

Digital Transformation in Higher Education: A Focus on Croatia

E-Universities project

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Contents

About CARNET

e-Universities
project

The pilot research

Implications and
recommendations

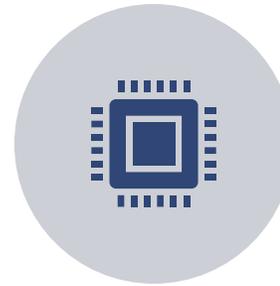
Croatian Academic and Research Network – CARNET

Beneficiaries:

- ministries, hospitals, public institutions
- *all citizens in the segment of security on the internet*

FOCUS

- primary and secondary schools
- science and higher education institutions (e-Universities)



1991 – 1ST & ONLY
PROVIDER OF INTERNET
SERVICES IN CROATIA



MINISTRY OF SCIENCE AND
EDUCATION



70 DIFFERENT SERVICES



200 EMPLOYEES IN 8 CITIES

E- Universities: PROJECT SUMMARY

OBJECTIVE: improve the quality and accessibility of the higher education system, by strengthening the flexibility and innovation of public higher education institutions through supporting investments in digital teaching infrastructure.

Total value	€ 84 mil
Duration	2022 – 2025
Project lead	CARNET
Partners	SRCE, AZVO, NSK

Prior research (2021 – 2022)

- 25 interviews
- Focus groups (management staff, teaching staff, IT staff) – 5 major Croatian universities
- Quantitative analysis
- Field research

Room for Enhancement

The need for a more comprehensive approach to technology integration in education, emphasizing collaboration, active learning, and innovative pedagogical methods.

Limited Use of Technology (COVID19)

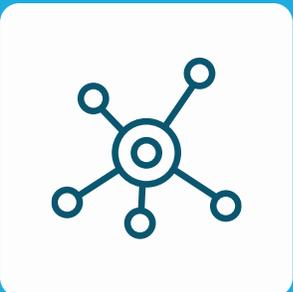
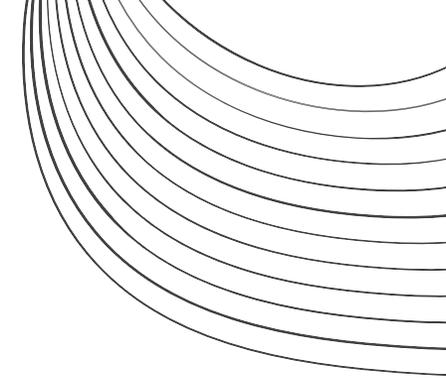
Disparity in Resource Accessibility

Emphasis on Creating PowerPoint Presentations

Student Passivity

Lack of Comprehensive Strategies (for Hybrid Teaching)

PROJECT ELEMENTS



Network connections



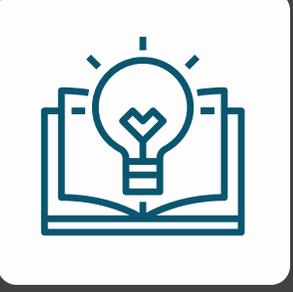
Equipping



Services



Cybersecurity



Education and research

Pilot study: participants

- Open call – January 2023
- 21 HE institutions from all Croatian universities – team application: teaching staff, IT support staff, and a librarian
- Diverse fields (social sciences, humanities, technical sciences, biomedicine, etc.)
- Various types of video-recording equipment (integrated studio, hybrid studio, mobile video-recording equipment, multimedia classrooms)

University of Dubrovnik

Juraj Dobrila University of Pula

University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology

University of Josip Juraj Strossmayer Osijek, Faculty of Education

University of Josip Juraj Strossmayer Osijek, Faculty of Social Sciences and Humanities

University of Rijeka, Faculty of Law

University of Rijeka, Faculty of Medicine (online)

University of Rijeka, Faculty of Mathematics

University of Slavonski Brod

University of Split, Faculty of Economics

University of Split, Faculty of Humanities and Social Sciences

University of Zadar

University of Zagreb, Faculty of Economics

University of Zagreb, Faculty of Organization and Informatics

University of Zagreb, Faculty of Civil Engineering (online)

University of Zagreb, Faculty of Medicine

University of Zagreb, Faculty of Food Technology and Biotechnology

University of Zagreb, Faculty of Veterinary Medicine

University of Split, Faculty of Economic

University of Split, Faculty of Humanities and Social Sciences

University of Split, Faculty of Electrical Engineering, Mechanical

Engineering and Naval Architecture

The objectives of the pilot research

- Test the equipment
- Identify the current use of digital technologies in teaching and specific needs of different user groups at HEIs
- Establish a learning community aimed at connecting, exchanging knowledge, and the purposeful use of digital technologies in learning and teaching at HEIs.
- Develop recommendations for the purposeful use of digital technologies in higher education and recommendations for equipping HEIs.



Research methodology

- Action research
- Building a community of practice
- Producing social change – make sense of technology by creating shared learning experience
- Sharing and building knowledge together (top-down & bottom-up process)
- Planning, reflective workshops, educational interventions

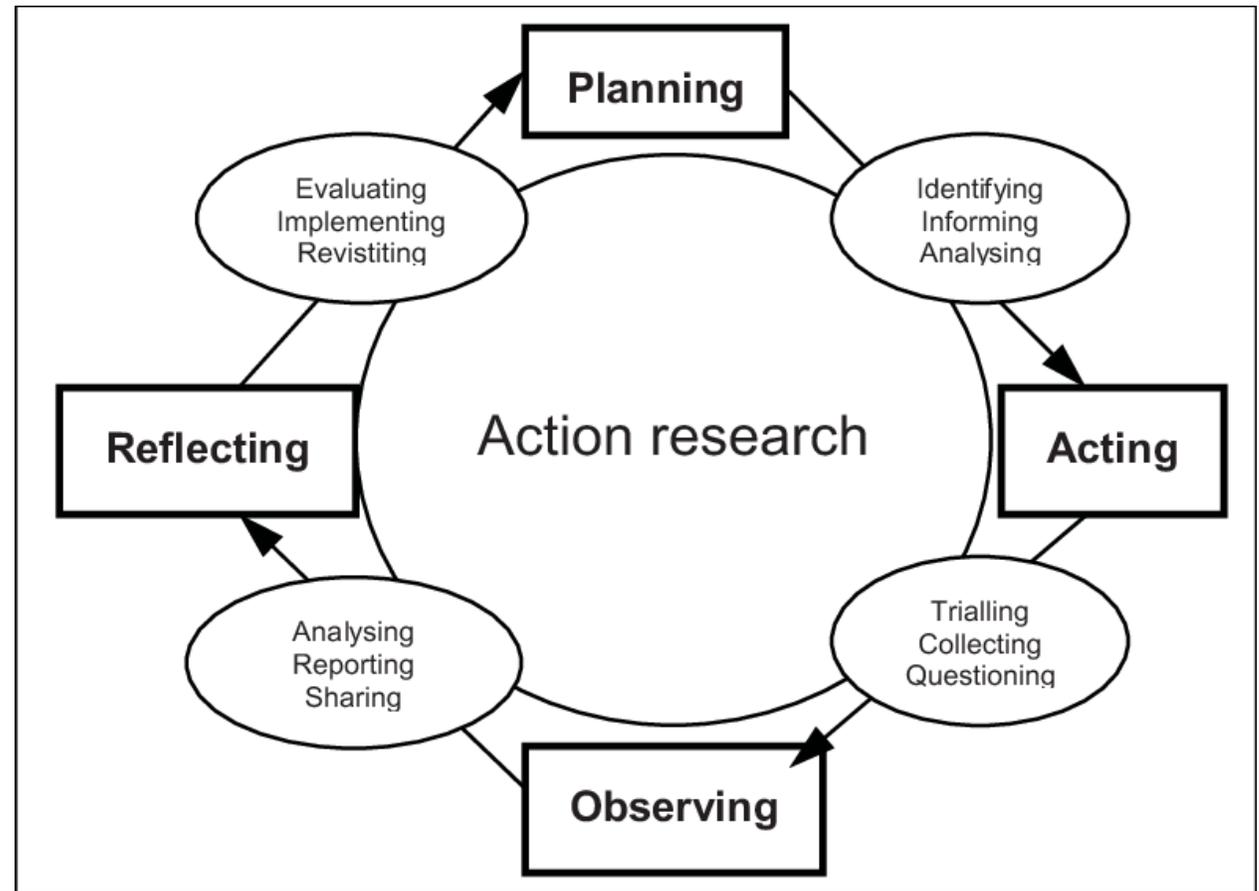
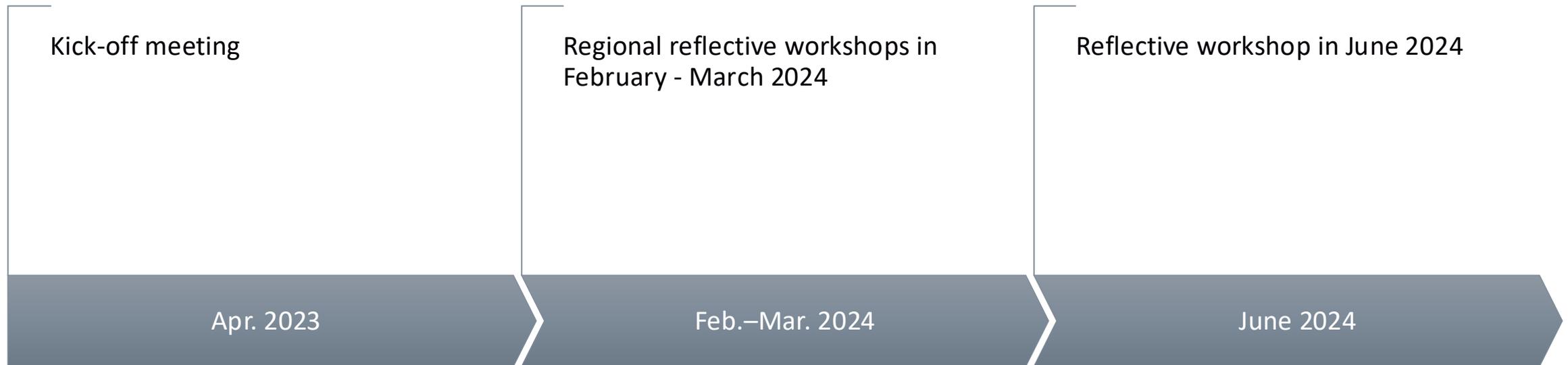


Image: mavink.com

Research flow



Reflective workshops



1st Reflective Workshop: kick-off meeting, April 2023

- presentation of action plans
- presentation of equipment
- general discussion on the use digital technology in HE



Insights from the kick-off meeting



Rare use of video and multimedia



Need for comprehensive recording standards (IKEA manual) - Professional Quality through Standardized Formats



Demand for Equipped Learning Spaces and Support



Lack of formal recognition (teaching is not sufficiently valued)

Regional reflective workshops in February & March 2024

Zagreb
Rijeka
Osijek
Split



Insights from regional
workshops: challenges
regarding the use of
technology

Time-related

Infrastructural and
technological

Competency-related

Psychological and personal

Structural



Support - educational interventions

March 2024 – June 2024

workshops
webinars
round tables

- 2 webinars - Basics of Creating Multimedia AV Content - Pre-production (CARNET), (CARNET and Ivan Cvirn)
- 3 regional workshops - Basics of Creating Multimedia AV Content - Production and Post-production – Working with DaVinci Tool (CARNET)
- Workshop - Speaking and Presentation Skills in the Recording Process (Retor.hr)
- Online workshop: Student Interactivity in the Online Environment and Monitoring Student Work (AZVO and Srce)
- Workshop: Teaching, Not Telling: Teaching with Questions and Process Level Feedback (Joelyn de Lima)
- Lecture and round table discussion: Intellectual Property and Copyright (Ivana Kunda)
- Lecture: ChatGPT prompts for Moodle Exams (Mirza Žižak)
- Lecture: Video production AI tools (Dario Kukuljan)



Reflective workshop June 2024

- Experiences with **equipment** & support
- Transformation of teaching
- Impact of AI tools on teaching and learning



Implications and recommendations

- **Transformation:** No substantial project-related transformation. The world has changed due to generative AI.
- Connecting and sharing experiences among pilot study participants is recognized as the greatest value of this phase of the project.
- Methodological-pedagogical training is highly welcome and needs to be further provided and developed
- **Equipment:** It is necessary to repeat the workshop for OBS/DaVinci as a two-day training session, also in an online format to allow as many participants as possible to attend.
- **Support:** Ongoing support is needed. In addition to our work, CARNET mobile teams have been formed as part of the e-University project. These teams will be trained to provide timely and valid support. The mobile teams are regionally distributed and can be dispatched to sites as needed.

