5.4.2 DIRK Dual, DHBW Karlsruhe and Heilbronn

As explained in the introduction, DIRK Dual aims to develop an e-portfolio tool and a mentoring/coaching concept that supports students in developing FS through reflection, SSA, and a stronger interlocking of theory-practice learning experiences in the dual study programme. Currently, students have to write reports on practical experiences, which are rather activity-oriented and focused on professional experiences at three points during their studies. In contrast to them, DIRK Dual wants to inspire students to constant self-reflection and self-assessment during the whole student life cycle and beyond.

The model for reflection and the use of e-portfolios in dual study programmes at DHBW is explained in detail in project report one (Geier et al., 2022). Figure 6 shows the section explaining the interdependencies between instruments. The vision is to create an e-portfolio and framework, which will be genuinely integrated into all curricula throughout the DHBW as a mandatory, creditable module, similar to the CAS and KISD examples. The difference is the intense focus on SSA, FS, and the question of how experiences from theoretical and practical phases do not only influence one another but also the development of FS. In order to reach this rather ambitious goal step by step, we are proposing a modular system with various implementation scenarios for lecturers and programme directors.

Students should be involved in the conception so that they do not see the reflection later as an annoying add-on to the already packed curriculum but pursue their FS development on their own initiative and dedication. The joint development of SSA processes and criteria is a crucial success factor for the usability of SSA themselves and for the motivation and thoroughness with which students carry out the tasks (Andrade, 2019; Boud, 1994). Educators support this process as facilitators or learning coaches with regular feedback. Through the reflection reports, they get the chance to adjust their lectures according to the students' practical experiences. Another critical factor is the opportunity to learn about assessment literacy and feedback literacy due to the idea that students form feedback tandems.

For that purpose, we are currently developing several instruments Table 4. DHBW-students and representatives of some dual partner organisations test and evaluate these instruments and are involved in design-thinking workshops to develop them further. One of the key elements is the process and tool design of FS self-assessment opportunities, such as matrices and guiding questions. However, the goal is not to develop a "psychologically valid test" since this conflicts our understanding of competence, FS, and SSA, but rather a series of instruments that help students understand the relevance of FS development and set and pursue their individual development goals. As an additional motivation for students to participate in the activities, especially as long as they are not yet integrated into curricula, students should be awarded badges as proof of their learning activities and outcomes. These badges can be integrated into their e-portfolios and make their engagement visible to third parties such as prospective employers.

Table 4: Planned instruments for the DIRK Dual e-portfolio concept

| Instrument planned	Intended learning outcome (short form)
Workshop "My Future Skills Universe"	Learn about competence concepts, FS and their relevance
Future Skills card game	Get to know FS in detail and where they are useful
Future Skills self-assessment matrix	Explore one's own FS development status
Instruction and template: "My Future Skills Development Plan"	Set goals for one's own FS development and define measures to reach them
Training module "How to … Reflection Expert"	Learn about reflection methods, their relevance and actively practice reflection and peer feedback
Instruction and template: "My Learning Journey Plan"	Identify potentially meaningful experiences and points of reflection in one's own study
Instruction and template: "My Gallery of Mastery"	Guidance for structuring the artefacts of the e-portfolio and transferring them from a reflection to a presentation portfolio
E-portfolio platform	Collecting, structuring, and presenting artefacts
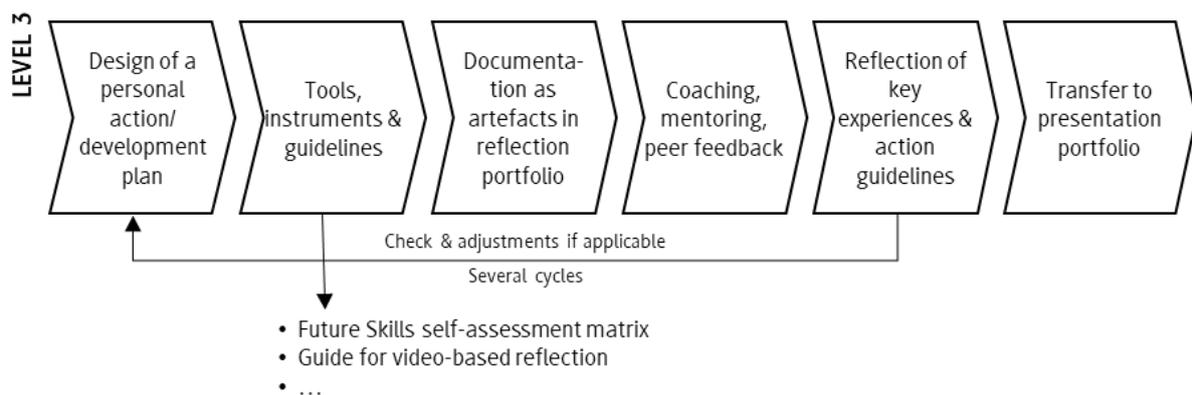
Figure 6: Interdependencies between DIRK Dual instruments (Geier et al., 2022, p. 19)