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Upskilling Government Officials and School Leaders in AI

Foundational Literacy, Fundamental Concepts and Key Policy Considerations

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Generative AI for Policy Makers and School Leaders

HP Cambridge Partnership for Education EdTech Fellowship

Course covers:

1. Foundations of AI
2. Frameworks and Policies
3. Ethics, Inclusion & Equity
4. AI and Assessment
5. Implementation & Technical Infrastructure
6. Capacity Building
7. Implementation & Impact Measurement
8. Open Source Models

Why Upskilling Matters

Rapid AI Integration in Education & Governance Required

Budget Implications of Implementation/Non-Implementation

Informed Decision-Making for Policy & Practice

Bridging **Ethical, Pedagogical & Tech** Gaps

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AI Literacy

Foundational AI Concepts

AI literacy means knowing how AI models are trained using large data sets and why they behave in specific ways.

For instance, machine learning looks for patterns; neural networks mimic the brain's structure in a simplified way.

Recognising AI in Everyday Tools

We encounter AI daily: voice assistants, language translation tools and social media content filtering

Ethical & Responsible Usage

Ethical considerations are paramount—policies must address bias, responsible data use, diversity and inclusion.

Evaluation Frameworks for AI Tools

Is it accurate?

Does it maintain the integrity of education?

Is it being used responsibly?

Is it suitable for your context?

AI Fundamentals

Statistical Pattern Recognition vs. True Comprehension

Large Language Models, such as ChatGPT, use statistical patterns to generate text.

They mimic comprehension but do not 'understand' as humans do.

Hallucinations & Verification

LLMs can be confident but wrong, human oversight is essential.

Leaders should prioritise training teachers and staff on fact-checking and verifying AI outputs

Multimodal AI Evolution

AI is quickly moving beyond text; multimodal models handle text, images and even voice.

Educational Implications

New opportunities for teaching—analysing student-drawn diagrams or assessing pronunciation in language learning

New complexities for policy regarding copyright, privacy, and cultural sensitivity.

Key Policy Considerations (Drawn from 5 Countries)

Student Use & Academic Integrity - All five countries permit AI use for learning but ban direct substituting AI-generated work.

Teacher Professional Development - Ongoing training to identify AI misuse, design AI-resilient assessment, use AI for lesson planning

Data Privacy & Security - prohibit uploading personal student data to public AI services and must comply with national data protection policies

Equity & Inclusion - systems can accommodate local languages language and cultural contexts to avoid marginalising students.

Policy Review - All five countries have established mechanisms for regular policy updates as AI technology evolves

Student Use & Academic Integrity — Deeper Look

Policymakers should outline what counts as acceptable vs. prohibited AI usage. For instance, using AI for brainstorming might be allowed, but submitting AI-generated text as one's own is not.

Encourage "transparency by design"—requiring students to cite or declare AI use, treating AI like any other reference source.

Many systems are moving away from traditional take-home essays toward in-class, oral or supervised tasks where students can demonstrate authentic work.

A successful example is New Zealand's shift to portfolio-based assessments that track student progress over time rather than single-point assignments that are easily completed by AI.

Teacher Professional Development

Cambridge is training STEM teachers on how to use AI tools to enhance learning

AI Literacy Training

Teachers should understand AI fundamentals, ethical considerations and how to evaluate AI outputs for bias or inaccuracy.

Pedagogical Integration

Know how to blend AI into lessons—e.g., using AI-driven tutoring platforms responsibly or employing AI for routine grading while maintaining oversight.

Piloting before Scaling

- Japan's model schools have demonstrated 22% improvements in teacher efficiency and student engagement through gradual AI integration.

Implementation Timeline

- Short-term Awareness: Training and basic AI literacy
- Medium-term: Tool-specific training and classroom integration
- Long-term: Advanced applications and curriculum redesign

Data Privacy, Equity & Inclusion

Privacy and Security	Equity & Inclusion
• National Privacy Compliance (POPIA) • Vendor Approval Processes • Prohibiting Student Data Upload • Data Governance Framework	• Bridging Infrastructure Gaps • AI for Diverse Language Needs • Addressing Potential Bias • Supporting Students with Disabilities • Addressing Home Access Disparities

Measuring Impact

Cambridge is running an impact assessment on the introduction of AI tutors into schools in the Gulf

Establish clear metrics for success, including:

- Teacher confidence with AI tools (surveys)
- Student outcomes in AI-integrated classrooms
- Administrative efficiency gains
- Equity of access and outcomes across demographics

Data Collection and Measurement:

- Implement regular assessment of AI literacy among staff
- Track AI tool usage patterns and learning outcomes
- Conduct audits of AI outputs for bias and accuracy
- Combine quantitative metrics (test scores, usage data) with qualitative insights (teacher interviews, student feedback)

Establish regular review cycles to assess implementation
Create feedback loops between classrooms, administration and officials
Use findings to refine policy and approaches

Recommendations for Next Steps

Description	Description	Priority
Establish Clear Usage Guidelines	• Publish national or provincial guidelines that clarify permissible uses of AI in classrooms and require transparency for AI-generated content.	**HIGH**
Redesign Assessments	• Move toward "AI-aware" assessment formats—oral defences, project portfolios, or time-bound tasks that value critical thinking and authentic engagement over rote memorisation.	**MEDIUM**
Strengthen Teacher Training	• Provide ongoing professional development focused on AI literacy, ethical usage, detection of AI misuse and data protection.	**HIGH**
Mandate Privacy Safeguards	• Enforce strict data privacy measures and contractual obligations for vendors. • Encourage risk assessments before tool adoption.	**URGENT**
Promote Equity & Inclusion	• Ensure policies address resource gaps, especially for rural, underserved, or differently-abled learners. • Require localised AI solutions that handle multiple languages and cultural contexts.	**ONGOING**
Engage Stakeholders, Review Policies	• Involve teachers, students, parents, and industry partners in shaping guidelines. • Regularly update policies as AI evolves—technology will continue to move faster than regulations if we don't keep pace	**MEDIUM**

Call to Action

AI is **Here to Stay** – We Must Be Proactive

Upskilling Enables **Responsible Innovation**

Collaboration Is Key – **Partner** with Cambridge

First Steps to Take Now:

1. Run an **AI literacy assessment** for your department or school leadership team. Use Cambridge's **AI Readiness** framework.
2. Establish a working group on **AI policy**
3. Identify **pilot schools** or departments for initial implementation
4. Decide on a few tools to test. Use Cambridge's **framework to evaluate** the appropriateness of the tool.

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Thank you

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