

Policy-Mapping for TACCLE4-CPD (IO 1) - Germany

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Introduction

This mapping document provides the German contribution to the IO 1 of the TACCLE4-CPD project. It gives a quick overview on relevant policies/strategies in the regional contexts of the German partners - the city state of Bremen and the neighbouring state of Lower Saxony (Niedersachsen). The mapping is based on short expert interviews with the members of the Local Advisory Group of the Bremen partners. The questions focused on

- a) policies that facilitate (or prevent) active, innovative and broad-based use of digital tools in education/training and learning (and on their impact);
- b) identifying practical problems and obstacles to introducing and using digital tools;
- c) initiatives that encourage teachers and learners to use digital tools in their daily work.

The document will give brief reports on the discussions that focused on general education (with ITB-researcher Christian Staden), on vocational schools in Bremen and Wildeshausen (with teachers Matthias Reinhardt and Jan Naumann) and on intermediate training centres for construction sector (with the trainers __, __, __) and in craft trades (with trainer __).

1. 'Policies' in general education (City state Bremen)

For this educational sector I interviewed the ITB-researcher Christian Staden who has been working several years with primary schools in the project DMI that develops multimedia learning solutions for elementary natural science teaching. (The project has been described in a Moodle-overview that I have prepared for the TACCLE4-CPD project. In this interview we tried to get a wider overview on policies to promote digital learning competences and obstacles to their implementation. We also reflected on the role of DMI in this policy context.

a) On policies to promote digital competences in education and training

The City state of Bremen has a public institution for continuing training of teachers (LIS). One of the main services of LIS to the schools is the IT support framework SuBITI. Under this framework all teachers and learners get their own SuBITI account that provides access to internet, e-mail, learning platforms and to social media. These accounts are personal and they follow the users as long as they are learners or teachers in the Bremen school system. For enhancing the teachers' digital competences the City state of Bremen has provided a customised version of a commercial community- and learning platform "itslearning". that has been introduced during the last 2 years.

b) On obstacles to effective implementation

In general, the City state of Bremen seeks to enhance the digital competences across the whole school system. Yet, there are major differences in the hardware equipment of particular schools. Some have good WLAN-networks, others have problems in getting their networks functioning in a decent way. Likewise, some schools have Smartboards whilst others do not have them. Therefore, it is difficult to give an average picture.

c) On initiatives to promote digital competences

In general, the networked project DMI with its seven sub-projects can be characterised as a flagship project in promoting digital competences among teacher educators, students (teacher candidates) and active teachers. Also, it is worthwhile to mention the Calliope project that has promoted school children's programming and computing skills with mini-computers.

2. 'Policies' in vocational education (vocational school in Lower Saxony)

For vocational schools in the Lower Saxony I interviewed vocational school teacher Jan Naumann from Wildeshausen. Our discussion with him focused mainly on his school.

a) On policies to promote digital competences in education and training

As a contrast to the above presented picture of the IT support for Bremen school system, there is no similar overarching IT support or software support for the wide area of Lower Saxony. Instead, the schools, particularly vocational schools, make their own decisions regarding the purchase and introduction of IT equipment and software solutions. As a contribution to policy-development and policy-participation one can consider the forthcoming workshops for vocational teachers for getting ready for the requirements of 'Industry 4.0' in working life and in education/training.

b) On pattern variance in introducing digital tools

Here it is worthwhile to differentiate between the digital tools that the school management and the teachers use for the quantitative planning and coordinating the schedules - these are used by all. Secondly, there are tools for pedagogic development but they are used to varying extent. Thirdly, there are trade-specific tools that are used by the respective industries and by interested teachers.

c) On initiatives to promote digital competences

Here it is worthwhile to emphasise the importance of integrated trade-specific learning spaces (*Integrierte Fachräume*) that bring together trade-specific workshops, computer labs and classrooms - instead of separating them. In the school that we focused on, this investment has been found very beneficial. Regarding the promotion of digital competences it is of interest that a considerable part of teachers are relatively young **but** also the older teachers are interested in enhancing their digital competences.

3. 'Policies' in vocational education (vocational school in Bremen)

For vocational schools in the City State of Bremen I interviewed vocational school teacher Matthias Reinhardt from Bremen. Our discussion with him focused mainly on his school and his occupational domains - teaching in car mechatronics and in the subject 'politics'.

a) On facilities and frameworks to promote digital competences

In this context we noted first that the IT services for the car mechatronics classes have a common structure in the school net. The classes have their own folders and the apprentices have their own accounts.

On top of the basic infrastructure the car mechatronics classes use the HighDrive software that is also used by the industry. In this setting the integrative curriculum entities (*Lernfelder* - learning arenas) are made transparent as the overarching frameworks. Via these frameworks the apprentices have access to their working documents (colourful in the net but grey when printed out as pdf-files).

b) On the introduction of new digital tools and new pedagogic concepts

In this context we discussed the introduction of the "Itslearning" web platform as digital support for teaching/learning processes. This platform has been provided for all school forms in the City state of Bremen. In the vocational school the teachers have done pilot testing by asking the apprentices to prepare their coursework in the PC-classes and by using the platform. Also the teachers have familiarised themselves with the reviewing and correction functions of the software. For the moment this has only been pilot testing. The grading of the coursework is still done manually.

Parallel to this piloting the vocational teachers are developing a pedagogic approach that challenges the apprentices to reflect on their learning and acquisition of competences. For this purpose they have prepared worksheets for self-assessment - to reflect on their starting points, use of time, efforts taken and learning results achieved. It appears that very few are willing to participate in such reflection.

With regular coursework there is also a pattern variance. In the classes for the subject 'politics' there are weekly tasks and they are handed out regularly. In the occupational subject areas the pace of coursework is scheduled with longer periods. This tends to lead to last-minute deliveries or to lagging behind.

c) On initiatives to promote digital competences and international cooperation

In this context we discussed the prospect of introducing the curriculum design framework of the ITB project Kompetenzwerkst@tt and its specific tools into the field of car mechatronics.

At the moment this is an idea under discussion - not yet a formal proposal for a project.

Secondly, we discussed the fact that this vocational school has entered an eTwinning partnership with other vocational schools in France (?), Italy and Spain. Here, the focus is on ICT and electronics in automotive sector.

(To be continued with further interviews)