

Launching the CLAiRE (Constraints Led AI Redesign for Education) Open Toolkit

Contributors

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Aims & Objectives

- Share a newly developed set of open resources on the Constraints Led Approach (CLA) to AI aware pedagogy and curriculum development
- Share a proof of concept AI assistant that can help educators plan a CLA for their own context and learning outcomes
- Share a system prompt that can be used to do this work with your own AI assistant

Contribution Snapshot

Date and Timeframe

CLA research ongoing since 2024, the resources are in pilot phase

Focus

- OER creation/adaptation/remix/translation
- Open professional development / capacity building
- Open partnerships

Disciplines

- Education
- Health and Welfare
- Teaching and Learning

What level(s) of your institution does this work affect?

- Module level
- Across multiple modules
- Programme level
- Across multiple programmes
- Academic unit/school/faculty level
- Across multiple units/schools/faculties
- Across multiple institutions

Frameworks, Policies, or Strategies Aligned

- The HEA Generative AI in Higher Education Teaching & Learning: National Policy Framework
- NAIN GenAI Guidelines for Educators
- UNESCO AI Literacy Framework
- AISES assessment framework
- Two-Lane Approach Assessment Framework
- Constraints Led Approach

Overview

The velocity at which generative AI capabilities are developing tests our ability as educators to adapt to the challenges and opportunities that these systems bring, not only for our students, but also for our own work. Adapting curricula to ensure that our students develop both domain knowledge, and critical AI literacies throughout their programmes of study has become a major focus in higher education, and while there have been numerous AI literacy frameworks and guidance documents issued, advice on how to practically translate those to practice at either a module or course level has been lacking.

The CLA is a method that we have adapted from coaching theory, which has previously applied to skills development in multiple disciplines (e.g. law, nursing, medicine). The CLA consists of a simple model that recognises that individual, environmental, and task constraints triadically interact to produce affordances that influence learning. Educators can manipulate both the environment and tasks to create affordances that influence how students will interact with AI in their classrooms, guiding them towards a productive relationship with these powerful tools that have rapidly become a normalised part of their lives, and developing the domain knowledge they need to be able to use them safely and responsibly.

In this poster, we present the CLAiRE (Constraints Led AI Redesign for Education) open digital resource kit, which includes links to our publications on the project, workshop resources, planning resources, and beta access to the CLA Curriculum Assistant that can help in the design of assessment and learning activities aligned with the CLA approach. The CLA has been piloted in Ireland and Canada, and we are now looking to make the resources available more widely and to a broader range of disciplines. We believe that open access to these kinds of supports and knowledge sharing is more critical than ever as higher education tries to navigate and rapidly adapt to an AI-enabled world, perhaps the most significant disruptor we have ever collectively faced.

Quality/Scholarly Approach

The CLA concept has been peer reviewed in two publications (with two more in progress), undergone review as part of an REB application to allow us to collect data on its use, and has been presented to colleagues in Ireland and Canada in numerous workshops (plus an upcoming series of workshops at MTU and an invited workshop at the University of Highlands and Islands as part of their T&L conference). The digital resources are a new addition to the body of work, and will provide opportunities to gain more feedback on the approach and how it is supported.

Useful Resources

- <https://constraintsledai.org/>
- <https://claireapp.constraintsledai.org/>

Open Outputs

The CLAiRE website and associated resources are openly licenced (CC BY-NC) OERs that can be adapted and reused.

We prefer to publish our research in open access publications where possible (though acknowledge that we were not able to pay for the open access fee for our initial book chapter on the topic and the publisher does not allow pre-prints to be shared in institutional repositories).

Impact and Evidence of Success

We have preliminary data from piloting the CLA, with data collection ongoing. We are in the process of expanding the pilot to one whole faculty at MTU and several departments at the University of Windsor. As the CLAiRE site and open resources are brand new, we don't yet have usage data on them, but approximately 40 educators at MTU and 80 at UWindsor have been introduced to the CLA concept, with draft versions of several of the resources shared with them during these sessions. More workshops are planned for May and June to expand access to the resources.

Future Plans and Sustainability

The site and resources will continue to be developed as the approach and resources mature, and as we collect evidence of use. The CLAiRE app is in a proof of concept/prototype stage at the moment. Ultimately, we think that making the system prompt available means that the primary use will be with an individual's local AI, rather than as a full service application running indefinitely. The entire setup needed to deploy the application locally in a hosted service will also be released for those who have API access or ability to run open models locally.

Top Tips

1. When developing an AI assisted application, there are multiple ways to make those resources available that require different investment. Sharing the system prompt so people can use their own AI preference, as well as the code for the full application for those who can host it locally increases flexibility of access and use
2. While it would be nice to be able to host an AI enabled application openly, the reality is that there are real costs to that use that start to mount immediately upon release, so you have to weigh the relative value of making the full service available over just giving the code to potential users
3. AI agents make ongoing development and updates of the OERs much more feasible as it can look across the collected resources and update them automatically, as well as building and deploying new features

