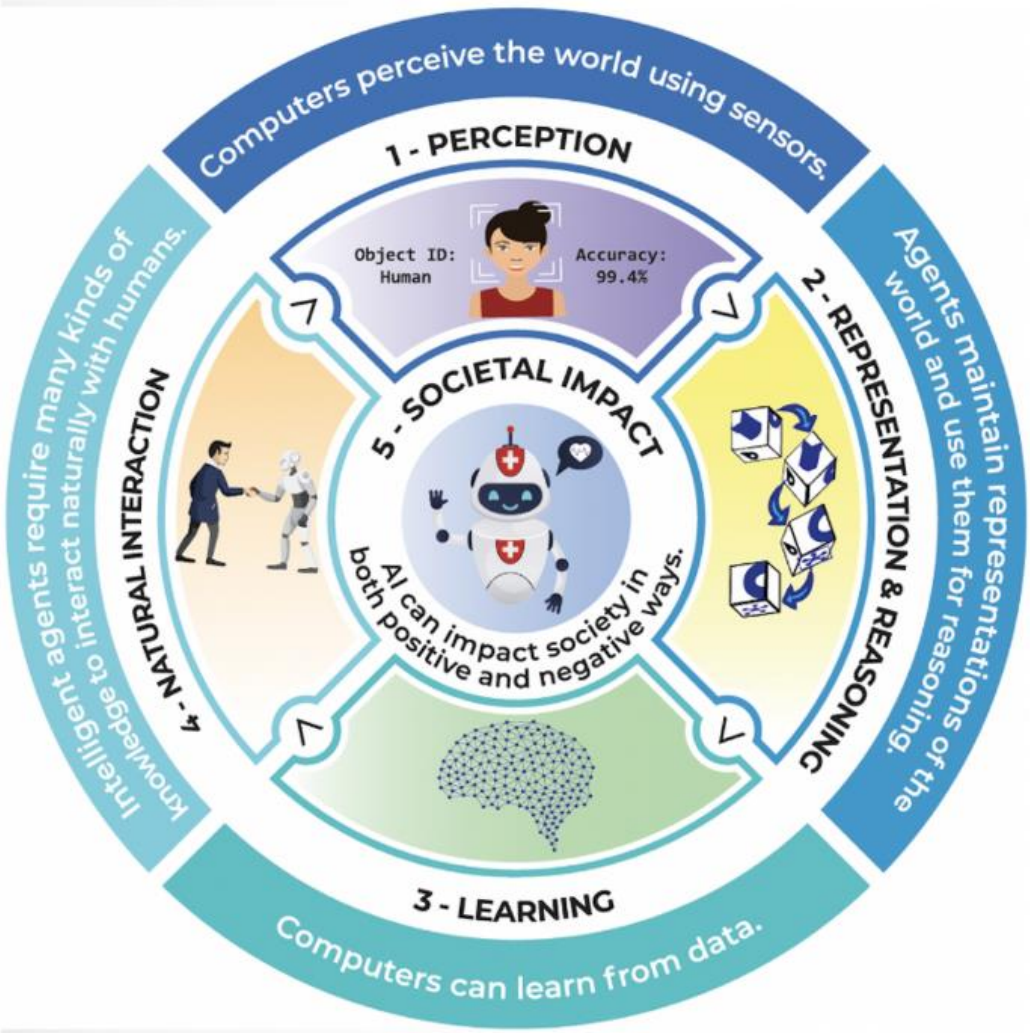
Global Foundation, Local Research and Advocacy

A Policy Path to Ethical AI Integration into Academic Institutions in St. Kitts/Nevis & the Region



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1. Executive Summary/ Strategic Implementation Pathway

This policy emerges from rigorous analysis of global A.I frameworks; UNESCO's A.I guidance for policymakers, the European Commission's Ethical Guidelines on AI in Education (2022), local research & the E.S.P. While both frameworks affirmed human-centered, equitable AI adoption, the EU Commission's operational focus on classroom-ready tools and end-user safeguards provided a more favourable foundational entry structure. Additionally, there were key synergies identified between this policy's direction and the ESP such as capacity building (14.1 page 60) while also identifying and addressing policy gaps such as data consent and A.I specific infrastructure/tools.

The European Commission framework, therefore, forms the operational backbone of this policy, leveraging its actionable protocols for assignment design, disclosure, and verification (p.18–24) to enable rapid, low-friction adoption. This pragmatic foundation activates the visionary **Digital Literacy Labs Initiative**, transforming traditional library (or computer lab) spaces across all primary and secondary schools into dedicated "AI Literacy Hubs." These hubs will essentially bridge digital access with ethical AI competency via frameworks such as TPACK, through three EU-aligned pillars:

Mandatory AI Disclosure & Verification - Grounded in the EU's transparency protocols (pp. 18–21), this pillar mandates AI Declaration Forms for text-based assignments and requires teacher-led content validation to ensure academic integrity.
AI + IQ Validation Principle - Operationalizing the EU's human oversight requirement (p. 24), student-led inquiry validates all AI outputs, implemented through oral defences at the primary level and annotated revisions in secondary/tertiary education.
AI Literacy for All - Building on the EU's competency framework (pp. 30–32), libraries/labs become dynamic hubs for teacher professional development, student projects, and parent workshops, democratizing AI fluency.

Concurrently, UNESCO's Caribbean priorities and the foundation laid by local research and the ESP can guide our long-term evolution: Phase 2 (2026+) integrates UNESCO's cultural sovereignty and climate resilience modules. School labs would progressively adopt UNESCO's SIDS Community Learning Standards as technical capacity matures, underpinned by the strategic guidance of the E.S.P 15.1 (p.62).

2. AI Policy for Primary Schools (grade six and advanced students)

2.1 Text-Based Assignments & AI Use

- Teachers must design assignments requiring **direct textual analysis** (e.g., story summaries, character descriptions).

- **AI use permitted only for**:
    - Brainstorming ideas (e.g., generating story starters via MagicSchool AI).
    - Grammar/spelling checks (European Commission, 2022, p. 18).
- **Grading Protocol**:
    - 70% of marks for original student work reflecting text comprehension.
    - 30% for AI-assisted elements (e.g., vocabulary enhancement), with **mandatory "AI Declaration Form"** (Appendix A5).

2.2 AI Literacy Curriculum

- **Topics**:
    - "What is AI?" (interactive games demonstrating pattern recognition).
    - "AI as a helper tool" (e.g., using speech-to-text for reading support) (Ng et al., 2021, p. 4).
- **Training**:
    - Teachers: Regular workshops on age-appropriate AI tools.
    - Parents: Library digital literacy lab sessions on monitoring child AI use (UNESCO, 2023).

2.3 Implementation Oversight

- **Monitoring**: School AI coordinators audit assignments quarterly.
- **Penalties**: Undisclosed AI use results in assignment revision + parent meeting.

3. AI Policy for Secondary Schools

3.1 Text-Based Assignments & AI Use

- Assignments must require **critical synthesis** of multiple texts (e.g., argumentative essays).
- **AI use permitted for**:
    - Research scaffolding (e.g., AI-generated outlines verified with sources).
    - Draft feedback (Turnitin, 2023), but final submissions must show **annotated revisions** reflecting student analysis.
- **Grading Protocol**:
    - AI-derived content exceeding 20% without disclosure = automatic grade reduction (European Commission, 2022, p. 21).

3.2 AI Literacy Curriculum

- **Topics**:
    - Bias in algorithms (e.g., analyzing gender stereotypes in AI outputs).
    - Prompt engineering for research (Ng et al., 2021, p. 7).
- **Training**:
    - Teachers: Certification in AI ethics and detection tools (e.g., GPTZero).
    - Students: Library "hackathons" designing AI solutions for local challenges (OECD, 2021).

3.3 Implementation Oversight

- **Detection**: Turnitin AI screening for all submissions.
- **Appeals Process**: Students may defend work orally if AI detection exceeds thresholds.

4. Appendix

A1: Alignment with European Commission Guidelines (2022)

Policy Section	EC Guideline	Page
Teacher oversight in grading	"Educators retain final assessment authority"	p. 18
Student AI declarations	"Transparency obligations for AI-generated content"	p. 21
Library literacy labs	"Community-centered digital learning spaces"	p. 32
Equity in AI rollout	"Prioritize underserved regions in implementation"	p. 28

A2: Budget Allocation *(USD)*

Category	2025	2026	2027	Total
Teacher Training	$120,000	$250,000	$100,000	$470,000
Software Licenses	$35,000	$75,000	$50,000	$160,000
Library Labs	$200,000	$150,000	–	$350,000
Total	**$355,000**	**$475,000**	**$150,000**	**$980,000**

Budgetary Notes:

1. Teacher training costs can be greatly reduced by initial training of school library staff who would strategically train/motivate the teachers.

2. Software licences costs can also be greatly reduced or eliminated by using the free A.I tools listed (A6. 1-3)

A3: ADDENDUM – Adoption Strategy for Library assistants & Teachers

Section A3.1: Role-Specific Lab Implementation

To drive effective adoption of the new Digital/AI Literacy Lab environment, implementation follows a role-based strategy prioritizing initial foundational support and strategic pedagogical integration.

1. Mandatory Adoption by Lab Assistants

- **Requirement**: All Lab Assistants must utilize the new lab system (including AI tools, digital resource management, and equipment booking) for all daily operations starting on launch date.
- **Rationale**: As operational anchors, mandatory adoption ensures lab fluency, maintains seamless access to digital resources, and builds support capacity.

A3. 2: Phased Adoption by Teachers

- **Approach**: Teachers adopt tools in phases *only after completing competency training* in AI/digital pedagogy and TPACK framework. Cohorts can be launched by department/volunteer group.
- **Training Focus**: Sessions on AI tool integration, digital resource curation, TPACK framework for delivering content and best practices for lab-space pedagogy.
- **Rationale**: Ensures pedagogical readiness, minimizes instructional disruption, and leverages peer learning.
- **Phased Support**: internal or external trainers, based on final strategic plan.

To accelerate voluntary adoption of the Digital/AI Literacy Lab, administrators will:

Embed A.I tools into Existing Workflows, **Leverage Peer enthusiasm/Leadership** - **"Lab Mentors"** to demo tools, **Visible Administrative Advocacy** and **Lower Barriers to Entry**: sample prompt templates for basic tasks.

A4. Risk Mitigation Strategies

Risk Category	Mitigation Action	Policy Reference
Teacher Adoption	Leverage Peer enthusiasm/Leadership	Appendix 3
	Establish protected "AI Sandbox Labs"	Section 3.2
	Launch "AI Pioneer" recognition program	EC Guideline p.32
Equity Gaps	Prioritize rural schools in Phase 1	EC Guideline p.28
	Provide satellite internet subsidies	Phase 1.3 (EdTech Task Force)
Student Misuse	Implement progressive penalties	Section 1.2
	Require reflection essays	Appendix D
Misinformation	Mandate dual-source verification	EC Guideline p.26
	Conduct "Fact-Check Fridays"	Section 2.1 (Teachers)
Tech Dependence	Require 30% non-digital assignments	EC Guideline p.14
	Hold quarterly "Analog Weeks"	Phase 3.1 (Academic Coordinators)

Note: Each implementation site would present different risks that would be identified in research prior to implementation. These risk categories can be used in research, however if new risks are identified, seek guidance if applicable from the policy or appendices.

A5: AI Declaration Form Template

AI USE DECLARATION FORM

Ministry of Education, St. Kitts and Nevis

(Submit with all AI-assisted assignments)

Student Information

Name: _____

Class/Grade: _____ School: _____

Teacher: _____ Subject: _____

Assignment Title: _____

Submission Date: ___/___/_____

AI Tools Used (✓ all that apply)

[ ] ChatGPT [ ] Gemini [ ] Copilot [ ] MagicSchool AI

[ ] Grammarly [ ] QuillBot [ ] Other: _____

Purpose of AI Use (✓ all that apply)

[ ] Brainstorming ideas/outlines

[ ] Research assistance (sources/facts)

[ ] Draft development (initial text)

[ ] Language enhancement (grammar/vocabulary)

[ ] Editing/Revision

[ ] Data analysis

Original Work Declaration

"I confirm that _____% of this submission contains my original:

[ ] Text analysis [ ] Critical arguments

[ ] Conclusions [ ] Synthesis of ideas

AI was primarily used for: _____

_____"

Verification

Student Attestation:

"I verify this disclosure is complete and accurate per Ministry Policy ED-AI2025"

Signature: _____ Date: ___/___/_____

Teacher Acknowledgement:

"Received: ___/___/_____ AI use consistent: [ ] Yes [ ] No"

Initials: _____

► Policy Reference: Required for >10% AI-assisted content

► Non-disclosure may result in revision requests, grade reduction, or disciplinary action.

A6. 1: Free AI Tools for Primary Education

Tool & Purpose	URL	Key Features
Scratch Jr (Coding/Creativity)	scratchjr.org	Drag-and-drop coding for storytelling & games
Google Read Along (Literacy)	readalong.google	Speech recognition reading practice with Diya AI tutor
Duolingo ABC (Phonics/Literacy)	duolingo.com/abc	Adaptive phonics lessons with instant feedback
PBS Kids AI Games (STEM)	pbskids.org/games/ai	AI-themed puzzles for critical thinking
AI for Oceans (Ethics)	code.org/oceans	Teaches machine learning basics through environmental activities

A6. 2: Free AI Tools for Secondary Education

Tool & Purpose	URL	Key Features
Khan Academy AI (Tutoring)	khanacademy.org	Adaptive math/science tutor with AI coach Khanmigo
Wolfram Alpha (STEM Research)	wolframalpha.com	Computational intelligence for math/science queries
Perplexity AI (Research Skills)	perplexity.ai	Source-backed Q&A with citation generation
Eduaide.AI (Lesson Planning)	eduaide.ai	Generates lesson plans & assignments with ethical prompts

Tool & Purpose	URL	Key Features
Teachable Machine (AI Literacy)	teachablemachine.withgoogle.com	Create ML models without codes

A6. 3: Free Cross-Grade Teacher Tools

Tool & Purpose	URL	Key Features
Diffit (Resource Leveling)	web.diffit.me	Adapts texts to any reading level instantly
Curipod (Interactive Lessons)	curipod.com	AI-generated slide decks with polls/discussions
MagicSchool (Teacher Support)	magicschool.ai	50+ tools for rubrics, IEPs, assignments
Canva Magic Write (Content)	canva.com/magic-write	AI writing assistant in presentations

A7. Key Differences of Frameworks Researched (E.U & UNESCO)

Aspect	UNESCO Guidelines	EU Commission Guidelines
Primary Audience	Policy-makers (especially Global South/SIDS)	*Educators/End-users* (EU member states)
Core Goal	Systemic equity and cultural relevance	Ethical implementation in classrooms
AI Perspective	**Macro**: National infrastructure, sovereignty	**Micro**: Daily pedagogical use cases
Developer Focus	Indirect (via policy recommendations)	Indirect (via ethics-by-design mandates)
End-User Focus	Ministry/school administrators	Teachers/students

Note: It was a result of these key differences that the strategic policy approach was taken to use the E.U Guidelines as a foundational, low barrier to implementation pathway and UNESCO's guidelines as medium to long term.

A8. Critical Additions to Data Protection Policy – AI/Digital Lab-Specific Provisions

Addition	Purpose	Legal/Operational Framework
1. Student Biometric Data Ban	Prohibit collection/processing of facial, voice, or behavioural biometrics in labs	Aligns with EU GDPR Art. 9 (special category data) + UNESCO ethics (p. 34)
2. AI Vendor Compliance Certification	Require third-party tools (e.g., ChatGPT Edu) to provide current: - GDPR/CCPA compliance reports - Data residency maps	Mandates proof of Caribbean data storage (e.g., AWS Barbados) per UNESCO SIDS sovereignty (p. 47)
3. Dynamic Consent Protocols	Replace passive opt-ins with: - **Granular permissions** (e.g., "Allow voice analysis for literacy app? Y/N") - **Session-specific expiry**	Implements EU "purpose limitation" (Art. 5(1)(b)) + adapts to minors' vulnerability
4. Algorithmic Impact Assessments	Conduct quarterly audits of AI tools for: - Bias (e.g., Creole dialect exclusion) - Accuracy (e.g., Caribbean history errors)	Operationalizes UNESCO's "algorithmic transparency" (p. 51)
5. Data Localization Mandate	Store all student-generated lab data: - On local MOE servers - With end-to-end encryption - Never in public AI training sets	Addresses UNESCO's "data sovereignty" imperatives (p. 42) and GDPR Art. 46

Addition	Purpose	Legal/Operational Framework
6. Lab Camera Prohibition	Forbid surveillance cameras in AI lab spaces	*Prevents unlawful monitoring per UNESCO's anti-surveillance stance (p.35)

Note: While some of these proposed amendments to our current data protection policy applies to the long term, addressing them now would pave the way for amendments/additions or omissions as new perspective arise and usage data is collected and analyzed during the implementation and functioning of the digital literacy labs initiative.

A9. Ethical A.I. Policy Pillars vs. ESP Linkages

(Page references from ESP 2017-2021)

Ethical A.I. Pillar	Support in Education Sector Plan (ESP)	Key ESP Sections & Pages
1. Equity & Inclusion	ESP prioritizes **bridging digital divides** (urban/rural, SES gaps) and mandates **assistive technologies** for learners with disabilities. This creates a foundation for equitable A.I. access.	- **SD 5.1** (p. 63): Tech access for all students. - **SD 4.1** (p. 54): Inclusive education via technology. - **SD 3.1** (p. 36): Curriculum tailored to diverse needs.
2. Pedagogical Integrity	ESP emphasizes **teacher agency**, **critical thinking**, and **technology as a tool**—not a replacement—for pedagogy. Directly supports human-centered A.I. use.	- **SD 5.1** (p. 62): Tech to *enhance* teaching. - **SD 3.1** (p. 36): Curriculum fostering "analytical skills." - **SD 5.3** (p. 65): Teacher training in tech *integration*.
3. Data Sovereignty & Security	While pre-dating modern A.I. concerns, ESP's focus on **digital infrastructure safety** and **system accountability** implicitly requires secure data practices.	- **SD 5.1** (p. 63): "Safe technology environments." - **SD 5.2** (p. 64): System monitoring & accountability frameworks.

Key Synergies

1. **Digital Literacy as a Gateway**
    - ESP's push for ICT/digital literacy (SD 3.3, SD 5.1) **enables A.I. readiness**. A.I. literacy needs the foundational of digital competence.

2. **Teacher Capacity Building**
    - ESP's teacher training mandate (SD 5.3) supports **ethical A.I. pedagogy** (e.g., training educators to audit A.I. tools, mitigate bias).

A 10. 1. Local Research

I did Local research on the impact of the one-to-one laptop programme on student learning outcomes. Digital Literacy was an outcome measured by the qualitative response of teachers. Teachers in that school expressed a need for additional training in ICT integration to optimize their use of technology in teaching. This support would be available not only by the introduction of the digital labs but via training in pedogeological frameworks such as TPACK, facilitating a structured delivery of content.

TPACK Applied to Librarian-Led AI Literacy

TPACK Component	Application to AI Literacy	Caribbean Implementation Example
Technological Knowledge (TK)	Understanding AI tools (e.g., ChatGPT, Teachable Machine) and their limitations	Librarians learn tools like **Perplexity AI** (low-bandwidth research) and **Canva Magic Write** (content creation)
Content Knowledge (CK)	Grasping core AI concepts: algorithms, bias, ethics, data literacy	Teach "Caribbean case studies" (e.g., hurricane prediction AI; biases in regional language datasets)
Pedagogical Knowledge (PK)	Designing age-appropriate, active learning strategies	**Primary**: AI storytelling workshops **Secondary**: Prompt-engineering challenges
Pedagogical Content Knowledge (PCK)	Teaching AI concepts *effectively* (e.g.,	Use "coconut tree" analogy: Roots (data) → Trunk (algorithms) → Fruit (output)

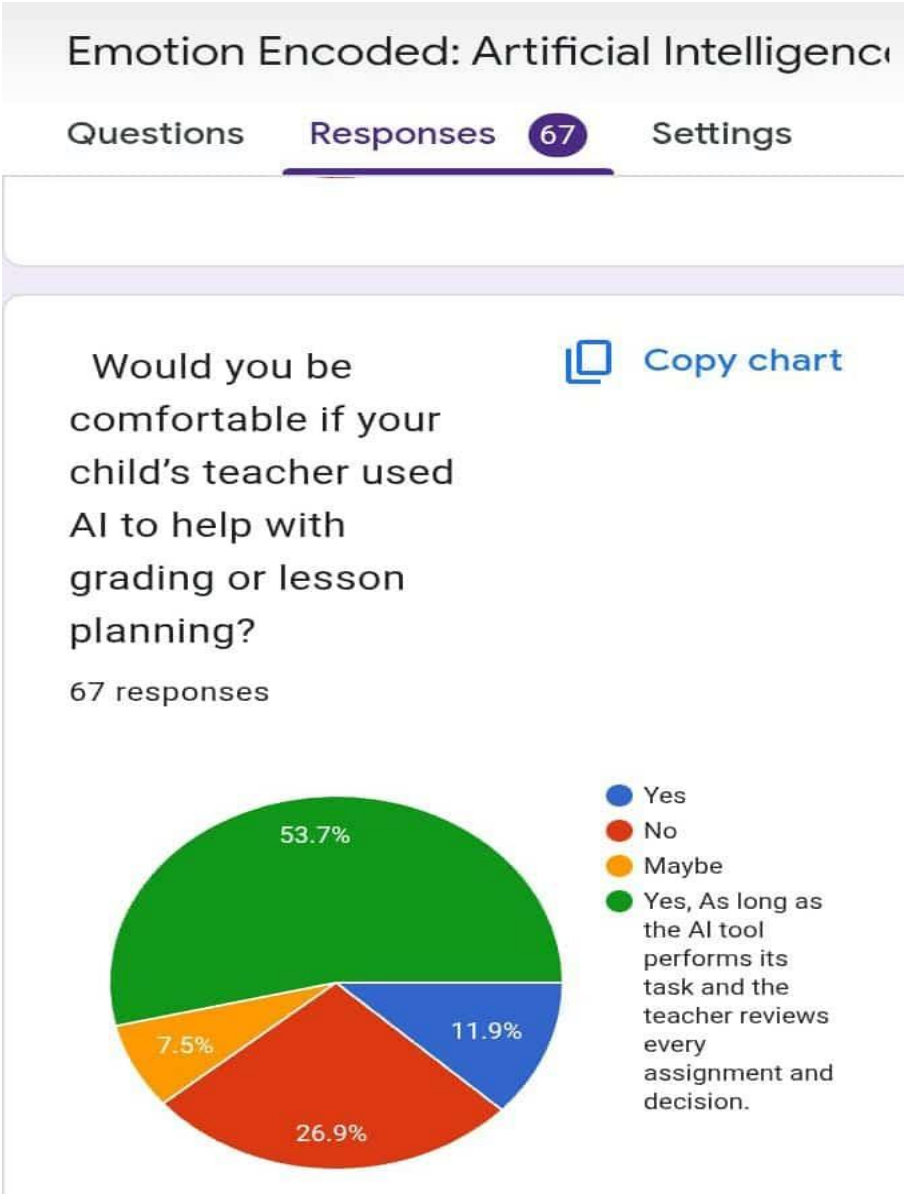
TPACK Component	Application to AI Literacy	Caribbean Implementation Example
	explaining neural networks via analogies)	
Technological Content Knowledge (TCK)	Evaluating AI tools for accuracy/cultural relevance	Audit tools for **Creole language support** and **Caribbean history representation**
Technological Pedagogical Knowledge (TPK)	Choosing tech that enhances learning (e.g., gamified platforms)	Use **Google's Teachable Machine** for hands-on ML model creation
Context Knowledge (XK)	Adapting to St. Kitts' infrastructure, language, and UNESCO priorities	Design offline activities for schools with poor connectivity; focus on climate-resilience projects

A10. 2. Local Research

Ms. Sonrisa Watts of Emotions Encoded also did local research that broadly targeted 67 parents (not in a dedicate school environment). The research suggests that many parents are not only aware of the possible use of A.I tools within the education sector but are also conscious of the fact the its ethical introduction and use must be priority.

Ms Watts holds a BSc in Phycology from U.W.I with first class honours and brings a valuable phycological perspective to the research needed to navigate the complexities and concerns about the use and impact of A.I on students/individuals in any sector.

Link to the entire article is in the references.



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