

Generative artificial intelligence in education

POLICY DEVELOPMENT**PRACTICAL MEASURE/INITIATIVE** SLOVENIA

Timeline

2024 Implementation **2025 Implementation****ID number 49911**

Background

The systematic exploration of the use of artificial intelligence in education, together with targeted support for steering and achieving this objective, has become increasingly necessary. Rapid technological change and the growing presence of AI in workplaces require education and training systems to respond proactively. This need is particularly pronounced in vocational education and training (VET), where learners must acquire practical, occupation-specific skills aligned with evolving technologies and work processes. Without clear guidance, evidence and pedagogical frameworks, the use of AI risks remaining fragmented or ineffective, potentially widening skills gaps. This policy development addresses these challenges by supporting the informed, pedagogically sound and equitable integration of AI into education and training.

Objectives

The objectives are as following:

- (a) Research and development (R&D) in the field of Gen-AI in Education for Slovenia;
- (b) Analysis of the needs of education institutions for the efficient use of Gen-AI in the education and training process in Slovenia;
- (c) Developing guidelines for the efficient use of Gen-AI in Education;
- (d) Preparation of sample teaching scenarios for the use of generative artificial intelligence in selected educational institutions Preparation of guidelines for the rational and effective use of generative artificial intelligence for and in education.

Description

In the 'Generative AI in Education project 2024–2026', the purpose is to study, plan, and apply guidelines for the meaningful use of GenAI in learning and teaching to support achieving the learning objectives.

The project is based on two well-established pedagogical models. The TPACK model helps teachers choose and use technology in a way that supports teaching goals and fits well with subject content and pedagogy. The SAMR model is used to assess how technology, in this case artificial intelligence, is used in teaching and learning, focusing on whether it adds real value to achieving learning objectives and developing students' competences.

The core of the project is the intertwining of three areas:

- (a) research in the field of GenAI,
- (b) testing of pedagogical approaches in connection with Gen-AI, and
- (c) testing relevant content and applications (with AI) that can support both teachers and students in the teaching and learning process.

The project is implemented by a partnership that brings together key institutions from the fields of education, research and technology. The partners include the Institute Anton Martin Slomšek; the Faculties of Education of the University of Ljubljana, the University of Maribor and the University of Primorska; the Faculty of Arts of the University of Ljubljana; the National Education Institute Slovenia; the Jožef Stefan Institute; the Faculty of Computer and Information Science of the University of Ljubljana; the Faculty of Electrical Engineering and Computer Science of the University of Maribor; and Primary School Oskar Kovačič Škofije.

It is financed by the Republic of Slovenia and the European Union – NextGenerationEU as part of the Recovery and Resilience Plan. The budget is EUR 1 000 000.

The project activities have been organised into seven Work Packages (WPs):

WP1: R&D in the field of generative AI in education

WP2: Situation analysis / state-of-play analysis

WP3: Development and preparation of foundations and guidelines

WP4: Examples of good practice

WP5: Evaluation and ensuring sustainability of results

WP6: Dissemination

WP7: Management and coordination

2024 Implementation

The first work package (WP1: R&D in the field of generative AI in education) focused on a state-of-the-art analysis of the literature on generative AI in education. This included a comprehensive review of key aspects, namely the policy and legislative framework, research on didactic potential and support for vulnerable groups, as well as technological, ethical and security considerations.

The second work package (WP2: Situation analysis / state-of-play analysis) was dedicated to developing the necessary methodological framework and then conducting a study to collect data and understand the current situation and needs of key stakeholders within the education system. This included the following steps: development of a methodology for assessing the current use and potential of Gen-AI in the Slovenian education sector, conducting a large-scale analysis to identify the key needs and challenges of the Gen-AI in Gen-AI implementation (collection of data include teachers, learners and managers in educational institutions), development of recommendations for improving and optimizing the use of Gen-AI in educational processes. The data collection phase was conducted in December 2024.

As part of WP2, in October 2024 the publication 'Research plan for the project *Generative Artificial Intelligence in Education. Work Package 2*', led by the Faculty of Education of the University of Maribor, was released. The document outlines the research plan for the Generative Artificial Intelligence in Education project, based on a mixed-methods approach combining quantitative surveys and qualitative focus groups. It examines the current use of generative AI in education, perceived challenges and opportunities, pedagogical approaches, skills gaps, ethical and technical issues, and policy needs across primary, secondary and higher education. Data will be collected from students, teachers and school leaders, analysed using statistical and qualitative analysis tools, and synthesised into evidence-based guidelines and a final research

2025 Implementation

As part of finalising the WP1 (R&D in the field of generative AI in education), the monograph 'Education in the Age of Generative Artificial Intelligence: International Guidelines and Research' was released in 2025. The publication provides a comprehensive overview of research and policy developments related to the use of Gen-AI in education. Drawing on international literature and empirical evidence from Slovenia, it examines pedagogical opportunities and risks, ethical and regulatory considerations, digital inclusion, and institutional readiness across primary, secondary and tertiary education. The publication concludes with practical recommendations and guidelines to support the responsible, effective and pedagogically sound integration of Gen-AI into education systems.

As part of finalising the WP2 (Situation analysis / state-of-play analysis), the collected data from all stakeholders were analysed and a scientific monograph was prepared. The publication entitled 'Generative Artificial Intelligence in Education: An Analysis of the State of Play in Primary, Secondary, and Tertiary Education' presents a comprehensive research-based analysis of the use of Gen-AI in education in Slovenia. It combines an extensive literature review with empirical research, including surveys and focus groups involving teachers, school leaders and higher education staff across primary, secondary and tertiary education. The study examines pedagogical opportunities and challenges, digital divides, ethical and technical constraints, and the readiness of educational institutions to integrate Gen-AI into teaching and learning processes. Based on the findings, the publication identifies key competence needs for educators, explores the impact of Gen-AI on student-centred learning and inclusion, and assesses institutional and policy-level gaps. It concludes with concrete recommendations for education policy, focusing on responsible and pedagogically sound use of Gen-AI, professional development for educators, quality assurance, and alignment with European frameworks such as the EU Artificial Intelligence Act. The document serves as a reference for policymakers, researchers and practitioners seeking to guide the effective integration of generative AI into education systems.

The 'Gen-AI in education project 2024-2026' continued its work with WP3, which focused on developing foundational frameworks that address the organisational, didactic, technical, and content-related aspects of integrating Gen-AI in education. In close coordination with the Ministry of Education, official pedagogical guidelines for the sensible and meaningful use of GenAI were drafted. These guidelines address key issues such as ethical use, assessment practices, the promotion of critical thinking skills, and the effective integration of new guidelines and frameworks into existing educational structures, including national curricula.

In addition, WP3 included a dedicated study on the digital divide, aiming to identify how the use of generative AI may contribute to inequalities among different learner groups. Based on these findings, policy proposals were developed to mitigate identified gaps and support equitable access to educational technologies. Finally, a monograph associated with WP3 was published in late 2025, presenting the proposed frameworks, guidelines and strategies for transforming education through generative AI.

WP4 (Examples of good practice) ran in parallel with WP3 and focused on bridging the gap between policy and classroom practice through the development of practical resources, such as case studies and good practices for teachers. In its first stage, didactic recommendations were developed and published in the document 'Didactic Recommendations and Guidelines for the Integration of Generative AI in Teaching', providing a foundation for designing concrete examples of generative AI use in education. In the next stage, a repository of practical examples and use cases showcasing the effective use of generative AI in various educational contexts is foreseen. The goal is to implement the developed use cases in real-world educational settings in order to assess their effectiveness, usability and impact on learning outcomes.

While the 'Generative AI in Education project 2024–2026' project addresses the education system as a whole, it is also highly relevant for the VET sector. The project's findings are expected to directly contribute to:

- (a) updating VET curricula: The results will inform the updating of VET programmes by integrating insights on the use of Gen-AI in specific occupational contexts.
- (b) innovative pedagogical practices: The project identifies ways in which teachers and trainers can use generative AI to create realistic work-environment simulations, develop diagnostic and assessment tools, and automate routine tasks, thereby freeing up time for more targeted mentoring. These approaches are directly applicable to VET programmes, VET trainers and VET learners.
- (c) strengthening learners' digital skills: integrating Gen-AI into education supports the development of VET learners' digital literacy and their preparedness for the modern labour market, where such tools are increasingly prevalent.

Bodies responsible

- Ministry of Education

Target group

Learners

Learners in upper secondary, including apprentices

Young people (15-29 years old)

Learners with disabilities

Adult learners

Learners from other groups at risk of exclusion (minorities, people with fewer opportunities due to geographical location or social-economic disadvantaged position)

Education professionals

Teachers

Trainers

School leaders

Adult educators

Entities providing VET

VET providers (all kinds)

Other stakeholders

Social partners (employer organisations and trade unions)

Thematic categories

Governance of VET and lifelong learning

Coordinating VET and other policies

Establishing and developing skills intelligence systems

Modernising VET infrastructure

Modernising infrastructure for vocational training

Improving digital infrastructure of VET provision

Modernising VET offer and delivery

Modernising VET standards, curricula, programmes and training courses

Using learning-outcome-based approaches and modularisation
Diversifying modes of learning: face-to-face, digital and/or blended learning;
adaptable/flexible training formats
Developing and updating learning resources and materials
Acquiring key competences
Integrating digital skills and competences in VET curricula and programmes

Teachers, trainers and school leaders competences

Systematic approaches to and opportunities for initial and continuous professional development of school leaders, teachers and trainers
Attractiveness of the teaching and training profession/career
Supporting teachers and trainers for and through digital

European priorities in VET

VET Recommendation

VET as an attractive choice based on modern and digitalised provision of training and skills

Osnabrück Declaration

Resilience and excellence through quality, inclusive and flexible VET

Subsystem

IVET CVET

Further reading

[Project website](#)

[Monograph 'Education in the Age of Generative Artificial Intelligence: International Guidelines and Research' \(WP 1\)](#)

[GEN-UI Research Plan \(WP2\)](#)

[Scientific monograph: Generative Artificial Intelligence in Education: Analysis of the Situation in Primary, Secondary and Tertiary Education \(WP2\)](#)

[Proposal of the Results Integration Plan for Curricula, Curricula, Knowledge Catalogues - Working Version](#)

[Study on the digital divide](#)

[Study on the impact of GUI on educational transformation](#)

[Didactic recommendations and guidelines](#)

Related policy developments

Digital Action plan (ANDI)

From 2023 onwards, most development projects implemented under the ANDI 2021–2027 framework have been co-financed by the Ministry of Education and funded through the National Recovery and Resilience Plan.

 SLOVENIA

Type of development

Strategy/Action
plan

Subsystem

IVET

“ ... ” Cite as

Cedefop, & ReferNet. (2026). Generative artificial intelligence in education: Slovenia. In Cedefop, & ReferNet. (2026). *Timeline of VET policies in Europe* (2025 update) [Online tool].

<https://www.cedefop.europa.eu/en/tools/timeline-vet-policies-europe/search/49911>