3.3 Progression Levels and Operators

Making Competence Development Traceable

The 18 core competencies of the DUAL.AI.TEACHer framework are relatively abstract and provide an overarching structure of the competence field. **To facilitate self-assessment or assessment by others and to chart individual competency development,** each of the core competencies are **operationalised through observable learning objectives, differentiated on three progression levels**.

The levels build on one of the most widely used models in education: the revised Bloom's taxonomy (Anderson & Krathwohl, 2001; Krathwohl, 2002). Its core idea is simple: Cognitive processes develop from remembering and understanding, through applying and analysing, to evaluating and creating. **What changes from level to level is therefore not the content or topic, but the cognitive depth of thinking and acting** a teacher can demonstrate with it

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This cognitive depth is reflected in the wording of the learning objectives. Each objective is built around a verb (an operator) taken directly from the taxonomy (e.g. recognise, implement, critique). The operator tells you what a teacher at that level is expected to do, and makes the learning objective concrete and observable.

Level	In practice, teachers can...	Cognitive processes (operators)

Level 1 Orientational Awareness	develop an initial professional orientation by learning what AI is, what it can do, and what is at stake. They recognise and recall key AI concepts and tools, give examples, classify them, and summarise the main opportunities and risks in their own words.	**Remember** (recognising, recalling) **Basic Understanding** (interpreting, exemplifying, classifying, summarising)
Level 2 Reflective Implementation	apply and critically evaluate AI-related practices in their own teaching. They purposefully use AI tools in lessons and assessment, explain and compare different approaches and outputs, compare AI-generated outputs with their own professional judgement, and analyse benefits, limitations, and underlying assumptions.	**Higher Understanding** (explaining, comparing) **Apply** (executing, implementing) **Analyse** (differentiating, organising, attributing) **Evaluate** (checking, critiquing)
Level 3 Transformative Leadership	responsibly design and further develop AI-related educational practice while taking a leadership role beyond their own classroom. They evaluate AI practices against pedagogical and ethical criteria, create new AI-enhanced approaches, and support colleagues and their institution in the responsible use of AI.	**Create** (generating, planning, producing)

The Logic Behind the Levels

The levels progressively build on each other. Each higher level draws on the cognitive processes of the levels below it. However, following Krathwohl (2002), this is a hierarchy of increasing complexity rather than a set of strictly separated stages. Neighbouring categories may overlap, and the boundaries between levels are fluid rather than sharp.

While Level 1 provides the necessary foundation and Level 3 represents an extended role in innovation and professional leadership, **Level 2 constitutes the primary target dimension for teachers**. All teachers should be able to integrate AI purposefully into their own practice, assess its outputs using their professional judgement, and critically reflect on its pedagogical benefits, limitations, and underlying assumptions. Level 2 therefore describes the level of competence required for informed, responsible, and reflective teaching practice in an AI-influenced educational environment.

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