ISILA Impact on UEF

“Improving the quality and sustainability of learning using early intervention methods based on learning analytics”

Project No. 2023-1-FI01-KA220-HED-000159757

Co-funded by
the European Union

Project ref. number	2023-1-FI01-KA220-HED-000159757
Project title	**ISILA - Improving the quality and sustainability of learning using early intervention methods based on learning analytics**
Document title	ISILA Impact on UEF
Document Type	Report
Document version	1.0.0
Planned date of delivery	31/3/2026
Language	English
Dissemination level	Public
Number of pages	7
Partner responsible	UEF
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Abstract	The present document summarizes the impact of the ISILA project on the University of Eastern Finland, as well as the plans for sustainability and future use of the project results
Keywords	UEF, ISILA, Institutional Impact, Erasmus+

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1 Institutional Context

The University of Eastern Finland (UEF) has participated in ISILA as the coordinator, contributing expertise in learning analytics and development of educational tools that collect fine-grained data. The project aligns well with UEF’s strategic priorities related to digital transformation in education, research-based teaching, and the development of evidence-informed student support systems. ISILA activities have been closely connected to ongoing initiatives in learning analytics, eLearning development, and the strengthening of data-informed decision-making across faculties.

2 Impact on Teaching and Learning Practices

At the UEF, the piloting of ISILA activities has been carried out primarily within the School of Computing. This context provided an authentic environment to test and refine the learning analytics dashboards and associated methodologies in real courses with diverse student groups.

The implementation also revealed important challenges. Participation required informed consent, and not all students agreed to take part. There is a concern that some of the students who might have benefited most from additional monitoring were less likely to opt in, which raises questions about representativeness and inclusion. From a technical perspective, constructing the dashboards required assembling data from multiple systems. The integration of different platforms was demanding, and a stronger alignment within the institutional digital ecosystem would have made the process more efficient. In addition, although analytics can highlight patterns and potential risks, there is limited research-based guidance on which interventions are most effective in specific situations. Teachers, therefore faced uncertainty when deciding whom to approach and what type of support to provide.

Several lessons emerged from the pilot. Learning analytics–based interventions show clear potential to support students at a more personal level, especially when insights are combined with teachers’ pedagogical knowledge. However, scaling such an approach to large courses remains challenging due to the time and effort required for individualized follow-up. The use of AI-supported tools could potentially offer possibilities for supporting teachers in managing this complexity in the future.

Continuous survey data proved essential for monitoring students’ well-being alongside behavioral indicators, as engagement metrics alone did not fully capture

students’ experiences. Finally, sustainable implementation across all courses would require stronger institutional support, including coordinated infrastructure, clear policies, and recognition of the time needed for meaningful data-informed teaching practices.

3 Impact on Research and Development

At UEF, the ISILA project has been led by the Learning Analytics Research Unit, which has ensured a strong integration between project implementation and ongoing scientific work. The piloting phase provided an important testbed for systematic data collection in authentic educational settings. This environment enabled the research team to experiment with new methodological approaches, validate indicators, and refine data pipelines under real conditions rather than in purely experimental contexts.

The project also contributed to enriching the institutional tool ecosystem, especially new tools for data collection in Discord and ChatGPT, and for integrating diverse types of data into the Learning Record Store. These efforts strengthened the technical and methodological capacity of the research unit and created reusable components that can support future projects.

In addition, ISILA has resulted in new scientific publications and conference contributions that build on the empirical data and methodological advances generated during the project. The pilot implementation opened a new line of research focused on AI-supported interventions. This emerging research direction explores how artificial intelligence can assist teachers in identifying students in need of support, suggesting appropriate intervention strategies, and managing scalable feedback in larger courses. This line of work extends the impact of ISILA beyond dashboard development.

4 Dissemination and Visibility

UEF has actively disseminated ISILA results through multiple channels. Project outcomes have been shared on the ISILA website, and UEF’s institutional website provides visibility and access to project information, since the project profile is indexed in the university project database. Research results connected to ISILA have been presented at international conferences and published in peer-reviewed venues, increasing the project’s scientific visibility.

In addition, UEF has organized and participated in webinars and training sessions aimed at promoting innovative teaching practices and the use of the developed learning analytics tools. These activities have targeted local teaching staff as well as

broader audiences, contributing to the wider uptake of ISILA results. For example, we had a guest lecture at *Ahram Canadian University in Cairo*.

5 Sustainability and Future Use of Results

The University of Eastern Finland is committed to continuing the use and further development of the tools and methodologies introduced and refined during ISILA. The data collection instruments developed within the project are already being applied in new research contexts. They are currently used to retrieve and analyze student–AI interactions, as well as to collect and study Discord communication data for research purposes. This demonstrates that the technical and methodological solutions created in ISILA have become part of a broader research infrastructure at the university.

The learning analytics dashboard developed and piloted during the project is also being reused in the ENDGAME project, where it serves to store and visualize gameplay data from students participating in educational escape rooms focused on media literacy. This transfer of technology illustrates the adaptability of the ISILA outputs and their relevance beyond the original project scope.

UEF is also exploring the potential use of artificial intelligence to support the scaling of interventions. Although personalized, data-informed support has shown clear benefits, its implementation in large courses requires substantial time and effort from teachers. AI-based systems may assist in identifying patterns, suggesting tailored feedback, and supporting decision-making, thereby making large-scale, individualized support more feasible while maintaining pedagogical oversight.

In the long term, UEF aims to embed learning analytics practices into regular teaching, curriculum development, and quality assurance processes. The objective is to ensure sustained improvement in teaching effectiveness and student support through systematic, data-informed approaches. The experience gained during ISILA provides a strong foundation for shaping future institutional strategies related to digital learning environments and evidence-based educational development.

6 Stakeholder Engagement and Collaboration

ISILA has fostered active dialogue at UEF between researchers, teachers, learning technologists, and institutional leadership. The project has created structured opportunities to reflect on student monitoring practices, the ethical use of learning data, and the pedagogical implications of analytics-supported interventions.

The ISILA team at UEF is currently in discussions with the Vice Rector for Education to explore how the methodologies refined during the project can be implemented at the university level in a coordinated and sustainable manner. These discussions aim to ensure that the lessons learned, tools developed, and practices tested within ISILA can inform institutional policies and support broader adoption across faculties. Through continued collaboration and strategic alignment, UEF seeks to strengthen its institutional approach to data-informed education and student support.