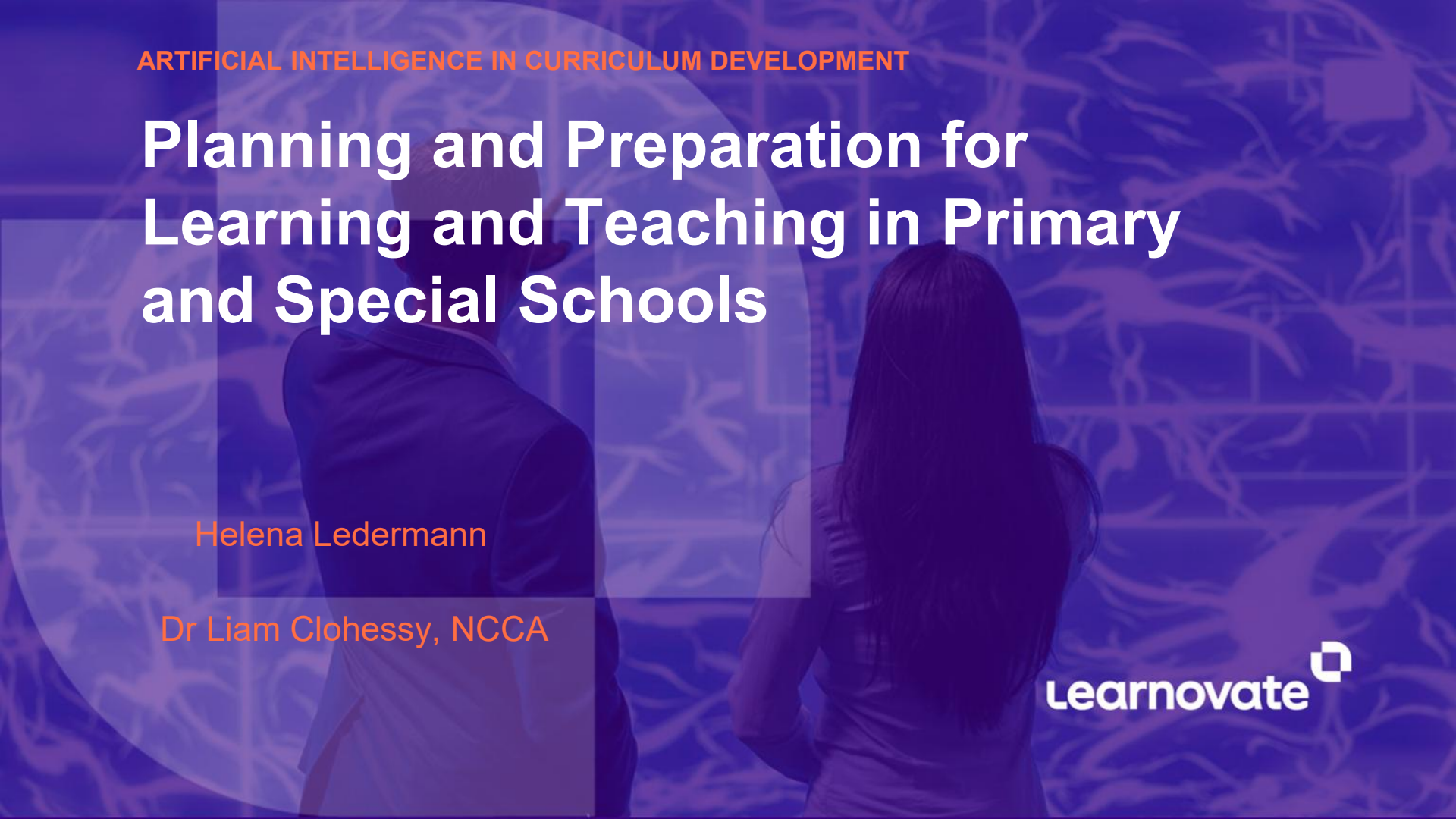
ARTIFICIAL INTELLIGENCE IN CURRICULUM DEVELOPMENT

Planning and Preparation for Learning and Teaching in Primary and Special Schools

Helena Ledermann

Dr Liam Clohessy, NCCA



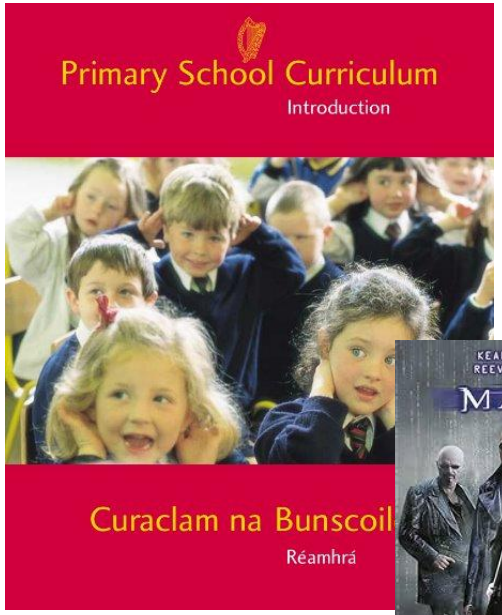
Agenda

What we will cover

1	**Purpose**	Why this review was commissioned
2	**Methodology**	How the evidence base was built
3	**Six success stories**	International cases, with a closer look at Aila and NSW
4	**What made them work**	Success factors, and the catch of conditions and cost
5	**Recommendations for Ireland**	Five lessons for primary and special schools
6	**Next steps**	What we propose to do next

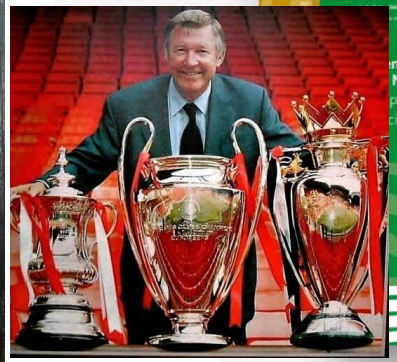
1

Purpose



1999 - 2025





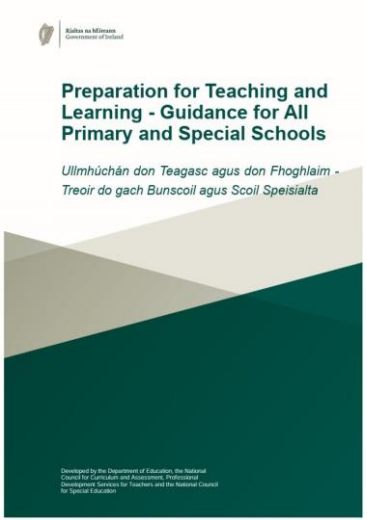


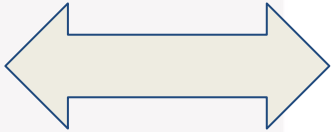
Learnovate

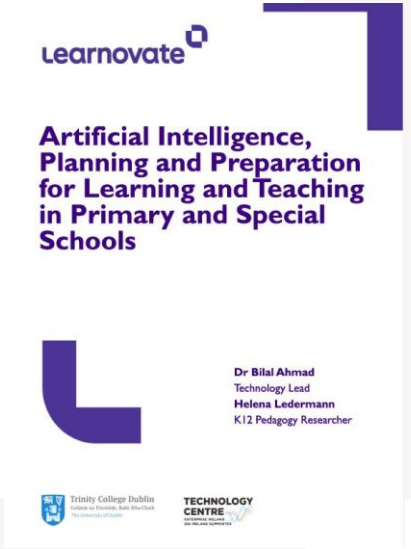
1

Purpose









NCCA
An Chomhairle Náisiúnta Curaclaim agus Measúnachta
National Council for Curriculum and Assessment

Learnovate

Research Question

How is the use of AI impacting the evolution of primary and special school teachers' curriculum design practices, particularly preparation and planning for learning and teaching?



SRQ 1: Policy & Frameworks

What legislation, policy frameworks, and guidelines govern AI-based curriculum design, and how can they support teachers' practice?



SRQ 2: AI Tools & Impact

What open-source and proprietary AI tools support curriculum design, and what is their impact on teaching and learning?



SRQ 3: Success Stories

What success stories or case studies exist from which we can derive learnings and recommendations?



SRQ 4: Ethical Alignment

How is AI currently used by teachers in Ireland and internationally, and to what extent does this align with ethical practices?

Research Question

How is the use of AI impacting the evolution of primary and special school teachers' curriculum design practices, particularly preparation and planning for learning and teaching?



SRQ 1: Policy & Frameworks

What legislation, policy frameworks, and guidelines govern AI-based curriculum design, and how can they support teachers' practice?



SRQ 2: AI Tools & Impact

What open-source and proprietary AI tools support curriculum design, and what is their impact on teaching and learning?



SRQ 3: Success Stories

What success stories or case studies exist from which we can derive learnings and recommendations?



SRQ 4: Ethical Alignment

How is AI currently used by teachers in Ireland and internationally, and to what extent does this align with ethical practices?

2

Methodology

A structured literature review

17	628	40	+5	45
seed studies	studies screened	selected	case studies added	in the final set

INCLUSION CRITERIA

- Primary schools
- AI used by teachers
- 2020–2025, peer reviewed, English
- Special Schools/SEN/AEN
- Bilingual

Learnovate

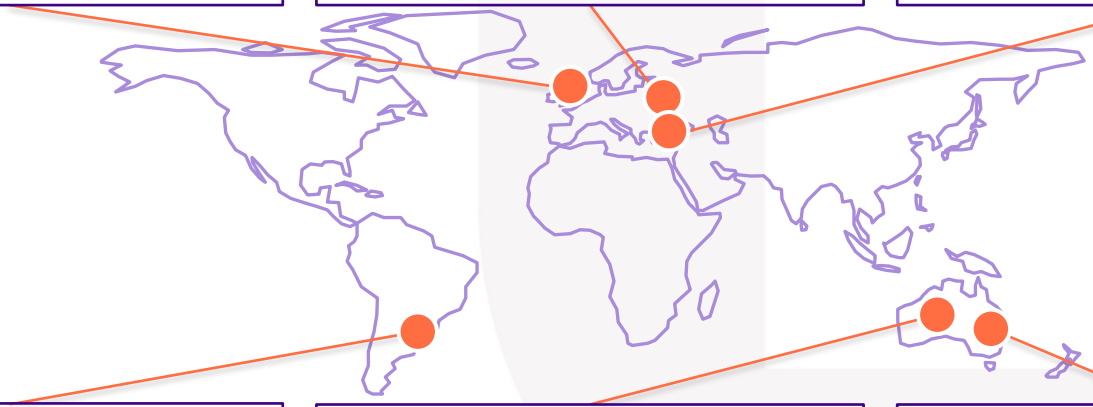
Six International Success Stories

Peer-reviewed cases from primary and K-12 settings

UK
Clark et al., 2025
Oak's Aila lesson planner
Government-backed; 4 guardrails

UKRAINE
Nezhyva et al., 2024
Literary-artistic AI content
138 trainee teachers; SEN focus

TURKEY
Ugras et al., 2024
ChatGPT in primary education
40 teachers; 4-week structured PD



URUGUAY
Jauhiainen & Guerra, 2023
Bilingual personalisation
110 pupils; 57% learned much

AUSTRALIA
Blundell, Mukherjee and Nykvist, 2025
K-12 teacher innovation
44 teachers; 77% self-taught

NSW
Hoare & Smith-Ferguson, 2025
Networked evidence-based PD
Free NSWEduChat for every school

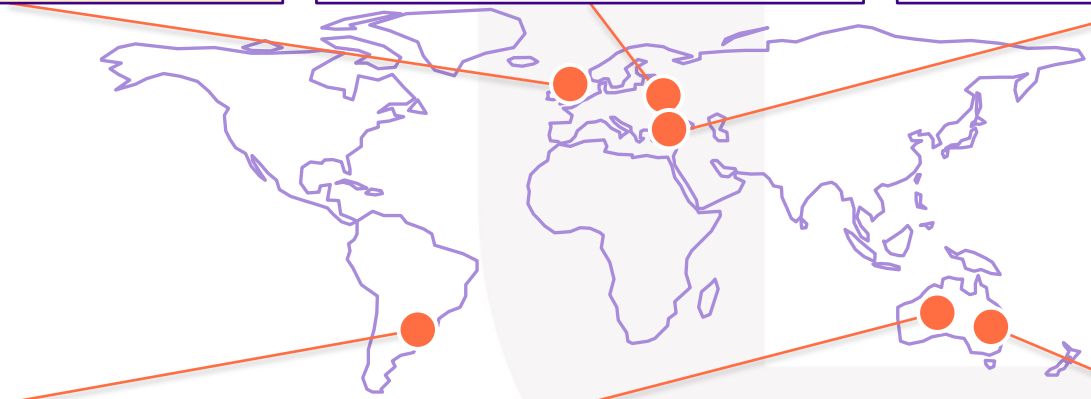
Six International Success Stories

Peer-reviewed cases from primary and K-12 settings

UK — CLOSER LOOK
Clark et al., 2025
Oak's Aila lesson planner
Government-backed; 4 guardrails

UKRAINE
Nezhyva et al., 2024
Literary-artistic AI content
138 trainee teachers; SEN focus

TURKEY
Ugras et al., 2024
ChatGPT in primary education
40 teachers; 4-week structured PD



URUGUAY
Jauhiainen & Guerra, 2023
Bilingual personalisation
110 pupils; 57% learned much

AUSTRALIA
Blundell, Mukherjee and Nykvist, 2025
K-12 teacher innovation
44 teachers; 77% self-taught

NSW — CLOSER LOOK
Hoare & Smith-Ferguson, 2025
Networked evidence-based PD
Free NSWEduChat for every school

Aila: Four Layers of Safety

The UK's government-backed lesson planning assistant

1

Prompt engineering

Codifies pedagogy and cognitive science so outputs stay curriculum-aligned.

2

Input threat detection

Flags manipulative, inappropriate or malicious prompts

3

IACMA moderation

An independent AI agent rates output safe, content guidance or toxic; toxic is blocked.

4

Human in the loop

The teacher reviews, adapts and approves before pupils see anything.

Designed to co-plan with teachers, not for them.
Users reported saving 1–15 hours per week; a lesson plan drops from ~30 to 5–10 minutes.

(Clark et al., 2025)

3

NSW: A Network Approach to AI

Six success factors from Hoare and Smith-Ferguson (2025)

1 Strategic leadership

Department and school leaders prioritised explicit teaching

2 Collaborative TPL

School-based sessions led by experienced leaders

3 Evidence-based pedagogy

AI prompted with research; guided inquiry and socratic style questioning

4 Teacher agency

Teachers lead, critique and validate outputs

5 Differentiation and equity

Free NSWEduChat for every networked school

6 Efficiency and AI literacy

Less planning and admin time; shared prompts; peer support

95% expected time savings **100%** would recommend the PD *Self-reported by early adopters*

Learnovate

What Made Them Work?

Six factors around one principle

Efficiency

Up to 15 hours saved weekly (Aila)

Personalisation

Content matched to level and lifted motivation

Teacher agency

Teachers validate every output

Teacher-led AI

AI supports, teachers decide

Professional development

Structured, school-based, networked

Evidence-based pedagogy

AI positioned with research (NSW, Aila)

Safety guardrails

Layered and embedded from the start

The Catch: Conditions and Cost

Success came with resources most schools lack

GOVERNMENT INVESTMENT

Oak National Academy: AILA

£2m + £43m

UK funding for lesson planning and curriculum development

(Clark et al., 2025)

NSWEduChat

$3.7m

Developing NSWEduChat Platform in-house

NSW Legislative Council, (12 May 2025): https://www.parliament.nsw.gov.au/hp/housepaper/30518/QuestionsAndAnswers-LC-494-20250512-Proof.pdf

Five Recommendations for Ireland

Lessons from the international case studies

1

Invest in professional development

Structured, sustained, school-based and networked

2

Keep teachers in the loop

Review, contextualise and adapt every output

3

Put equity first

Universal access for rural, Gaelscoileanna, DEIS and special schools

4

Build safety guardrails

Layered safeguards for teachers

5

Research the gaps

Pilot studies in special schools and Irish-medium settings

Next Steps

Research

- Teachers
- School leaders
- Stakeholders

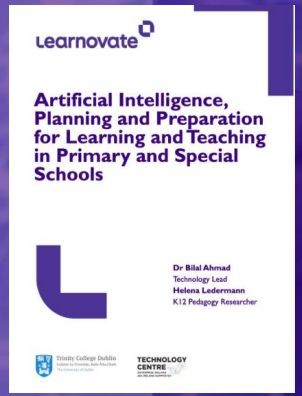
+

Development

- Solution design
- High fidelity model
- Prototyping

Thank you

Request access to the full report:



Learnovate