



ASSET: AI for skills, sustainability and training

Developing open, AI-supported self-learning resources

Promising Practice

Implemented by: Chamber of Skilled Crafts Ostwestfalen-Lippe zu Bielefeld (HWK OWL), in collaboration with UNEVOC Centres from Germany, Mauritius and Sri Lanka, within the framework of the UNEVOC Network Coaction Initiative.

Where: Germany, Sri Lanka and Mauritius

Status: May to October 2025

Summary: ASSET brought together selected UNEVOC Centres to co-develop modules for TVET teacher education using open digital tools to strengthen ethical, reflective and practice-oriented AI competencies.

Overview

The rapid advancement of artificial intelligence (AI) is transforming technical and vocational education and training (TVET) and increasing the need for TVET educators to develop new competencies for integrating AI into teaching and learning. While AI offers significant opportunities to enhance teaching practice, TVET educators often lack access to open, adaptable professional development that addresses both practical application and ethical considerations.

ASSET was developed by the Chamber of Skilled Crafts Ostwestfalen-Lippe zu Bielefeld (HWK OWL), a UNEVOC Centre, through the UNEVOC Network Coaction Initiative. HWK OWL is a public-law institution responsible for vocational education, certification, innovation support and continuing professional development within the skilled crafts sector in Germany, while also contributing to international TVET cooperation. The initiative is implemented in collaboration with three other UNEVOC Centres:

- UNEVOC Centre “TVET for Sustainable Development” (Otto von Guericke University Magdeburg, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and Fraunhofer Institute for Factory Operation and Automation), Germany

- Human Resource Development Council (HRDC), Mauritius

- University of Vocational Technology (UNIVOTEC), Sri Lanka
- The UNEVOC Network Coaction Initiative is coordinated by UNESCO-UNEVOC and funded by the German Federal Ministry for Education, Family Affairs, Senior Citizens, Women and Youth (BMBFSFJ). The initiative is part of the coordinated effort “Towards a global TVET agenda”.

ASSET aligns with the UNESCO AI competency framework for teachers and contributes to SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth), particularly Targets 4.4 and 8.5.

The ASSET repository is accessible here:

https://github.com/OVGU-VET-TechEd/ASSET_UNESCO_Coinitiative

Description

A significant number TVET educators are insufficiently prepared to integrate AI into teaching and learning. Existing professional development opportunities often provide limited guidance on ethical AI use, pedagogical integration and contextual adaptation, while access to open and adaptable learning resources remains uneven across countries and institutions.

The ASSET initiative supports teachers and trainers, instructional technologists, curriculum designers and other stakeholders in TVET systems to effectively integrate AI into teaching and learning. Initially implemented in Germany, Sri Lanka and Mauritius, it responds to the growing need for educator capacity development in AI-enabled education.

Objectives

- To strengthen AI literacy, ethical awareness and reflective capacity among TVET educators.
- To foster lifelong learning and sustainable professional development aligned with the UNESCO AI competency framework for teachers.
- To enable the practical, pedagogically meaningful integration of AI tools into vocational teaching.





Graphic from ASSET



Approach

ASSET develops modular, AI-supported self-learning nuggets using the open-source LiaScript platform. The learning resources are designed around the UNESCO AI competency framework for teachers and promote reflective, ethical and human-centred approaches to AI adoption. The initiative makes strong emphasis on reflection, use-case discussion and contextualization rather than purely technical instruction.

Delivery model

The initiative uses a fully online, self-paced delivery model through LiaScript, an open-source platform for creating interactive educational content. The modular structure allows participants to follow individualized learning paths without a fixed sequence.

Outcomes and impact

Quantitative results:

The initiative was evaluated through a standardized survey of 91 participants across the three pilot countries. Over 70% reported actively integrating AI tools into their teaching practice, and average scores above 4.2 out of 5 were recorded across reflective capacity, ethical awareness and practical application competencies.

Qualitative outcomes: (e.g. skills development, behavioural change)

The initiative demonstrated readiness for context-sensitive, pedagogically justified AI integration across countries and institutions, confirming the scalability and transferability of the open learning format.

Insights and challenges

Challenges

Three main challenges arose during implementation. First, participants came with heterogeneous prior knowledge and AI experience across countries and disciplines, making it difficult to pitch content appropriately for all learners. Second, educators from non-technical fields had limited technical background, requiring the content to be accessible without technical prerequisites. Third, ensuring that ethical and human-centred perspectives were genuinely integrated alongside practical tool use, rather than treated as secondary, required deliberate design effort throughout.

Responses to challenges

To address these challenges, the initiative adopted modular, self-paced learning nuggets that allow individualized learning paths, placing strong emphasis on reflection, use-case discussion and contextualization rather than purely technical instruction. Ethics, sustainability and pedagogy were integrated as cross-cutting themes across all learning units, ensuring they remained central to the learning experience.



Lessons learned

Key lessons for replication and scaling:

- AI professional development in TVET must combine technical awareness with ethics, reflection and pedagogical judgment.
- Open, adaptable learning formats are essential for international scalability and contextual relevance.
- Continuous self-reflection is a key lever for sustainable AI competency development among teachers.

Conclusions and next steps

ASSET demonstrates that open, human-centred AI professional development for TVET educators can be designed and delivered effectively across different national contexts simultaneously, using freely accessible tools. The combination of LiaScript-based open content, alignment with the UNESCO AI Competency Framework, and a reflective, human-centred pedagogical approach offers a replicable model for other TVET systems. Future plans include scaling and replication in additional countries and TVET contexts, further development of new learning modules, deeper localization for non-technical disciplines and continued alignment with evolving UNESCO frameworks and global TVET capacity-building efforts.

Learn more

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To learn more about Otto von Guericke University Magdeburg, see: <https://www.ovgu.de/unimagdeburg/en/>

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Learn more on our website at:

<http://www.unevoc.unesco.org/promisingpractices>

Questions or comments? Contact our team at:

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