ISILA Impact on UiB

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

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Abstract	The present document summarizes the impact of the ISILA project on UiB, as well as the plans for sustainability and future use of the project results
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1 Institutional Context

The University of Bergen (UiB) is a Norwegian state university with more than 20,000 students and approximately 4,000 employees. UiB comprises seven faculties with several different departments and centres.

SLATE (the Centre for the Science of Learning and Technology), hosted the ISILA project, providing both academic and technical staff, and then attempting to partner with other teaching teams across the university to find testbeds for development. SLATE is an interdisciplinary R&D learning sciences unit, which contributes to international research and national competence development on the use of data and data approaches in understanding education and lifetime learning. SLATE is a leading center in the development of knowledge about how educational data can be used to support knowledge, learning, and teaching processes. Drawing on interdisciplinary collaboration, it investigates the technological, pedagogical, cultural, ethical, and legal aspects of learning analytics (LA) and artificial intelligence in education (AIEd) and promotes the responsible use of technology in education. SLATE currently employs 23 staff and is responsible for the further studies of 9 PhD students and Postdoctoral Associates.

ISILA aligned strongly with a number of past projects at SLATE which had attempted to build out various components of an educational data ecosystem. It was hoped that participation would build up more core interest in LA at the home institution. As the national research center dedicated to research on LA, SLATE has potential to inform national decisions about infrastructure and tendering for data ecosystems. Unfortunately, a number of factors make the Norwegian education system quite resistant to change and it was harder than intended to find course teams willing to participate. Two courses signed up to participate in the project through pilot trials. The project was then further hampered by the lead investigator for UiB (Kamila Misiejuk) relocating to Germany. Jelena Jovanovic then took on this role, a transition that slowed down the involvement of UiB in this project.

2 Impact on Teaching and Learning Practices

Despite the fact that it hosts a Norwegian national center on learning analytics, UiB has been slow to adopt LA at scale. This is exemplified by the difficulty of attracting course teams to participate in the pilot trials. However, a change of education leadership at UiB, and a shifting institutional context due to adoption of a new LMS

(see Section 5) has created an opportunity for results from ISILA to feed into both future teaching and learning practice, as well as key choices made by the IT team responsible for implementation of the new LMS. This has led to the instigation of a new program of work (and interest in ISILA) that will continue beyond the end of the ISILA project.

An example of a design change in one of the pilot courses is the introduction of a new approach to motivating students to collect their “digital footprints” in the course. This is to address one of the main pain points in working with log data, namely interpreting the logs and distinguishing relevant from irrelevant “clicks”. By letting the students choose what is relevant to collect (and later analyse and use for feedback provision), we are both (implicitly) communicating to the students that they should reflect on their learning and data they share as well as ensuring higher quality of the data that is collected and used for feedback provision. This design change is a part of a broader initiative, not only in this particular course, but in UiB courses more broadly, to leverage elements of the course design to motivate students to provide information that will be relevant for analytics and feedback provision.

A different example, coming from the other pilot course relates to the change in the assessment grading. In particular, in that course, two obligatory assessments had numerical grading, whereas the other two were based on the pass/fail dichotomy. Having recognised the usefulness of monitoring the students’ progress on obligatory assessments via the dashboards, the teacher decided to make the scores of the second and the third mandatory assessments (and any future assignments) available in the LMS, so that these can be included in the dashboards, as well.

3 Impact on Research and Development

ISILA has provided pilot data about design choices that need to be made to implement a well-structured multimodal data platform for LA to scale across an institution. A number of papers have been authored, and more are planned based upon the future work that is currently underway at UiB (see Section 5).

In addition, during ISILA, we have also established the technical "pipelines" for data collection and representation in a common format, which will serve as a technical underpinning for the data collection in the planned future research. Furthermore, we have gathered experiences regarding challenges associated with student consent for data gathering and use in research. This has already stirred research towards better ways of integrating data collection in the course design, something we have

already discussed with teachers during the dissemination event. Last but not the least important, the ISILA project contributed in establishing new and strengthening existing connections between UiB researchers and teachers, which has proven to be of high importance for both the educational research to be truly embedded (informed by and contributing to) in authentic learning settings.

4 Dissemination and Visibility

The UiB ISILA website is available at https://slate.uib.no/projects/isila and links through to the general project webpage. In addition SLATE has hosted two dissemination events:

- One in person workshop (on 16th February 2026) where the project team shared the project’s main outcomes and lessons learned and then worked collaboratively with course teams who participated in the initial pilots and a selection staff who are leading the Nytt LMS project (see Section 5) to understand pain points faced by UiB staff and students in improving both the student experience and their completion rates.
- One online seminar (on March 31st 2026) that presented the project and its main outcomes and brought an invited speaker to present the latest developments in using generative AI in creating adaptive and personalized LA dashboards. The objective was to go beyond the project results and explore, with the seminar participants, various perspectives on how future LA dashboards can be used to improve student outcomes.

5 Sustainability and Future Use of Results

Fortunately, the ISILA project is concluding at a time where the Norwegian teaching infrastructure is in the process of being renewed, with a move to Instructure Canvas hosted in the cloud. This provides a key opportunity for the results of ISILA to propagate throughout UiB and to the Norwegian university system as a whole. UiB is relying upon SLATE expertise to inform decisions about LA infrastructure, and a core set of recommendations will be to consider the entire learning data ecosystem as choices are made about how to implement LA at scale. Our dissemination workshop for WP6 was used to initiate work with the “Nytt LMS” (New LMS) team at UiB. The UiB ISILA team collaborated with a number of stakeholders in that project to identify pain points that various teaching teams are currently suffering

and to start identifying dashboards and data sources that would need to be integrated to solve them. Critically, the workshop identified one pain point which will be given priority in future work: both staff and students struggle to identify whether the mandatory requirements for a course have been satisfied. Both of the ISILA pilot teams agreed with the other workshop attendees that the priority project in future work should be: Combining data from multiple sources to inform students and staff when they are missing core requirements for completing their course. The priority data identified for the two faculties who will be involved in the first phase of the Nytt LMS project includes:

- LMS data (e.g. logging on, quiz completion, assignment submissions)
- Attendance at required classes (a number of UiB courses require 80% attendance before a student is allowed to sit their final assessment)
- Specific laboratory attendances

As such, sending automated messages to students who have yet to complete mandatory components of their assessment will require the collection and integration of data from multiple diverse data sources and the results of the ISILA project will be used to inform the choice of technology and approaches as this program of work is instigated to provide a cross institutional LA project.

6 Stakeholder Engagement and Collaboration

As a part of its 2026 program of renewal for the institutional LMS, UiB has convened a pedagogical resource group which brings together experts in educational technology, pedagogy and learning analytics to improve the student experience, with a particular focus upon first year student retention. SLATE has a member on this group, and so will take the results of ISILA and feed them into this new program of work. We are currently instituting a number of learning analytics pilots within this institutional priority project, many of which will rely upon the integration of data from multiple sources. The ISILA project will thus impact the university through this program of work. In particular, the SLATE team will share with the UiB’s pedagogical resource group knowledge and experiences related to the setting up of the required technical pipelines for data collection and integration as well as the lessons learned from all the phases of the learning analytics cycle (from data collection through dashboard design to pedagogical interventions), thus streamlining the use of renewed institutional LMS for teacher and student support through LA