**Letter of intent**

**File number**
175.2021.015

**Grant**
2021/2022

**Applicant**

**Title**
EDULAB, een nationale infrastructuur voor onderzoek aan leren en instructie

**Abstract**

This application falls under the NWO domain social and sciences and humanities, more specifically Educational Sciences (Discipline code 41.90.00).

Educational research science studies the processes and outcomes of learning in formal and informal learning environments. It does so by administering tests, performing observations, and tracking students’ and teachers’ (digital) behavior. The proposed infrastructure EDULAB will serve two goals: (1) to facilitate data collection by equipping educational science laboratories with instruments for data collection on- and off-site and (2) by providing a data infrastructure for safely storing, sharing, analyzing, and reusing data.

At all partner locations, EDULAB will provide well equipped facilities for participating research groups and users to perform precise fine-grained educational experiments and evaluate new instructional interventions using the most advanced observation equipment. Data collected in these experiments will be stored and maintained centrally in this way providing a rich source for performing meta-analyses, yielding deeper and more comprehensive insights, as a basis for evidence-informed education.

The infrastructure will allow for data collection in dedicated, physical laboratory spaces, such as rooms that mimic classrooms and labs for in depth study of learning processes. The physical labs will be equipped with advanced observation equipment, including camera’s, eye tracking and other advanced measurement techniques. Also, mobile observation sets will be developed that will allow for data collection in realistic environments such as schools and museums.

An essential part of the infrastructure will be the measures that allow for seamless data exchange. This entails protocols and templates for data formats that will allow for data collection and storage in a way that it can be aggregated with data from other different studies that follow the same data protocol. This will allow for to conduct meta-studies that look for more robust evidence than can be extracted from a single study.

The setup of EDULAB will allow for major breakthroughs in educational research such as rich insight in the feasibility and effectiveness of different educational approaches, such as direct instruction or inquiry-based learning. Questions such as “is inquiry learning effective?” are meaningless until insight has been gained on the learning goals, the way it is implemented and the conditions under which it is performed. EDULAB will allow to gather and compare data over many different studies in which these relevant parameters are varied. In this way EDULAB will contribute to the gathering of evidence about effectiveness, but also on the way various approaches to education (on micro and macro level) can be employed to achieve different learning goals, varying from preparation to tests, to higher order thinking skills, such as inquiry skills. In such a way, EDULAB can inform debates on education and curriculum, based on its collection of evidence. EDULAB is not directly connected to an initiative listed in the Roadmap infrastructures.

Researchers participating in this infrastructure are educational scientists from the participating universities: Utrecht University, University of Twente, Radboud University, Eindhoven University of Technology and TU Delft.

Main applicant and contact person is Prof. dr W.R. van Joolingen.

**Organisation responsible for the application**

**Confirm letter of intent**

With submitting this form via ISAAC I declare to have filled in this form completely and truthfully.

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**Applicant**