

„Shaping the network competences of young girls from minor towns and restructured areas as future business leaders operating in a 4.0 economy”

Research Problem

How can the network and digital competences of young people—particularly girls from areas with fewer developmental opportunities—be effectively developed in order to prepare them for professional careers and leadership roles in Economy 4.0?

Main Research Objective

The main research objective of the project was to **develop, test, and evaluate methods and tools for fostering network competences among young people**, with particular emphasis on girls from areas with fewer developmental opportunities, in order to better prepare them for professional careers and future leadership roles in Economy 4.0.

Specific Research Objectives

The specific research objectives included:

- identifying the mechanisms underlying the formation and development of virtual collaboration networks and examining how such networks can be used for knowledge exchange and the accomplishment of collective tasks;
- developing a programme for strengthening young people’s network competences based on project-based and problem-based approaches;
- developing methods, techniques, and tools supporting the formation of network competences;
- implementing these tools in practice;
- assessing their effectiveness and usefulness in achieving individual, group, and organisational objectives.

Stages in the Implementation of the Research Objective

1. Conceptualisation of the research problem and definition of the research subject.

2. Development of the research and educational methodology and tools.

3. Initial validation of the methodology – a study involving teachers and educators.

The methodology was evaluated using an online questionnaire completed by the participants, feedback collected during practical exercises and simulations, a focus group study, and trainers’ observations. The combination of these methods made it possible to integrate quantitative data with qualitative assessments and opinions provided by the participants.

4. Main pilot phase – validation of the methodology among young people from Poland, Czechia, Romania, and Lithuania.

The role of the young participants was not limited to participation in educational activities. Most



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importantly, they were required to develop their own projects using virtual networks, digital competences, and soft skills to address real-life problems affecting small towns and post-industrial areas.

5. Outcome measurement.

Following the pilot activities, a second survey of both teachers and young participants was planned. Its purpose was to determine whether participation in the programme actually contributed to the development of participants’ digital and network competences.

Scientific Component of the Project

In summary, the scientific component of the project consisted primarily of the **development, empirical validation, and systematic refinement of a methodology for fostering the network and digital competences of young people**, with particular emphasis on girls aged 13–18 from small towns and restructured regions. The project therefore went beyond the implementation of educational activities. It involved the development of an intervention grounded in specific research assumptions, followed by its empirical testing and an assessment of its usefulness and effectiveness.

The principal elements of the scientific component included:

- **conceptualisation of the research problem**, including an examination of the importance of network and digital competences for young people’s participation in Economy 4.0 and for preventing socio-digital exclusion;
- **development of an educational methodology and associated tools** aimed at strengthening these competences through project-based and problem-based approaches;
- **validation of the methodology by teachers and educators** from the four countries participating in the project;
- the use of **both quantitative and qualitative research methods**, including surveys, focus group discussions, trainers’ observations, and feedback obtained from practical exercises and simulations;
- **use of evaluation findings to refine the methodology and tools**, thereby giving the research process an iterative character;
- implementation of an **international pilot study involving young people in four countries**;
- **subsequent measurement of outcomes and assessment of changes in participants’ competences.**

