT company
13:30 to 15:00	Visit at the University of applied sciences in Merseburg