

Digitalisation of education

POLICY DEVELOPMENT**PRACTICAL MEASURE/INITIATIVE** CROATIA

Timeline

**ID number 28270**

Background

The Strategy for education, science and technology from 2014 recognised the need to invest in digital infrastructure in primary and secondary schools, foster digital competences of teachers and learners and develop digital education content. In response, the e-Schools programme is planned in two stages: the pilot project from 2015-18, encompassing over 10% of schools, and the phase II e-Schools project from 2018-22, encompassing all primary and secondary schools in Croatia. The final external evaluation of the e-Schools pilot project confirmed the merits of the pilot and the benefits of expanding digitalisation efforts to all schools in Croatia.

Objectives

The e-School initiative aims to digitally transform school management, teaching and learning in all publicly financed schools in Croatia at the primary and secondary education levels. Its specific objectives are to:

- (a) ensure purposeful, reliable and secure ICT environment in line with school needs;
- (b) improve digital competences of teachers and learners;
- (c) advance efficacy and coherence of processes in the education system;
- (d) support school leadership in promoting the digital maturity of schools.

Description

From 1 March 2015 to 31 August 2018, the Croatian Academic and Research Network - CARNET - carried out the pilot project e-Schools: Establishing a system for developing digitally mature schools. It addressed the improvement of ICT infrastructure in schools, raising digital competences of teachers and students, introducing digital educational contents in teaching and learning, and developing data management systems. During the pilot project, IT infrastructure was improved in all participating schools, with five schools selected to serve as regional education centres (including two VET schools) equipped with ICT tools for collaborative meetings and open to the broader educational community. Training courses were developed and delivered to principals, teachers and the administrative staff. Digital educational contents and teaching scenarios for creative ICT

use were developed. Further activities encompassed the development and the implementation of a digital content repository and massive online open courses (MOOCs). A community of practitioners was established for peer collaboration among teachers. An education management application (EMA) was developed as an online platform for the monitoring and handling of applications to the professional training opportunities offered by public institutions such as CARNET, the Agency for Vocational Education and Training and Adult Education (ASOO) and the Education and Teacher Training Agency (AZOO). Some 10% of all Croatian schools took part in the pilot project from 2015 to 2018, including 29 VET schools. The final evaluation revealed that the majority of 151 schools that participated in the e-Schools pilot project had raised their level of digital maturity: while 82% of schools were ranked among digital beginners (level 2 out of 5) at the beginning of the project, 98% had reached at least the level of digitally competent schools or higher (levels 3 to 5) in the end. Full-scale implementation will be carried out from 2019 to 2022. During full-scale implementation, the Croatian Academic and Research Network (CARNET) acts as the project coordinator responsible for achieving all results of the e-schools project, notably infrastructure and software investment, as well as teaching and learning content development. The Agency for VET and Adult Education (ASOO) and the Education and Teacher Training Agency (AZOO) are responsible for delivering teacher training activities. The Faculty of Organisation and Information Sciences of the University of Zagreb (FOI) is in charge of designing the teaching scenario concept for digital educational contents and cross-curricular subjects, supporting the development and review and evaluating digital educational contents, teaching scenarios and digital content for cross-curricular subjects. FOI is also responsible for the revision of the digital competence framework for school directors, preparing and delivering training for school directors (notably in strategic planning and digital readiness of schools). FOI holds an advisory role in designing and evaluating teacher training aligned to the digital competence framework for teachers. FOI is also developing guidelines for gamification of teaching and learning. Finally, FOI is responsible for revision and evaluation of digital readiness framework and establishing training centre for digital readiness of schools. National Centre for External Evaluation of Education (NCVVO) conducts a research study on the impact of using digital technologies on attaining learning outcomes, digital competences, experiences, and attitudes of learners. Innovation centre Nikola Tesla (ICENT) is in charge of researching IT security models, supported by machine learning and AI.

2015 Pilot

2016 Pilot

2017 Pilot

2018 Pilot

2019 Implementation

In September 2018, phase II of the programme started, entitled e-Schools: Comprehensive informatisation on school management and teaching processes for creating digitally mature schools for the 21st century. The value of the phase II project is over EUR 170 million and it is jointly financed from the European Regional Development Fund, the European Social Fund and the State budget. Almost all Croatian schools have joined the phase II initiative (1 317 primary and secondary schools, including schools which participated in the pilot).

2020 Implementation

By the end of 2020, most teachers in participating schools received laptop computers. Local area network planning and implementation proceeded without major difficulties.

2021 Implementation

Developed an e-Schools education programme for digital competences:

- (a) creating education content for 19 virtual versions of face-to-face workshops, and one webinar;

(b) implementing 431 face-to-face workshops (8 605 attendees), two virtual workshops, and one webinar (623 attendees).

Developed 350 e-Schools teaching scenarios for cross-curricular topics suitable for general subject teachers.

2022 Implementation

Project activities carried out in 2022:

- (a) 49 advisory visits to vocational schools related to the application of technology in learning and teaching, in which 879 teachers participated
- (b) study visit by the Agency's advisor to the BETT educational technology and innovation fair in London
- (c) four workshops for 40 employees of the Agency for the purpose of strengthening digital competences.

2023 Implementation

The e-Schools initiative, a nationwide system-level initiative to upgrade digital infrastructure in all publicly financed pre-tertiary schools (including VET), concluded in 2023. Supported by over EUR 170 million from the European Structural and Investment Funds (ESIF), the initiative modernised digital infrastructure, provided teacher training, and developed digital teaching and learning resources, methodologies, and research relevant to the digital transformation of education.

Also in 2023, the Croatian Academic and Research Network launched the Application of digital technologies based on artificial intelligence in education (BrAln) project, funded by the European Social Fund Plus (ESF+) with a budget of EUR 15 993 222. Project partners include the Agency for VET and Adult Education, the Croatian Catholic University, and the Croatian Association for Artificial Intelligence (CroAI). The BrAln project aims to:

- a. monitor the impact of digital technologies on education through research and by developing curricula and digital educational content focusing on emerging digital technologies, with the aim of enhancing the digital competences of teachers and learners;
- b. develop a smart recommendation system providing insights into learning progress and offering personalised learning support.

Project activities include developing a curriculum for an upper-secondary elective subject (including IVET), with the support of the Agency for VET and Adult Education. This curriculum will foster critical thinking about the impact of emerging technologies, including AI, and provide training in practical application of these technologies. The curriculum will be piloted in schools during the 2024/25 school year. During 2025/26, the curriculum will be revised based on feedback from participants in piloting. Digital educational content and teacher training will be designed to support the implementation of the curriculum in schools. Furthermore, the Croatian Catholic University will conduct research on the impact of digital technologies on student well-being. Finally, a smart recommendation system, based on a large language model, will be developed to track learning achievement, with the aim of identifying learners' affinities and optimising their learning outcomes. The smart recommendation system, designed as a virtual teaching assistant, will allow students to compare their progress with peers, and offer recommendations to further explore the areas in which students are most motivated, while also suggesting ways to master learning outcomes in areas of lesser interest. Parents, teachers, and school counsellors will also have insight into learners' achievement and receive early warnings.

2024 Implementation

In 2024, the curriculum for the elective upper-secondary subject, Artificial Intelligence:

From concept to application, was finalised. The curriculum is designed for the 2nd and 3rd grades of upper-secondary programmes, with a workload of 35 hours per year. The piloting is underway in 2024/25. The purpose of the curriculum is to develop critical thinking about the impact of artificial intelligence and emerging technologies, to understand the advantages and disadvantages of using various digital technologies, and to grasp the ethical and social implications they have on everyday life. The goal of implementing this curriculum is to equip learners with practical and creative skills to engage with emerging technologies while maintaining a critical perspective.

Bodies responsible

- Croatian Academic and Research Network (CARNET)
- Education and Teacher Training Agency (AZOO)
- National Centre for External Evaluation of Education (NCVVO)
- Faculty of organisation and information science of the University of Zagreb (FOI)
- Innovation centre Nikola Tesla (ICENT)
- Agency for VET and Adult Education (ASOO)

Target group

Education professionals

Teachers
Trainers
School leaders

Entities providing VET

VET providers (all kinds)

Thematic categories

Modernising VET infrastructure

Improving digital infrastructure of VET provision

Modernising VET offer and delivery

Developing and updating learning resources and materials
Acquiring key competences

Teachers, trainers and school leaders competences

Supporting teachers and trainers for and through digital

Supporting lifelong learning culture and increasing participation

Financial and non-financial incentives to learners, providers and companies

Subsystem

IVET

Further reading

[Pilot project website](#)

[Phase II project website](#)

BrAln project description

Artificial Intelligence: From concept to application (curriculum - in Croatian language)

“ ... ” Cite as

Cedefop, & ReferNet. (2025). Digitalisation of education: Croatia. In Cedefop, & ReferNet. (2025). *Timeline of VET policies in Europe* (2024 update) [Online tool].

<https://www.cedefop.europa.eu/en/tools/timeline-vet-policies-europe/search/28270>