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## ► The design of the digital transformation in Vocational Education and Training – new demands to company training staff

In-company trainers are not only experts in their respective profession but also play a major role in the socialisation of young persons and their integration into an increasingly digitalized work environment. Digitalisation requires trainers and teachers in Vocational Education and Training to adopt new media-pedagogical competencies consisting of media-didactic, media education, and media integration skills. In order to support training personnel in shaping the digital transformation, BIBB has developed a seminar concept to promote the media and IT competence of in-company training staff.

The crucial acceptance of the dual Vocational Education and Training system among businesses and society in Germany lies in its direct connection to the employment system. Companies are able to integrate new individual skilled workers into company operations during their training and, therefore, directly into the context of actual practice and according to what is needed. Generally, this opens up opportunities for trainees to be hired in skilled employment and provides one of the key conditions for social participation, independent living, and social balance.

However, the working and professional world, and even entire economic systems, are experiencing significant changes and upheaval. The dynamic technological change has led to a considerable digitalisation of the work world within a very short period of time and to the mediatisation of all areas of society. The megatrend of “digitalisation” with its new demands for employee qualifications in all professions is also accompanied by demographic development and the increasing heterogeneity of trainees (high-performing/low-performing trainees, migration or refugee background, university dropouts, early termination of the training contract, and the change of training position). The dynamics of climate change also present entirely new challenges for future-oriented Vocational Education and Training.

In this context, technology- and globalisation-related structural transformations in business and society are constantly changing what is required of trainees – future experts in the companies. Rapid technological developments are resulting in highly flexible operational

production and service processes. Employees in expert positions are required to plan independently, to coordinate, control, and decide, and to do so based on a broad understanding of the complex interaction of tasks in the work process across the previously separate areas of planning, production, and service. Expert employees are increasingly expected to have skills that allow an independent organisation of work and decision-making capabilities, as well as to have the necessary social skills for this. The more intensive integration of functional areas that used to be separate is increasing the need for interaction with different groups of people and further functional areas, both in real life and with the support of IT.

In light of all this, trainers are the key actors who bear responsibility for competitive and future-oriented company-based Vocational Education and Training. Throughout Germany, in all vocational training occupations and companies, in handicrafts and in medium-sized companies, in the industry, and service sectors, they are responsible for designing in-company training and further training that meets the new challenges that arise on a daily basis.

Trainers are available to trainees as facilitators and advisers. They provide guidance to increasingly heterogeneous groups of trainees in a rapidly changing and progressively more digitalised working world, prepare the experts of the future for their tasks in this ever more complicated world of work, and thus contribute to safeguarding Germany's future as a business location. They are not only experts in their respective profession but also act as educational specialists who understand the language of young people, communicate with them, and encourage their professional skills in a workplace. In other words, their contribution to the socialisation and upbringing of young adults should also be highlighted.

Targeted strategies for continuous encouragement of skills acquisition and professionalisation of in-company training staff are, therefore, a decisive paradigm of VET policy which ensures that training companies have qualified staff to help them hold their own in the competition for new skilled workers and their high-quality in-company training.

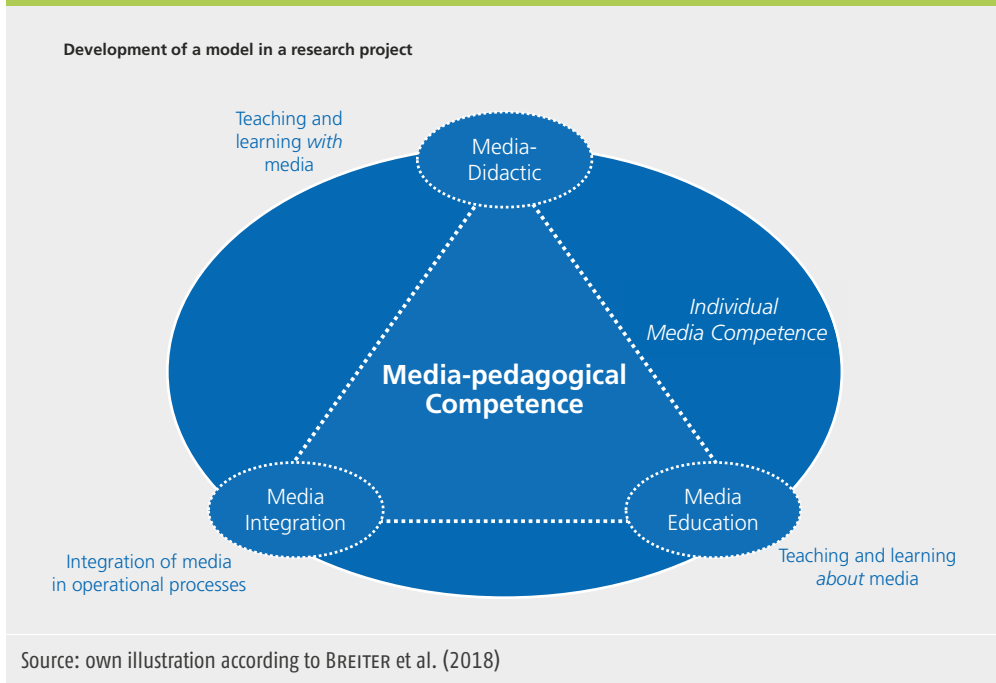
In response to the constantly increasing digitalisation of specialist work, BIBB is currently facing the task of promoting media education skills among in-company training staff. The extensive mediatisation of all areas of business and society cultivated by smartphones and tablets requires that trainers gain fundamental new knowledge. This includes, but is not limited to, social communities, social commerce, interaction platforms, networking, collaboration, cooperation, and communication in both professional and private contexts. Social learning and social publishing are further key terms among a whole range of other facets of current trends in the use of modern and mobile IT-based media.

Trainers are left with no other alternative than to proactively look into associated possibilities for the structure of TVET and develop relevant didactic and methodological concepts based on their own media and IT skills. Trainees need to learn about the range of available platforms, providers, tools, and interests in the social media field, how they are incorporated into operational strategies and processes, and what influence they have on workplaces and forms of working. They must be given the skills to assess and use social media professionally and deliberately and to evaluate relevant developmental trends.

The availability of digital media with all its many application formats poses continuous challenges for training staff in their everyday training practice. “Media and IT competence” is now a necessary condition to be able to continue designing in-company vocational education that is attractive and fit for the future. This applies both to the selection of digital media in typical training situations and to its use for networking of the learning locations in the dual VET system.

In a participation-oriented development process, BIBB has, therefore, developed and tested a model to promote media pedagogical competence together with trainers from various fields (BIBB 2020).

Figure 1: Components of media-pedagogical competence



The media education skills are initially based on the training staff's *individual media literacy*. This is made up of such aspects as *media design*, *media criticism*, *media usage*, and *media knowledge* (BAACKE 1999). Here, it must be taken into account that individual media literacy is viewed as a necessary but far from sufficient condition to be able to make profitable use of media for training. Based on this understanding of individual media literacy, the elements of media education skills for in-company training staff are as follows:

► **Media-didactic skills**

Capability and willingness to reasonably and deliberately select, use, and further develop digital media to improve the quality and effectiveness of occupational teaching and learning processes taking into account the living environment of the trainees.

Examples: justified selection of suitable software for visualising procedures and functions that support trainees' learning processes in the area of process modelling; deliberate selection of suitable digital presentation methods (slides, posters, etc.); virtual teaching of training content; using new forms of documenting learning development by means of electronic training diaries.

► **Media education skills**

Ability and willingness to take a critical and reflective look at the societal and individual significance of media and digitalisation against the backdrop of vocational education and operational guiding principles in vocational teaching and learning processes and thus contribute to trainees' media education.

Examples: addressing social and ethical aspects of media use in training and taking preventative measures against cyberbullying; critical reflection on the use of social media in a work context in the event of inappropriate communication about superiors on Facebook or unintentional sharing of company secrets via WhatsApp; handling data protection issues relating to the protection of privacy when using online platforms.

► **Media integration skills**

Ability and willingness to consider and create an innovative structure for the company's organisational processes and framework conditions for integrating digital media into vocational teaching and learning processes.

Examples: knowledge about legal issues when using online platforms in the company in relation to the participation rights of the Works Council; implementing digital teaching and learning phases in everyday training, designing digitally supported cooperation between learning locations, taking the company's security guidelines into account when using learning software, email programmes, or content from the Internet (virus protection, cyber attacks).

Taking this case-based model development as a starting point (BREITER et al. 2017/2018), in a next step BIBB developed a seminar concept that provides fundamental knowledge about central aspects of digital media and its possible uses in the direct in-company training process. A total of six areas of competence derived from the above model development (the Standing Conference of the Ministers of Education and Cultural Affairs (KMK) strategy "Education in the Digital World" (KMK 2016) and the EU's "Digital Competence Framework 2.0" (EU 2019) formed the basis for a learning-goal-oriented further training concept to promote the media and IT competence of in-company training staff (MIKA seminars):

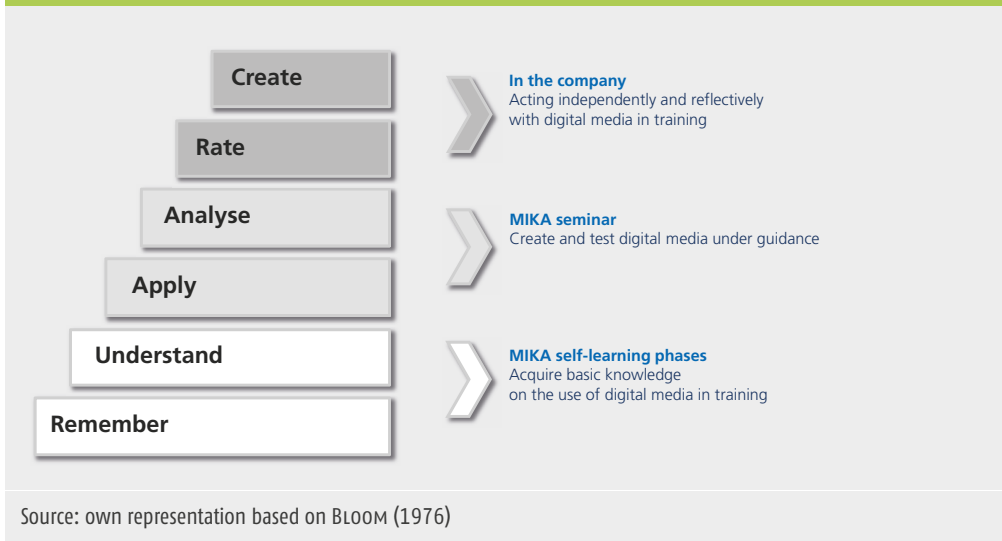
- **Protecting data and working securely:** working securely in digital work and training environments; paying attention to data security in training; protecting personal data
- **Communication and cooperation:** interacting digitally with trainees; online cooperation; designing digital teamwork; sharing information with trainees
- **Searching for and processing content:** searching, filtering, analysing, and evaluating relevant content for training; saving and processing information that is available online in the in-company training
- **Creating and sharing content:** designing, sharing, and publishing training content in various formats; knowing and applying legal specifications
- **Resolving problems and reflecting:** knowing and using digital tools and media for learning in training; supporting problem solving and reflection in training using digital methods
- **Understanding digital worlds:** analysing and evaluating digital media for in-company training; gaining a better understanding of trainees' everyday digital lives

The seminar concept was developed and tested together with chambers of industry and commerce and their trainers and trainees, as well as trainers from their chamber districts. Building on the individual competence categories, BIBB has developed an extensive catalogue of learning objectives with examples for implementation in the context of domain-specific learning and work tasks and made it available to the chambers and teachers for concrete testing of the seminar concept as a guideline. The concept of the MIKA (media and IT competence for training staff) seminars is aligned with everyday training in the companies and enables trainers to implement it directly within their own in-company training context. The seminar participants:

- Receive practical training in the context of their own everyday training practice
- Experience and research which digital media can be used meaningfully for in-company training
- Test and practise the use of digital media based on the example of practical teaching and learning processes
- Create their own digital toolbox over the course of the seminar that they can continue to supplement, expand, and adapt individually in their everyday training practice

The seminar concept addresses all individuals who are responsible for in-company training, whether they are employed full time as trainers or are skilled workers responsible for training and instructing trainees alongside their own specialist work.

**Figure 2: Acquisition process of media and IT competence – MIKA learning stages  
(according to Bloom's taxonomy)**



In order to strengthen regional cooperation between learning locations, educational staff from other areas of vocational training were also invited to participate, meaning trainers from inter-company vocational training centres and teachers from vocational schools were able to attend the seminars. During the pilot phase, the seminar concept was evaluated based on targeted feedback from the participants and continuously developed in several rounds based on this feedback. At the end of the project phase, a tested seminar concept is now available that can be used throughout Germany. It consists of three components:

1. A 12-week seminar with a duration of approximately 50 learning hours. It is designed as a blended learning concept with online and in-person learning phases
2. Individual learning opportunities are offered in the “MIKACampus”, which is integrated into the BIBB portal for trainers, [www.foraus.de](http://www.foraus.de), as an online learning environment
3. A “train the trainer” guideline gives teachers and trainers the opportunity to learn about the design and teaching content of the MIKA seminars in a two-day seminar with a duration of approximately 14 hours

Figure 3: MIKA – Further training concept for media and IT competence for training personnel



## References

- BAACKE, Dieter (1999). Medienkompetenz als zentrales Operationsfeld von Projekten. In: Baacke, Dieter et al. (Publisher): Handbuch Medien: Medienkompetenz Modelle und Projekte. Bonn, pp. 31–35
- BLOOM, Benjamin S. (1976): Taxonomie von Lernzielen im kognitiven Bereich. Weinheim/Basel
- BREITER, Andreas et al. (2018). Digitale Medien in der betrieblichen Berufsbildung – Medienaneignung und Mediennutzung in der Alltagspraxis von betrieblichem Ausbildungspersonal. Bonn, p. 22
- BREITER, Andreas; HÄRTEL, Michael; HOWE, Falk (2018). Medien- und IT-Kompetenz betrieblichen Ausbildungspersonals. In: Berufsbildung in Wissenschaft und Praxis 3/2018, pp. 24–28
- BREITER, Andreas; HÄRTEL, Michael; HOWE, Falk (2017). Medienpädagogische Kompetenz betrieblichen Ausbildungspersonals. In: Berufsbildung in Wissenschaft und Praxis 2/2017, pp. 34–35
- BUNDESINSTITUT FÜR BERUFSBILDUNG (BIBB) (2020). Seminarkonzept "Medien- und IT-Kompetenz für Ausbildungspersonal (MIKA)". Link: <https://www.foraus.de/de/themen/seminarkonzept-medien-und-it-kompetenz-fuer-ausbildungspersonal-mika-119648.php> (Retrieved on 16.07.2021)
- EUROPEAN UNION (EU) (2019). The Digital Competence Framework 2.0. Link: <https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework> (Retrieved on 16.07.2021)
- KULTUSMINISTERKONFERENZ (KMK) (2016). Strategie "Bildung in der digitalen Welt" ("Education in the Digital World" strategy). Link: <https://www.kmk.org/aktuelles/artikelansicht/strategie-bildung-in-der-digitalen-welt.html> (Retrieved on 16.07.2021)