

# Project Proposal: digitalization of education in european schools

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## 1 Introduction

### 1.1 Define the project problem or objective

We will study the digitalization of European K12 education (from primary school to high school) by analyzing the existent and the impacts of certain measures on students' learning. We will provide tradeoff insights on what is actually improved or not, and under which conditions. By digitalization, we mean the incorporation of Information and Communication Technologies, through for example online courses, computers as notebooks, online platforms, quizzes etc.

### 1.2 Clarify the goals and significance

Goals :

- Establish and describe the current state of digitalisation in European schools
- Analyze certain pros and cons of digitalization measures :
  - Introducing IoT in class and giving personal devices to students.
  - Conducting classes online
  - Creating a Digital classroom and giving students access to online resources
  - Introducing latest technologies in the classroom such as AI, blockchain or robots.

## 2 Methodology

### 2.1 Approach and methods

Tasks:

1. Creating our bibliography: a pool of existing studies on the subject. We will focus on peer-reviewed literature, published after 2020 (since Covid brought a lot of changes in school digitalization) if possible. We will use the academic access of FRI on platforms such as Springer and PubMed Central. Our keywords will include "education", "digitalization", "learning", "computer", "remote", "school".

2. Describe the current state of digitalization in European schools. We will use the EU report [1] to describe the hardware and connection available to students, as well as the digital practices in primary and secondary education.
3. Assessing the impact on learning of the measures described above. We will assess if they help the learning of students in general, as well as if they increase or reduce inequalities (regarding gender, disability, income etc.). We will shortly discuss their environmental cost.

## 2.2 How our methodology will achieve the set objectives

Through this methodology, we want to provide sourced analysis. We also want to make our conclusions available to non-experts, with graphs, the poster etc.

## 3 Milestones

### 3.1 Estimated timeline

**17.10:** project proposal submission

**05.11:** first update: current state of digitalisation among European countries.

Eleonore will assess the current state of digital equipments and their usage and Adrien will find the figures about the connection and online tools (email, online courses...) availability.

**03.12:** second update: impacts assessed on the different measures

Eleonore will investigate the two first measures and Adrien will work on the two others.

**17.12:** finish report and create the poster

**07.01:** project report and submission

## 4 Evaluation plan

We will be satisfied with our work if it has clear, scientifically solid conclusions. We want our work to help for an informed achievement of Goal 4 - Quality Education and Goal 10 - Reduced Inequalities of SDGs. We will discuss SDG 12 - Responsible consumption and production in the analysis but will not provide a numerical analysis.

## 5 Resources

We will use the following papers: [5] [1] [3] [4] [7] [6] [2].

This literature review is also relevant to find other papers, as it links to more than a hundred papers on the subject. [8]

## References

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