

ILESE has been in existence since 2021. With Partner Organisations across education, allied industries and academia, it has been building the rigorous research-based foundation for the creation of the one-off database, ARGO.

ARGO will give Partner Organizations the confidence to make evidence-based decisions about developing and using spaces that directly benefit students.

It is a complex undertaking; this document summarises that background and gives you greater detail about how (with your help) we will finalise – then use - this initiative.

Overview

Two issues coincide to make *ILESE: The Evidence* a priority. Globally, designers and school infrastructure providers are being asked to make new schools and refurbishments more cost effective. At the same time there is a demand across society to improve students' experiences in schools – both academically and holistically, through their well-being, inclusion, and full participation.

It is generally accepted that good design (and use of those designs) can help us meet these challenges. Consistently, however, when proposing solutions to inadequate or ageing infrastructure the question is asked, *where is the evidence* that particular approaches work for students? What evidence exists that helps us decide what designs improve students' experiences?

To address these issues, ILESE has built a network of 244 education, industry and academic leaders of this field, representing 19 countries. It has been using this network to gain consensus on what is needed (Phase 1), and to design and pilot 'a solution' (Phase 2). These Phases are now completed. Phase 3 will populate the database (to be called ARGO) and use its information to answer Partner Organisation requests for evidence. In addition, it will (when requested) inform a suite of partner-relevant projects through the use of the database to address localised learning space issues.

You are invited to join us in Phase 3. The benefits of participation are significant.

- *ILESE: The Evidence* will allow its partner organisations to demonstrate which of their designs are working, and under what circumstances.
- It will identify correlations between all types of learning space design, student learning outcomes, engagement and participation, and inclusivity and wellbeing.
- It will enable the evaluation of existing small or large infrastructure and inform future school developments.
- It will allow participating industries, academics, and educational bodies the opportunity to tailor analyses of complex arrangements of school designs and how they are used, then benchmark against international data.
- It will allow Partner Organisations to negotiate in-depth projects to answer issues specific to their circumstances.

Progress to date

This Portfolio comes between Phases 2 and 3 as we seek the additional industry involvement needed to finalise and utilise the database. The resulting database will be available only to co-funding Partner Organisations, for a defined quarantine period.

Phase 1 used large-scale international expert and practitioner workshops to identify what learning space research was being used and where the gaps in this knowledge were situated. It identified what leaders in industry education and academia felt were the issues that must be prioritised.

Phase 1 workshops (Report #1) and an independent Delphi Study (Report #3) found that experts from industries, academia and education believed good research has been conducted into learning space design and use. However, practitioners have had trouble accessing and using that knowledge – often due to evidence being deeply embedded in academic articles and reports. In addition, existing evidence was often hard to link to the specific problems experienced by practitioners. As a result, many new schools design developments and corresponding curricular and teaching strategies were not based on solid evidence about 'what works'.

The priorities identified by the 250 experts were encouragingly consistent across countries and the education, industry and academic sectors (Report #2). What we need, they said, was easily accessible evidence about how all types of school designs impact students' learning outcomes, their inclusion, their well-being, and their full participation in school life.

The White Paper (Report #4) produced a blueprint for the research the expert network believed had priority. It called for the collection of evidence that represented students' lived experiences in all types of learning environments. It must be representative of all students, regardless of physical, neurological or other capacities. It must be international in scope, to allow for the widest benchmarking of data. The database must be organised in a way to allow industries, educators and academics to quickly access data relevant to their individual needs. It must be capable of complex correlation analyses across a wide range of variables. It must be capable of providing foundational data for follow-on, specialised investigations of issues specific to each partnering organisation.

Phase 2 responded to the network's blueprint summarised in the White Paper by designing a method for enacting those priorities. It then piloted that approach and ran a statistical validation of its major measurement tool.

From this, ARGO was designed, and is being tested as a final task of Phase 2.

The Pilot. The pilot was run during 2024 in approximately 30 schools in 14 countries. It served three purposes. (1) To test the robustness of the data collection strategy, the accuracy of ILESE's back-translation approaches (ILESE will host up to 10 languages, with 6 represented in the Pilot) and to trial the securing of ethics across many jurisdictions. (2) To test the validity of the major student-focused measurement tool through an exploratory factor analysis. (3) To develop a feasible budget for Phase 3 operations.

One of many other side benefits of the Pilot was to consolidate the vital Partner Investigator network – academics in a dozen universities in a dozen countries, who will spearhead the major data collection in Phase 3 under guidance of the Management Team.

Tool validation. ILESE's significant measure is the Learning Environments and Student Participation Survey (LEaPS). During Phase 2 this was developed using the health science's Framework of Participant Related Constructs (fPRC) as its theoretical framework¹. The fPRC has been applied in 493 studies across 14 countries since 2017 due to its capacity to structure participation research according to seven constructs. This framework views an individual's participation in daily life as a complex interaction between the child, their environment, and their preferences, their capacity to participate and other constructs. Illustrated briefly in 'About ARGO', and with the assistance of the fPRC authors, Phase 2 transferred those seven constructs into an educational spatial context.

During the Pilot an exploratory factor analysis was conducted to identify the strength of the relationship between LEaPS items and the fPRC constructs.

Next steps (Phase 3)

ILESE's Phase 1 and 2 preparatory work presented in the four included Reports, have shown that activation of Phase 3 is warranted. **It is for this three-year initiative that we now seek your support.**

This recruitment, being conducted during the last third of 2024, must enlist enough partner organisations to provide the budget and practical research support that Phase 3 requires.

In Phase 3 (year 1) we will collect data to populate ARGO. A full research protocol has been compiled, but in summary this will entail:

- Partner Investigators from our network's 'Academic Alliance' will form teams to implement our measurements with students from 10 to 15 years of age.
- This will occur by utilising the network built during the Phase 2 Pilot, with additional Partner Investigators (one per country) being added according to uptake of this request for Partner Organisations.
- Teachers at each site will complete a pedagogic profile.
- School leaders of each site will complete a school profile audit (demographics, school visions, types of spaces, types of teaching, types of learning, and the like).

¹ Imms, C., Granlund, M., Wilson, P. H., Steenbergen, B., Rosenbaum, P. & Gordon, A. (2016). Participation – both a means and an end. A conceptual analysis of processes and outcomes in childhood disability. *Developmental Medicine & Child Neurology*, 59(1), 16-25.

Our year 1 budget allows for a maximum sample of 20 Partner Investigators in 20 countries, conducting 400 site visits, mapping that number of learning spaces, and eliciting responses from 10,000 students, 400 teachers and 200 school leaders. This exceeds preliminary power analysis for inferential analysis within ARGO, but gives some indication of the scope of learning environment data ARGO will collect.

In Phase 3 (year 2) we will run two parallel programs; using ARGO to address Partner Organisation requests for evidence, and exploring the establishment a suite of 'in-depth' projects with individual or groups of Partner Organisations.

- When using ARGO to address Partner Organisation queries, we will follow the procedure briefly summarised in the attached 'About ARGO' document. This provides Partner Organisation bespoke analyses from this large database, which focus on their specific need for evidence.
- The 'in-depth' project concept emerged from the Phase 1 analyses and was briefly described in the White Paper (see document #1). This initiative is discussed below, but in essence it allows ILESE to build smaller research projects with Partner Organisations, using ARGO data to examine a localised issue. It also allows opportunity to use some year 2 and 3 funding as Industry Contributions to support large, externally funded projects.

Our year 2 budget covers the cost of refining the ARGO tool and paying for analysis according to Partner Organisation requests. It also finances the development of possible in-depth projects, as described below.

In Phase 3 (year 3) we will continue to run analyses, refine ARGOs interactive functions, and refine and implement 'spin off' projects.

- Partner Organisations will have continued access to the ARGO database, allowing for increasingly complex analyses to be run for Partner Organisations.
- This year will be used to further develop ARGO's capacity, moving it to a platform with improved interactive analysis functions for Partner Organisations.
- Finally, year 3 will see 'in-depth' projects being implemented, which will potentially run post-ILESE contract period, but with continued ILESE management support.

The year 3 budget allows for increased analytics support as ARGO becomes fully operable. It provides support for ongoing data requests, and will assist the funding of larger grants from co-funding organisations.

In-depth projects

The White Paper (report #4) recommended the establishment of an easily accessible multi-variate database (now called ARGO) that would allow industries, educators and academics access to comprehensive learning space evidence. ARGO would remain a provider of evidence. The White Paper also recommended that a system be established for ARGO data to then inform Partner Organisation in-depth research, addressing localised issues.

These 'in-depth' projects would be the responsibility of the Partner Organisations, informed by ARGO and assisted (when required) by the ILESE research team.

The potential exists, however, for significant grants to also be sought using ARGO and the ILESE network as the foundation. For example, within the Australian and New Zealand system, this will mean a 2025 Australian Research Council Linkage Project (ARC-LP) application. These types of grants 'leverage' Partner Organisation financial and in-kind support into significantly larger funding. ILESE's host organisation (the LEARN group²) has previously won six highly competitive ARC-LPs, each having the Partner Organisation funding matched, or exceeded by ARC funding. The same system exists in other parts of the world, such as the European Research Council. The existence of ARGO and the ILESE network significantly increases the competitiveness of such grant applications.

The Phase 3 budgets in years 2 and 3 will allow relevant Partner Organizations to apply components of those financial contributions to such applications.

² The Learning Environments Applied Research Network is a collaboration between industries, architects and educators. It hosts high-level research into the ways we can maximise the effectiveness of all learning spaces. It has an unparalleled record of advising governments on learning spaces development, securing top-level research grants, and hundreds of publications including books, industry-friendly research reports, and academic publications. (<https://sites.research.unimelb.edu.au/learn-network>)

The research team

ILESE: The Evidence is being conducted by LEARN, based in the University of Melbourne's Faculties of Education and Architecture, and now also in the Faculty of Education at Edith Cowan University, Western Australia. For more than a decade and a half LEARN has conducted world-leading applied research in learning environments, over 60 projects including six consecutive prestigious Australian Research Council Linkage grants. In the process it has built a world network of industry, education and academic collaborators, an unprecedented array of user resources, and has published six books and more than 30 research reports on this topic.

The management team. ILESE will be run by LEARN's Prof Wesley Imms and A/Prof Julia Morris. They will work closely with a management team including a manager, two post-doctoral scholars, and industry representatives in South Africa, Europe and Scotland.

The Scientific Committee. As occurred in Phase 2, ILESE's progress will be monitored and advised by eminent academics in health and education, and practitioners in architecture and industry. At present, these include:

- Emeritus Laureate Professor John Hattie, Faculty of Education, The University of Melbourne.
- Professor Christine Imms, The Apex Chair of Neurodevelopmental Disabilities Research, Faculty of Medicine, The University of Melbourne.
- Dr Anneke Grobler, Biostatistician, The Murdoch Children's Research Institute.
- Richard Leonard, Director, Hayball Architects.

Partner Investigators (The Academic Alliance). ILESE is being supported by academics in the following institutions and countries, outside Australia and New Zealand. During Phase 2 this group provided academic advice. They supervised the pilot study in their region and assisted with translations, ethics, and collecting data in schools. While this alliance was for Phase 2, continued support is anticipated.

Iceland University
Iceland



University of Valencia
Spain



University of Lisbon
Portugal



University Edinburgh
Scotland



Humboldt University
Germany



Royal Academy
Denmark



Harvard University
USA



University of Westminster
England



University of Bologna
Italy



University of Pretoria
South Africa



Costs

Partner Organizations will negotiate separate 3-year contracts with ILESE. These are anticipated to be finalised by the end of 2024, with yearly invoices being scheduled during the negotiation process. LEARN at The University of Melbourne will be the primary host organisation, but the co-host will be Edith Cowan University. Contracts will be signed with either of these organisations, but each fall under the banner of the LEARN group for this project.

The preliminary budget is as follows. Year 1 is estimated to cost AUD\$1.3M, as it will carry the burden of fieldwork and preliminary ARGO development. Year 2 is estimated to cost AUD\$882,000 a lower cost as the project will be relieved of expensive fieldwork but will carry the increased costs of analyses of data for Partner Organisations, and the setting up of 'in-depth' projects. Year 3 is anticipated to cost AUD\$660,000, with the primary costs being development of a sophisticated ARGO interface, and the costs associated with implementing in-depth projects.

Year 2 and 3 contributions may, with the permission of Partner Organisations, be in part applied to major grant applications – if these are successful, those Partner Organisation monies will be increased significantly by the major grant funding organisations.

Funding for each Partner Organisation will be negotiated independently as part of the contract agreements. The amount per organisation will vary depending on the scale of each Partner Organisation and their anticipated use of ARGO. It is estimated that the range of these costs may be between AUD\$30,000 to AUD\$150,000 per year.

What's next?

We created this Portfolio to help us start a conversation about your possible involvement in ILESE Phase 3.

ILESE is an ambitious and complex undertaking. It takes time to digest all this information and see how it overlaps your own priorities. So, we are keen to meet with you, to explain further and to explore possibilities. If you wish to do this, please contact Wes (wesleyi@unimelb.edu.au) so we can organise a time and place.

Our hope is to have the required support in place, and contracts well advanced, by mid-2025.