EDUCATE VENTURES RESEARCH

Educate Ventures Research is an **innovative boutique consultancy** and **training provider** dedicated to helping **education** organisations leverage **AI** to **unlock insights, enhance learning,** and **drive positive outcomes** and **impact.**

ROSE LUCKIN

The EVR team is led by Rose Luckin, Founder/CEO, and Professor of Learner Centred Design at UCL. Rose is an internationally respected AI and education Thought Leader, Author and Speaker, with 30 years in the AI for education industry.

What we do:

- **Online and in-person training:** to help professionals and organisations build AI capabilities, particularly those working in the education and training sector
  - **We've worked with: ASCL, COBIS, Hounslow Education Partnership, 3-18 Education Trust, Blue Kite Trust**
- **Consultancy services:** our team of data, AI and behavioural scientists work closely with clients to help them leverage AI effectively to enhance human learning
  - **We've worked with: Arizona State University, Nord Anglia Education, Cambridge, Singapore MInistry of Education**
- **Thought leadership:** we actively share our expertise through conferences, publications, and the acclaimed Edtech Podcast to advance the ethical use of AI to empower people
  - **We've worked with: Westminster Education Forum, Google, COP26, Open University, Kings College, OECD, Pearson, Chegg**

The EVR Difference

- **Specialist expertise:** in human learning and AI
- **Focus:** on the ethical, empowering applications of AI
- **Experience:** our clients range from schools and universities, to government agencies and EdTech companies worldwide
- **Evidence and impact:** each engagement is approached through an inclusive, evidence-based process focused on impact
- **Responsible innovation:** as sector thought leaders, we also advocate for policies and practices to promote responsible innovation in AI for education
- **"Everyone Learning All of the Time":** is our company motto, which means every team member is learning and upskilling for their benefit and for those around them

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CONTACT ROSE AND THE EVR TEAM

Would you like to stay informed on AI for Education news and insights or have a conversation with us? Visit educateventures.com or email hello@educateventures.com

TALK TO US
STAY INFORMED

RESOURCES: The EVR Resource Bank

- **Books:** including Professor Rose Luckin's 2018 free ebook, 'Machine Learning and Human Intelligence'
- **Courses:** including the AI Readiness Online Course
- **Diagnostic Tools**
- **Libraries:** including the EdTech research and webinar libraries
- **Research Reports:** including 'Beyond the Hype' and 'Shape of the Future'
- **Risk Assessments**

NEWSLETTER: The Skinny on AI for Education

- **Newsletter:** discover the latest insights at the intersection of AI and education from Professor Rose Luckin and the Educate Ventures Research Team. From personalised learning to smart classrooms, we decode AI's impact on education. We analyse the news, track developments in AI technology, watch what is happening with regulation and policy and discuss what all of it means for Education. Stay informed, navigate responsibly, and shape the future of learning with The Skinny.

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Educate Ventures Research: Case Studies

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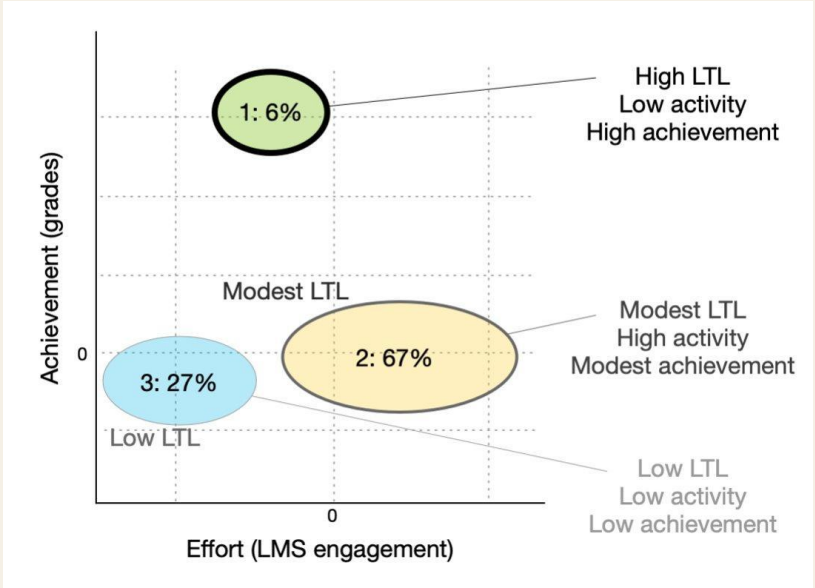
Arizona State University

Working with existing data to provide insights about Learning to Learn

Learning to Learn

We helped **Arizona State University** to **study student behaviour patterns** to better understand which students were better at **“Learning to Learn”** and why, by **developing an ontology that collated data signal** about students’ self-regulated learning capability.

Our project started with *workshops* and *interviews* with senior managers and faculty to confirm and conceptualise *‘Learning to Learn’* for ASU.*‘Learning to Learn’* (LTL) was defined as a process that starts before students arrive at ASU, develops through their time at ASU and continues after they graduate.



By applying **machine learning techniques** on student usage and demographic data, supplemented by data from surveys and forum discussions, we we were able to measure student self-regulation and identify unique student profiles (using clustering) with different *patterns of behaviour* in the profile groups (using *process mining*).

Zishi

Designing tools to support the recruitment and training of traders

AI for Trader Training

We helped Zishi to leverage the data they were

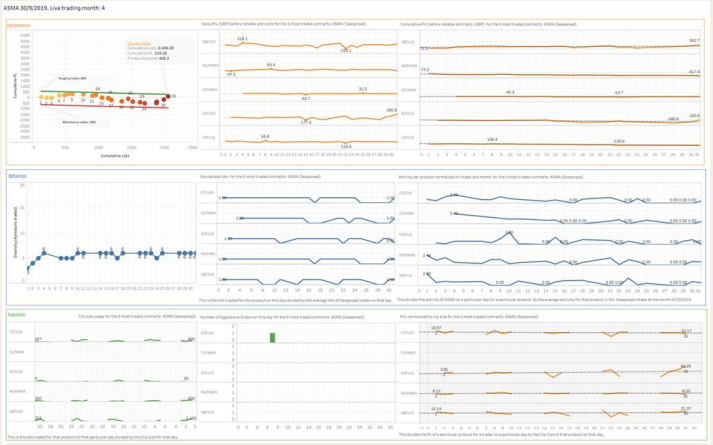
collecting about their traders to generate actionable intelligence that could be used to recruit, mentor and train their staff.

We began with a co-design process, where we first understood what trading actually looked like at Zishi.

A literature review was conducted focusing on concepts such as self-efficacy, self-regulation, competitiveness, personality traits.

Finally, a set of features were constructed that seeked to codify the typology and quantify it via the data available on the traders.

Index	Prediction Category	Prediction	Classes		
1	Performance	Profit and Loss	Class 1 <= 5000	Class 2 > 5000	
2		Contribution Per Lot	Class 1 <= £0.1	Class 2 <=£0.25	Class 3 >£0.25
3		Performance Bonus	Class 1 <=£500	Class 2 >£500	
4		Hard Stop Counts	Class 1 = 0	Class 2: > 0	
5	Behavior	Clusters	Class 1 = Cluster 1	Class 2 = Cluster 2	Class 3 = Cluster 3 or Cluster 4



We used a range of data sources including the log data from their trading system for 400+ traders, demographic data for the traders, as well as data from surveys. An ETL pipeline was set up that transformed the dataset into a smaller subset of enriched data including proxies of the identified features. A model was then created in order to study the different clusters of trading behaviours.

Using the aggregated features from the enriched dataset, as well as predictions from the model, a mentoring dashboard was created that showed the performance and metrics for different traders.

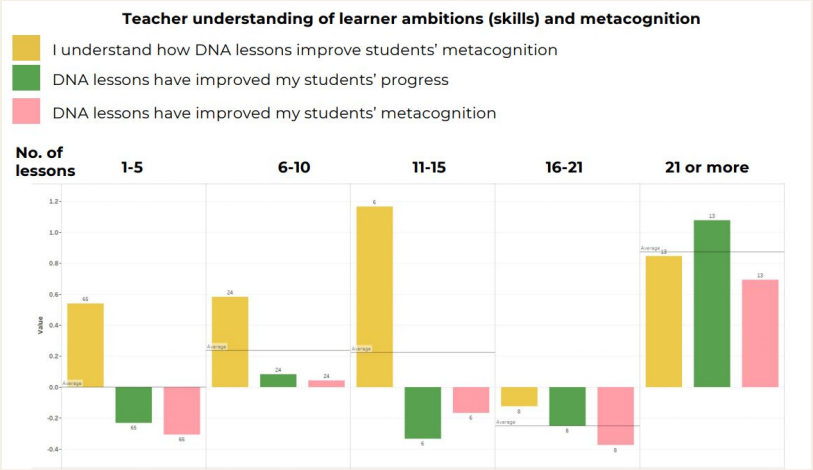
Nord Anglia Education

Designing, monitoring and evaluating AI in classrooms.

AI in classrooms

We helped NAE design and evaluate an innovative program intended to leverage data, technology and AI to “enable teachers to achieve better lessons and students to achieve better outcomes”. We choose to focus on measuring and fostering students’ metacognition - called the DNA Approach

The development of the metacognitive process was introduced through a scaffolding cycle. This was a process that students experienced over a course of approximately six weeks



Nord Anglia and Educate Ventures Research further collaborated in evaluating the implementation of Project DNA across 2 years.

The evaluation employed a mixed methods approach combining surveys, focus groups, interviews, and classroom observations to arrive at a multi-faceted understanding of participants' hands-on experiences with the DNA lessons.

EVR took an in-depth look into specific school contexts and circumstances in order to give NAE insights into the factors influencing the different ways in which the platform was adopted. In addition focus groups were recorded, anonymised, and transcribed with analyses identifying common themes.

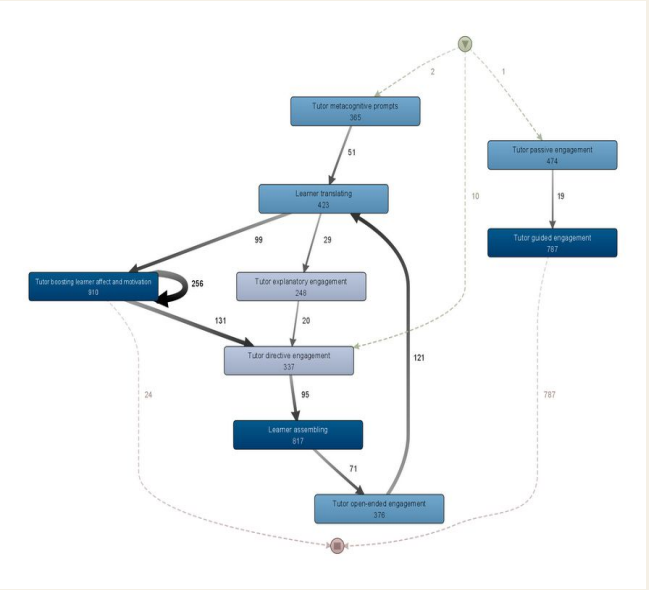
Third Space Learning

Exploring the use of AI and machine learning techniques to support human tutors

Supporting tutors with AI

Third Space Learning (TSL) provide mathematics tutoring services to primary school children, using a Virtual Classroom Environment. EVR helped TSL explore how it could use AI to monitor tutor performance, and provide targeted, timely support to its tutors.

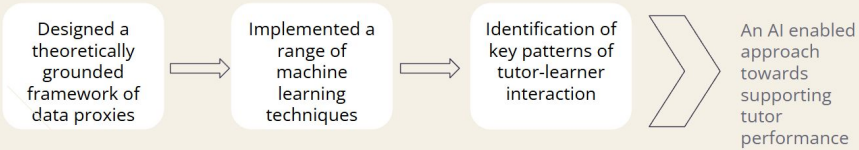
Following the development of the data framework, we used process mining to discover the latent processes underlying tutor-learner interactions. We found that high performing tutors adopt a structurally different approach towards tutor-learner interactions, in comparison to low performing tutors



We developed a machine learning model which distinguishes between high and low performing tutors, with respect to self-regulation which can enable an AI-driven approach towards tutor training and assessment.

We implemented machine learning techniques, such as pattern mining and decision trees, to identify statistically significant patterns of tutor-learner interaction

TSL is exploring how our model can be used as the basis for an intelligent approach, towards tutor training and assessment.



QAHE

Defining and measuring employability to develop student skills

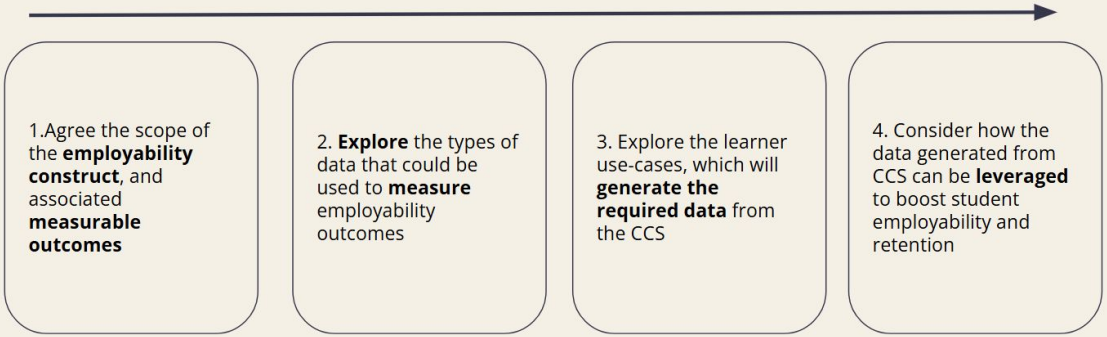
Defining and measuring employability

EVR assisted QAHE leverage data with the concept of an employability companion to help students identify and nurture the skills needed to succeed in the workplace. The goal was to support a diverse student intake, increase student retention and progression, and close the skills gap between work and education.

This was done with the design of a 'Course Companion' (CCS), by exploring the types of data that could be used to measure employability outcomes and the learner use-cases which would generate the required data.

Additionally, we considered how the data generated from CCS can be leveraged to boost student employability and retention.

We also recommended the creation of an 'Augmented Risk Register' for students, and measuring student attributes by applying machine learning on student data. For example, insight from the augmented Risk Register can be used to provide targeted support to learners. and enable universities to make data-informed modifications to their course structure, to boost retention. Tracking attributes of successful students can be used to support struggling students. It may also encourage student reflection and agency.



Ministry of Education Singapore

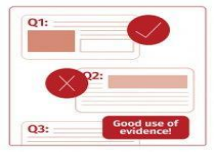
Customising learning and augmenting teachers professional development

Ministry of Education
SINGAPORE

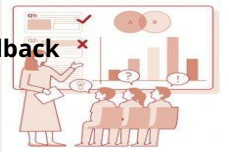
Enhancing learning using AI

MOE Singapore is developing AI-enabled features in the SLS to enable greater customisation of learning and augment teachers' professional practice.

The development of AI-enabled features in SLS aims to ensure that pedagogical considerations are built into them by design, all students have equitable access and additional guardrails are deployed for students to have a safe learning experience.

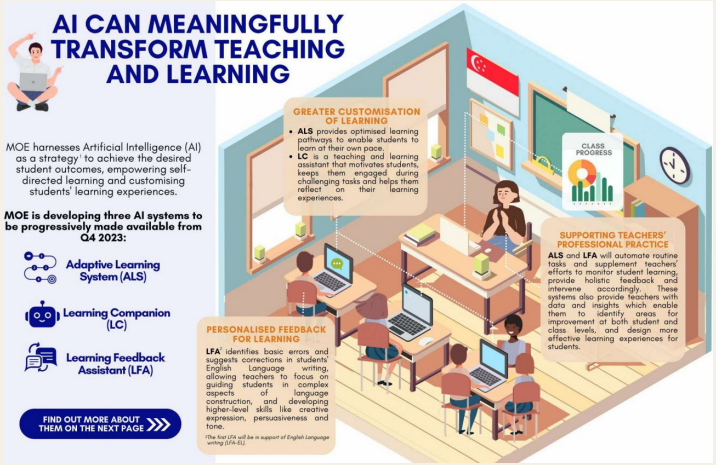


Learning Feedback Assistant



Adaptive Learning System (ALS)

Learning Companion



Educate Ventures Research has been engaged to support the MOE in developing their approach towards AI and data, aligned to key pedagogical outcomes.

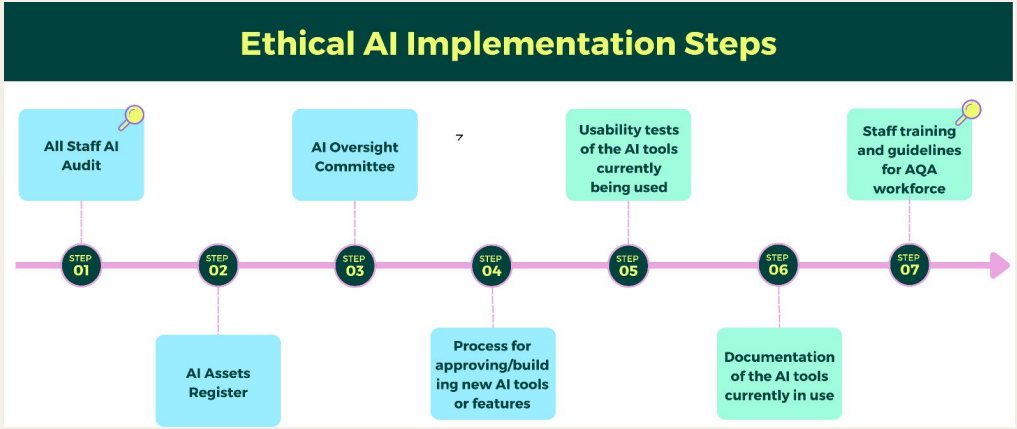
The project included developing a purposeful approach towards AI and data, taking into account the local context, challenges and opportunities. Defining key pedagogical outcomes (the 'Golden Thread') and developing a staged approach towards operationalising the Golden Thread through the current AI use-cases.

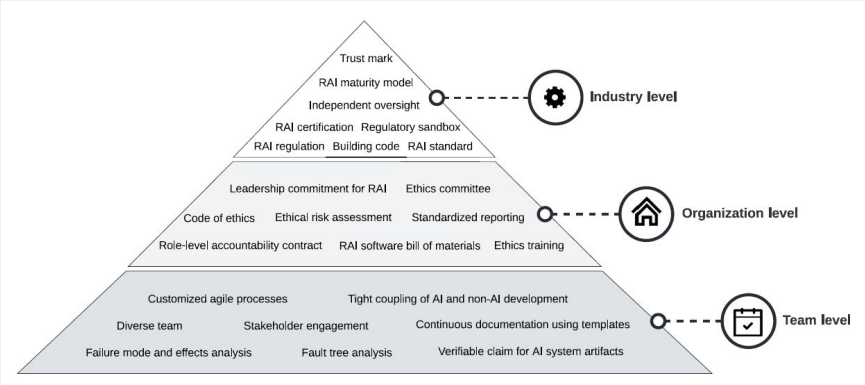
AQA

An Ethical Framework for AI in Assessments

Developing an Ethical AI Governance Framework

Eucate Ventures Research was commissioned by AQA to design an implementation roadmap for their AI ethical principles. Over the course of three phases, we refined the ethical principles and studied various examples of AI being used or introduced at AQA. We developed a comprehensive, actionable roadmap for the ethical deployment of AI within AQA designed to guide the responsible use of AI across all organisational activities, from assessment processes to administrative functions.





Across the three phases, we employed a structured methodology that included a comprehensive gap analysis, stakeholder engagement sessions, and practical testing of the refined ethical principles against live AI use cases. In addition to the roadmap, we developed a set of ethical principles, based on AQA values, to serve as a guide across AI implementations. We also presented a comprehensive set of recommendations designed to enhance transparency, accountability, and oversight of AI across the organisation - based on a framework with 4 core pillars: People, Processes, Oversight & Technology.