

AI IN VET TEACHING AND GUIDANCE: WHAT IT CHANGES AND WHAT MUST REMAIN HUMAN

Why AI raises new questions about professional roles

Artificial intelligence (AI) is increasingly present in vocational education and training (VET). Teachers use AI tools to support lesson planning, differentiation, and feedback, while career counsellors encounter AI-based systems for skills mapping, labour market analysis, and career exploration. In many cases, these tools are already part of everyday practice, sometimes without explicit institutional strategies or shared reflection.

The VET2Sustain report Recommendations for AI in Personalised Learning focuses on a central question: what changes when AI begins to support decisions that are traditionally made by professionals? This raises important questions for VET teachers and career counsellors alike: What tasks can be supported by AI? Where should human judgement remain central? And how can professionals maintain responsibility, trust, and ethical integrity in AI-supported environments?

Findings from the VET2Sustain project report show that the most critical challenges related to AI in VET are not technological, but professional and ethical. Understanding how

AI reshapes roles and boundaries is therefore essential for responsible and sustainable use (VET2Sustain,2025).

What AI already changes in VET teaching practice

According to the VET2Sustain findings, AI is most often used as a supportive tool. Teachers report benefits in areas such as lesson preparation, adaptation of learning materials for different learner levels, language support, and formative feedback. These uses can reduce workload and make it easier to respond to increasingly diverse learner groups, particularly in multilingual and adult education contexts. (VET2Sustain, 2025.) The report summarises current practices and their limits in Excel 1.

AI can also support experimentation with new pedagogical approaches, for example through interactive content, adaptive exercises, or rapid prototyping of learning tasks. When used transparently and critically, such tools can strengthen flexibility and creativity in teaching.

However, the project findings emphasise that AI brings value only when AI use is guided by pedagogical intent. Without clear goals and reflection, AI risks becoming a convenience tool rather than a meaningful educational support. This reinforces the role of teachers as designers and evaluators of learning, not passive users of technology (European Commission,2022).

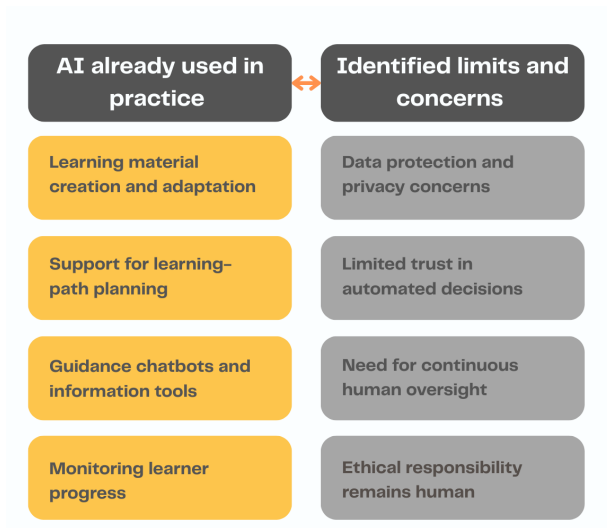


Figure 1. AI use in VET teaching and guidance: current practices and limits.

It is important to distinguish between different levels of AI use. Not all applications of AI in learning material creation raise significant data protection concerns. However, as personalisation becomes more advanced and relies increasingly on individual learner data, privacy requirements also become more demanding. When AI systems draw on information related to learning difficulties, health conditions, or other sensitive personal data, institutions must ensure strict compliance with data protection regulations and clear accountability structures. In highly personalised study pathways, safeguarding privacy becomes a central ethical responsibility.

What must remain human in teaching

As illustrated in Figure 2, while AI can support many aspects of teaching, certain

responsibilities must remain firmly human. These include decisions related to assessment, recognition of prior learning, learner motivation, and responses to social or emotional needs. Such decisions require contextual understanding, ethical judgement, and relational sensitivity, the qualities that AI systems do not possess.

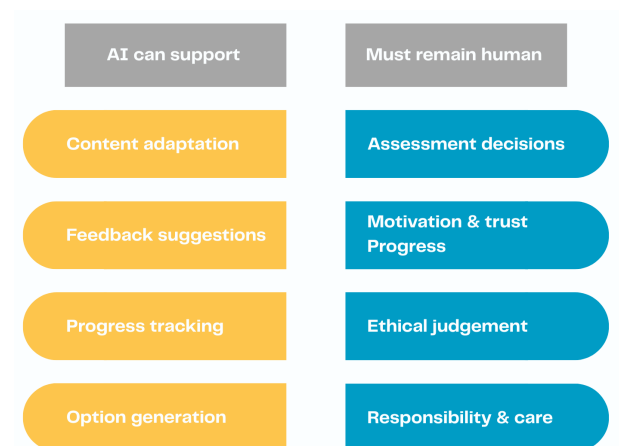


Figure 2. AI support vs. Human responsibility

Research consistently shows that educational technologies have the strongest impact when they complement professional judgement rather than replace it (OECD, 2023). In VET, this is particularly important because learning is closely linked to identity formation, workplace readiness, and personal development.

The VET2Sustain findings highlight that learners value human interaction, trust, and dialogue, especially when facing challenges or uncertainty. AI can inform teaching, but responsibility for learning outcomes and learner wellbeing remains with educators. Maintaining this boundary is essential for preserving the integrity of vocational pedagogy.

AI in career guidance: Support tool or silent decision-maker?

AI also plays an increasing role in career guidance, for example by analysing labour market data, suggesting career options, or identifying skill gaps. Used carefully, such tools can support counsellors by providing up-to-date information and helping learners explore possibilities more broadly.

However, the project findings raise concerns about automation bias, meaning the tendency to over-trust algorithmic suggestions. Career decisions have long-term consequences for individuals' lives, wellbeing, and inclusion. Delegating such decisions to AI systems, even indirectly, risks oversimplifying complex personal, social, and contextual factors (VET2Sustain, 2025).

Career guidance is fundamentally relational. Trust, motivation, and personal meaning are central elements that cannot be automated. Student feedback collected during the VET2Sustain workshops further underlined the importance of career counselling services that provide real-world insights and authentic perspectives from working life. Learners expressed interest in hearing about previous

students' experiences and concrete career pathways. While AI-based systems can support access to labour market information, the findings suggest that students continue to value human guidance and dialogue in making career decisions. AI can support reflection and dialogue, but responsibility for guidance decisions must remain with trained professionals who understand the learner's broader life situation.

New literacy needs for VET professionals

The VET2Sustain report identifies AI literacy as an emerging competence area for VET teachers and counsellors. The changing role of AI in teaching and guidance creates new literacy requirements for VET professionals. AI expertise is not just about knowing how to use tools; it includes understanding limitations, bias, data protection, and ethical implications.

Not only must teachers themselves know how to use AI, but they must also be able to teach their students how to use AI responsibly in their future professions. Teachers and counsellors need to be able to explain to learners when and how AI is used, what its limits are, and why human judgement remains central. This transparency supports trust and models responsible digital behaviour for learners, who will encounter AI throughout their working lives (European Union, 2024).

The VET2Sustain project highlights that ethical awareness, critical evaluation, and reflective practice are becoming integral parts of professional competence in VET. Without these, AI risks weakening rather than strengthening professional autonomy.

Drawing the line in everyday practice: Practical principles

Rather than strict rules, the VET2Sustain report proposes practical principles to guide everyday decisions:

- AI can **support preparation and reflection**, but educators remain accountable for decisions.
- AI can **suggest options**, but humans decide on learning paths and guidance outcomes.
- AI can **provide information**, but ethical judgement and responsibility remain human.
- AI use should always be **transparent to learners**.

These principles help professionals navigate uncertainty while maintaining agency and trust.

Conclusion: Keeping VET human in an AI-supported world

The VET2Sustain findings show that AI has the potential to support teaching and guidance in VET. However, its value depends on how clearly professional roles and responsibilities are defined. The findings discussed in this article underline that AI should strengthen the human core of vocational education, not weaken it.

For teachers and career counsellors, the challenge is not to resist AI, but to integrate it thoughtfully, using it to support inclusion,

flexibility, and reflection while safeguarding pedagogical and ethical integrity. When embedded within clear professional boundaries and supported by institutional and policy frameworks, AI can contribute to future-oriented VET without compromising what matters most: human judgement, trust, and meaningful learning.

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