



AI4ED

**TOWARDS AN AI DRIVEN EDUCATIONAL PROCESS
INTEGRATING MODERN CAREERS IN THE EDUCATIONAL
SYSTEM**

Deliverable

D7.2 - EDEHub Model Implementation Report

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EXECUTIVE SUMMARY / ABSTRACT

Abstract	<p>This report is part of the deliverables of Work Package 7 (Impact, Dissemination, Communication and EDEHub), D7.2 EDEHub model Implementation Report. The report intends to be a full report on the steps carried out and the future steps needed for AI4Ed to be part of the EDEHub.</p> <p>The report is divided into five main parts: a general vision of digital education in the European Education Area, AI4Ed alignment with EDEHub, how to integrate AI4Ed in to EDEHub and specific areas of EDHub in which AI4Ed could contribute. Finally, conclusions will be resume the complete process.</p>
Keywords	EDEHub, Digital education, xxx

I Introduction

The European Union's ambition to support and align education through the European Education Area (EEA) with the guidance of EDEHub proves Europe's commitment to a united and progressive future. Central to this vision is the realization of the potent transformative role of digital technologies, notably of Artificial Intelligence. Because of this, the AI4Ed project, with its pioneering approach to personalized education, serves as a flagship exemplar of the possibilities that AI holds in redefining European education.

2 Digital Education in the European Education Area

2.1 Importance of Digital Education

- **Evolving educational landscape:** The 21st-century global shift toward digitization has substantially influenced the education sector. The traditional “chalk-and-talk” model is increasingly making way for blended, if not entirely digital, teaching modalities.
- **Necessity of adaptation:** With the rapid advancement of technology, there's an urgent need to incorporate digital tools into the teaching curriculum, thus ensuring that the European education system not only remains competitive but also sets global benchmarks.
- **Lifelong learning:** The digital world offers boundless opportunities for continued learning. This adaptability is vital in a world where professional and personal growth is interwoven with digital competence. The ethical aspects of AI in education have been given due attention by the research community (Angerschmid et al., 2021; Giovanola & Tiribelli, 2021; Toth et al., 2022). A commitment to fairness, accountability, and transparency is essential when making AI-informed decisions. To this end, guidelines published by the European Commission (2021) seek to ensure responsible AI use in teaching and learning.

2.2 Digital Education Action Plan (2021-2027)

- **Guiding beacon for the future:** The plan articulates the European Commission’s foresight in acknowledging the role of digital technologies in molding the future of education.
- **Key objectives:** These include promoting digital skills, emphasizing data literacy, and democratizing access to digital tools across the member states.
- **SELFIE's role:** An initiative like SELFIE exemplifies the EU's commitment. By enabling institutions to introspect on their digital competencies, it ensures a holistic transition to a digitally proficient educational ecosystem.

2.3 Vocational Education and Training (VET) & Higher Education

- **VET's significance:** It serves as the bridge between academic learning and its real-world application. Given the dynamic nature of the job market, VET plays a crucial role in equipping students with skills that are both current and in demand.
- **Higher education's digital leap:** Universities, traditionally seen as bastions of knowledge, are now also becoming hubs of innovation and entrepreneurship. Digital tools not only aid in cutting-edge research but also in pioneering pedagogical techniques.

3 AI4Ed's alignment with EDEHub's vision

3.1 Harmonizing with the action plan

- Echoing personalization: AI4Ed's mission to leverage AI for individualized education resonates deeply with the Digital Education Action Plan's emphasis on personalizing learning experiences.
- Technological vanguard: The innovative AI applications within AI4Ed set the tone for what the future of digital education in Europe can aspire to be.

3.2 Synergy between SELFIE and AI4Ed

- Augmenting self-assessment: By integrating sophisticated AI-driven analytics into tools like SELFIE, AI4Ed elevates their utility. Institutions can go beyond mere self-assessment to derive actionable insights powered by AI, thereby ensuring a more nuanced and effective digital transition.

3.3 Pivotal Role in VET and Higher Education

- Revolutionizing VET: Through AI4Ed, VET institutions can immerse students in hyper-realistic simulations, closely mirroring real-world job environments. Additionally, AI's predictive capabilities can preemptively guide curricular shifts in line with job market trends.
- Elevating higher education: Universities can leverage AI4Ed to streamline administrative functionalities, enable global collaborative research, and architect student-centric learning paths. This ensures that European higher education institutions remain at the vanguard of global academic and research excellence. Similarly, AI can be used to reduce, if not prevent altogether, student dropouts to further improve their educational backgrounds.

4 Steps for AI4Ed's integration into EDEHub

4.1 Stakeholder engagement

- Initial consultations: Before embarking on the integration journey, a series of consultations are to be held with key stakeholders within EDEHub. This includes educators, policymakers, technocrats, and EDEHub administrative personnel.
- Highlighting AI4Ed's potential: Through presentations, workshops, greypapers and whitepapers, the transformative potential of AI4Ed in reshaping the European educational landscape must be outlined. Real-world examples of AI in education are to be discussed to illustrate the tangible benefits.
- Feedback collection: Post-discussion feedback needs to be actively sought to understand the reservations, if any, and to fine-tune the integration approach based on the feedback received.

4.2 Pilot implementations

- Selection of diverse states: To ensure a representative and holistic view, pilot projects shall be rolled out in diverse EU states, taking into account the various cultural, economic, and educational nuances of each state.
- Implementation strategy: AI4Ed's methodologies must be adapted to the unique requirements of each state, while maintaining a consistent core framework.
- Evaluation and results: Post-implementation, a rigorous evaluation process will be undertaken to measure the efficacy and adaptability of AI4Ed's methodologies. These results must be documented meticulously for future reference and improvements.

4.3 Alignment with EDEHub priorities

- Detailed study of EEA priorities: A team has to be dedicated to understanding the intricate details of the EEA's core focus areas. This deep dive will ensure that AI4Ed's objectives are meticulously mapped to these areas.
- Given EDEHub's and the EEA's emphasis on digital education, special attention must be paid to aligning AI4Ed's digital tools, platforms, and methodologies with the objectives set out in the Digital Education Action Plan (2021-2027).

4.4 Collaborative research

- Formation of joint teams: Research teams comprising members from both AI4Ed and EDEHub shall be formed to drive collaborative research endeavors.
- Focus areas: The research will primarily revolve around enhancing AI4Ed's offerings, exploring new AI technologies in education, and ensuring the solutions proposed remain at the cutting edge.
- Publication and dissemination: Research findings must not only be documented but also published in notable educational journals, fostering greater awareness and credibility.

- Regular interactive sessions: To ensure a continuous and profound engagement with EDEHub members, regular workshops, webinars, and interactive sessions will be scheduled.
- Joint projects: Encourage joint project initiatives that exemplify the symbiotic relationship between digital education and AI, ensuring practical benefits are realized.

4.5 Continuous evolution

- Monitoring technology advancements: A dedicated team will keep tabs on the global advancements in AI and digital technologies.
- Periodic strategy updates: Based on global trends and the evolving priorities of the Digital Education Action Plan, AI4Ed's strategies will undergo regular revisions to remain relevant and effective.

4.6 Broad-based integration

- Exploration beyond VET and higher education: While initial efforts focused on VET and higher education, efforts will be made to see how AI4Ed tools can be beneficial for sectors like early childhood education, school education, and adult learning within the EEA framework.

4.7 Feedback mechanism

- Creation of a feedback portal: An online portal will be established where educational institutions can provide real-time feedback on AI4Ed tools and methodologies.
- Regular feedback analysis: The feedback received will be analyzed periodically, ensuring AI4Ed evolves based on the ground realities and needs of European educational institutions.

4.8 Policy advocacy

- Engagement with policymakers: Regular meetings will be scheduled with European policymakers to discuss the benefits and future of AI-driven education.
- Drafting policy recommendations: Detailed policy recommendation documents will be prepared, emphasizing the need to make AI-driven education a cornerstone of European educational policies.

4.9 Policy advocacy

- Deepen the engagement in the EDEHub community: AI4Ed can actively participate in the community of the European Digital Education Hub, collaborating, exchanging best practices, and developing AI-driven solutions with other stakeholders.
- Have an active role within the National Advisory Services Network: AI4Ed can contribute actively, promoting the implementation of AI-focused strategies within digital education policies, and ensuring that AI-driven educational methodologies are adopted widely.

- Collaboration with the SALTO resource center: Once operational, AI4Ed can foster collaboration with the SALTO center, integrating its AI tools and methodologies into the digital dimension of Erasmus National Agencies' programs.
- Advocacy and policy integration: AI4Ed can work closely with EDEHub to ensure its AI-driven tools and methodologies are considered in the policy discussions and recommendations surrounding digital education in the EU.

5 AI4Ed's integration into EDEHub: specific areas

AI4Ed can include its results in the main topics of EDEHub as:

- Improving quality and equity in education and training.
- Revalorise teaching professions.
- Digital education.
- Green education.
- Global education.

Moreover, the project can contribute to the big four areas of EDEHub action plan (<https://education.ec.europa.eu/focus-topics/digital-education/action-plan/european-digital-education-hub>).

5.1 Information and knowledge-building

- AI4Ed can offer its training programme as mean to support digital education. In this sense, the modules of the programme offer a wide vision of the use of AI for build a teaching-learning system.

As the EdeHub web pages stated, there is two ways for contributing: building knowledge and sharing resources. AI4Ed can contribute in both senses with its Training programme and sharing the implementation of it. In this way, we could offer workshops or seminars to explain the work done or to conduct new approaches.

[Here it could be included the link to the training programme or write a more extensive information about the modules]

5.2 Community of practice

- AI4Ed can collaborate across sectors sharing the knowledge with, for example, institutions or other sectors apart from educative, to transfer good practices and tips.

5.3 Acceleration of best practices

- AI4Ed can show new opportunities for design contents in education, with measurement of performance in real time, prevention of drop out and other issues.

5.4 Teachers as Researchers weeks

- After developing the project, we could organise meetings between teachers for increase collaboration and carry out activities as round tables, collaborative research, analysis, etc.

6 Conclusions

To be developed at the end of the project

Main conclusions – Partner’s contributions:

Conclusion	Remarks	Comments (if any)
IMH		
Alchemy		
Cenfim		
SCSKZ		
UBremen		
Unizar		

7 References

European Digital Education Hub, <https://education.ec.europa.eu/focus-topics/digital-education/action-plan/action-14-european-digital-education-hub>