

AI4T - IA4T: AI for and by Teachers

What is AI4T?

A project designed by France, Slovenia, Italy, Ireland and Luxembourg to contribute to AI training in the education of teachers and school leaders. This cooperation brings together 34 members (ministries, universities, training operators, etc.) to design, implement, test and evaluate the scheme. The project will specifically focus on mathematics, science and English as a foreign language in secondary school (pupils aged 15-16).

A project built to enable a reasoned and relevant use of resources containing AI, an assessment of their relevance and their usefulness or not, to raise awareness of their contextualisation and their acceptability according to the fields of application for teachers and school leaders.

A project intended to be shared widely - approach, methodology, results of the impact study, training materials - and to produce a network of schools and teachers in a secure framework for recording and analysing traces of learning (Open Learning Analytics Laboratory and Open Science approach).

AI4T, why?

To use and master educational data, in particular learning traces, in order to improve the differentiation of pathways and learning, to offer more effective training and assessment of upper secondary school students, without abandoning decisions to AI. Assisting, without replacing, trained professionals in decision-making: help with pedagogical diagnosis and evaluation, perception of weak signals; understanding of learning strategies and processes; development of data-visualisation tools for monitoring learning, etc.).

Responding to the guidelines set by the European Commission: "The updated Digital Education Action Plan (DEAP 2020) will contribute to a better use of data and technologies based on artificial intelligence, such as learning and predictive analysis, in order to improve education and training systems and adapt them to the digital age. The plan will also raise awareness of AI at all levels of education in order to prepare citizens to make informed decisions that will increasingly be influenced by AI". To contribute in the long term to the training of citizens and employability in an ethical and responsible approach to AI for education.

AI4T, why?

The 36-month project is based on the innovative provision of a training course on how to use AI tools for secondary school teachers in order to improve their skills and competences in digital education. Beyond the coordination by France Education Internationale, it includes 5 components (Work Packages):

- Experimentation (methodological and implementation framework - Italy coordination)*
- Development of training modules (coordination by LS2N University of Nantes with Class'Code, France)*
- Evaluation (coordination by Cnam-Cnesco, France)*
- Dissemination and scaling up (coordination by Slovenian partners)*
- Quality assurance (coordination by Irish partners)*

Designed as a randomised controlled trial, half of the volunteer schools will be randomly assigned to the treatment group and the other half to the control group. However, all volunteer schools will follow the same protocol, with a minimum of 4 teachers per school (2 foreign language teachers and 2 maths or science teachers) and a maximum of 8 teachers (4 foreign language teachers and 4 maths or science teachers) participating in the experiment. In addition, volunteer school headmasters will also be involved in this experiment. In total, more than 350 schools, their directors and a minimum of 1 400 teachers will participate in this experimentation, in order to maximise the probability of finding a significant impact that is sufficiently important to be politically interesting. However, special arrangements need to be made for Luxembourg, which has only 44 upper secondary schools.

The selected methodology allows to evaluate the impact of the intervention on (1) teachers' attitudes and practices regarding teaching with AI-based tools and (2) the resulting measurable skills, attitudes and behaviours of their pupils. The quantitative evaluation will consist of an analysis of the impact of the intervention on teachers. In addition, the learning traces left by teachers and students using AI tools will be collected and analysed to assess the impact of the training on their actual behaviour. Qualitative fieldwork will complete this impact analysis and provide a better understanding of the mechanisms at play.

Targeted training modules:

This training content will be provided in all the languages of the consortium and it is expected that the training will meet the needs of all types of teachers, facilitating scaling up and systemic change.

The expected results are as follows:

- Methodological framework: this common framework will be a reference document for all institutions working on the development of training content. It will set the objectives of training and technical specifications.*
- Training modules and activities. The partnership has identified three different levels of objectives to be achieved.*
 - To provide teachers with a solid basic culture on AI enabling them to become first-class citizens with regard to understanding AI, how it works, challenges and consequences. There are pre-existing resources for this. The consortium specifically identified the "IAI MOOC" built in France by Class'Code and decided to use it as a reference base for delivering a MOOC in the languages of the participating countries.*
 - To support teachers in their usual professional practices (differentiation according to the needs of pupils or groups of pupils, coaching and training, evaluation, resource selection, etc.) and approaches to reflection on the ethics and culture of data associated with it. Some documents have been written on the subject. The last international conference on artificial intelligence in education addressed the subject in one of its workshops, but difficulties remain and resources are lacking. The consortium will create blended learning activities to cover the topic.*
 - To promote the use of digital educational resources in real classroom situations to appreciate, discuss, correct and evaluate. The aim here is above all to prevent well-designed and commercialised ergonomic solutions from encouraging teachers and their pupils to use AI without being fully aware and understanding it. This point has yet to be researched. Therefore, there are no pre-existing training resources. A mixed approach will be used to cover this aspect.*

For the time being, the partners agreed that the following issues should be covered by the training:

- Definition/identification of school data/digital records, their uses and purposes*
- Definition / identification of AI technologies and objects / demystification of AI*
- History of large data and AI*
- Didactical and pedagogical issues of data use and AI in teachers' professional practice*
- The challenges of supporting the educational pathways of their students through the use of data and AI in teachers' professional practice*
- Legal and ethical issues related to the use of data and AI in teachers' professional practice*
- Guidelines for teachers (implementation of AI solutions after training)*

When?

- During the school year 2021-2022, a small-scale pilot phase will take place with a small number of teachers in each participating country. This will enable the partners to refine the training developed, the evaluation tools created, the recruitment process and the testing methodology.

- Subsequently, large-scale implementation will take place during the school year 2022-2023. It should be noted that the schools in the control group will be offered the training in 2023 so that their participation in the project will not be in vain.



Programme Erasmus+

Action PI-POLICY - Support for policy reform - Prospective Initiatives – Policy experimentation

Proposal Call for Proposals EACEA 38/2019 (full proposal stage)

Application No 626154-EPP-1-2020-2-FR-EPPKA3-PI-POLICY

Title Artificial Intelligence for and by Teachers

Decision ACCEPTED – 10 December, 2020

Partnership composition				
	Name of organisation	Type of institution	Country	Role in the project
P1	France Education international	Public organisation	France	COORDINATOR_D elegated entity
P2	Ministère de l'Éducation nationale, de la Jeunesse et des Sports	Ministry/ Public authority	France	PARTNER_ MINISTRY
P3	Dublin West Education Centre	Ministry/ Public authority	Ireland	PARTNER_ MINISTRY
P4	Ministero dell' Istruzione	Ministry/ Public authority	Italy	PARTNER_ MINISTRY
P5	Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques	Ministry/ Public authority	Luxembourg	PARTNER_ MINISTRY
P6	Ministrstvo za izobraževanje, znanost in šport	Ministry/ Public authority	Slovenia	PARTNER_ MINISTRY
P7	Conservatoire national des Arts et Métiers	Public organisation	France	PARTNER_RESEAR CHER
P8	Educational Research Centre	Private organisation	Ireland	PARTNER_RESEAR CHER
P9	Istituto Nazionale di Documentazione, per l'Innovazione e la Ricerca Educativa	Public organisation	Italy	PARTNER_RESEAR CHER
P10	Université du Luxembourg	Public organisation	Luxembourg	PARTNER_RESEAR CHER
P11	Pedagoški Inštitut	Public organisation	Slovenia	PARTNER_RESEAR CHER
P12	Institut national de recherche en informatique et en automatique	Public organisation	France	PARTNER
P13	Université de Nantes	Public organisation	France	PARTNER
P14	Université de Lorraine	Public organisation	France	PARTNER
P15	H2 Learning	Private organisation	Ireland	PARTNER
P16	Univerza v Mariboru	Public organisation	Slovenia	PARTNER
P17	Consiglio Nazionale delle Ricerche	Public organisation	Italy	PARTNER