The Role of AI and Literacy in Driving Workforce Readiness

Saturday, June 21, 2025

Session Objectives

- **Understand** essential AI and literacy skills needed by the future workforce

- **Describe** how these skills are used across industries and roles

- **Explore** how education systems and adult learning can develop these skills

- **Identify** policy actions and strategies to support this work

- **Connect** AI and literacy insights to the Regional Graduate Profile and Economic Dashboard

The Time is NOW...

It's Time To Get Concerned As More Companies Replace Workers With AI

By **Jack Kelly**, Senior Contributor. ⓘ Jack Kelly covers career growth, job mar... ⌄ [Follow Author]

Published May 04, 2025, 09:52am EDT, Updated May 09, 2025, 10:03am EDT

BUSINESS

CEO warns AI could wipe out 1 in 2 white collar jobs in next five years

By Natalie Brown, News.com.au
Published May 31, 2025, 6:11 a.m. ET

💬 35 Comments

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The Time is NOW…

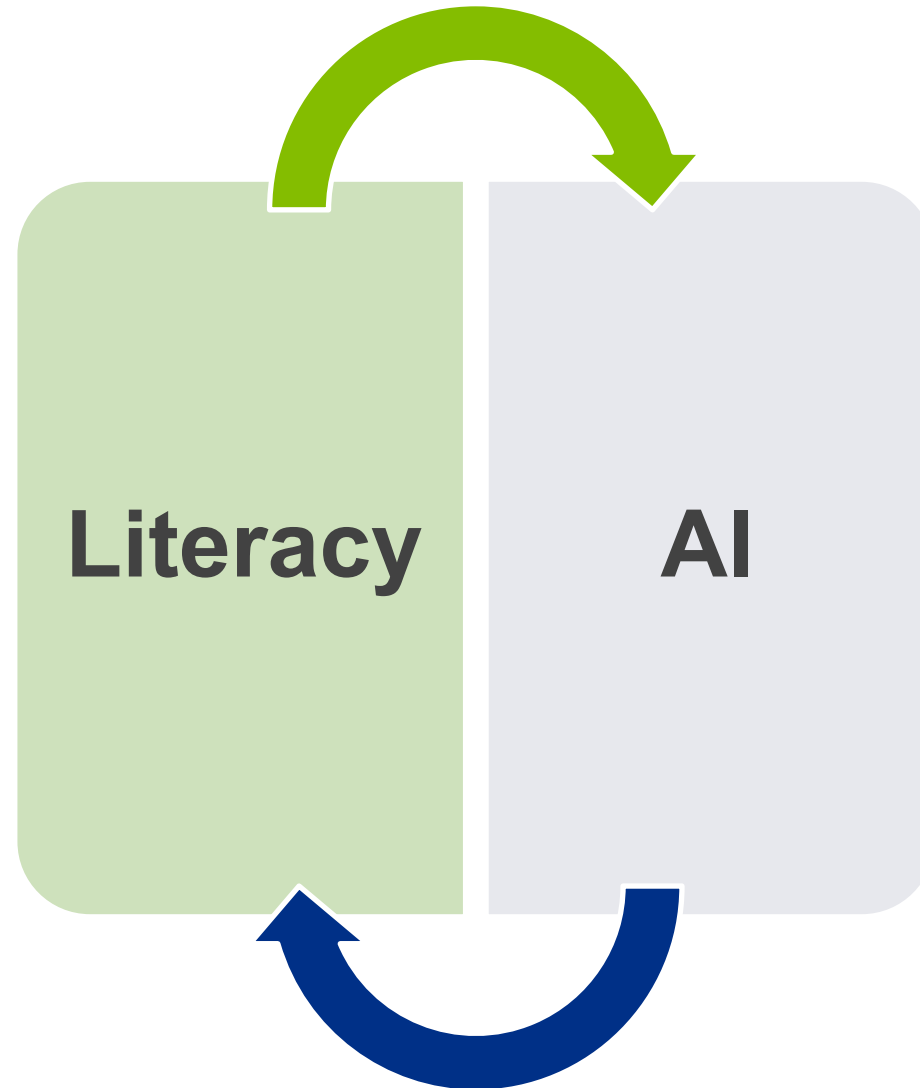The Impact of AI on the Job Market and Employment Opportunities
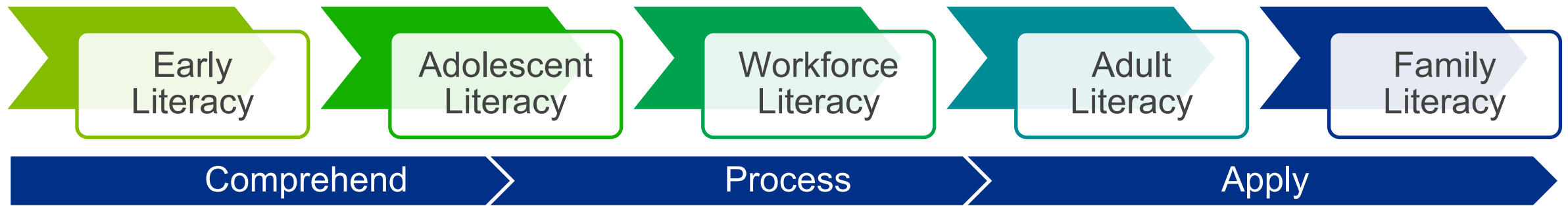
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AI at Work

- A logistics company using predictive AI to reroute deliveries during weather disruptions.

- A healthcare system using natural language AI to transcribe and summarize doctor-patient interactions in real time.

- A marketing team using generative AI to draft and personalize content for different audience segments.

- A manufacturing firm using AI-driven diagnostics to predict equipment failures before they happen.

An Essential Connection for the Future

Longitudinal Literacy

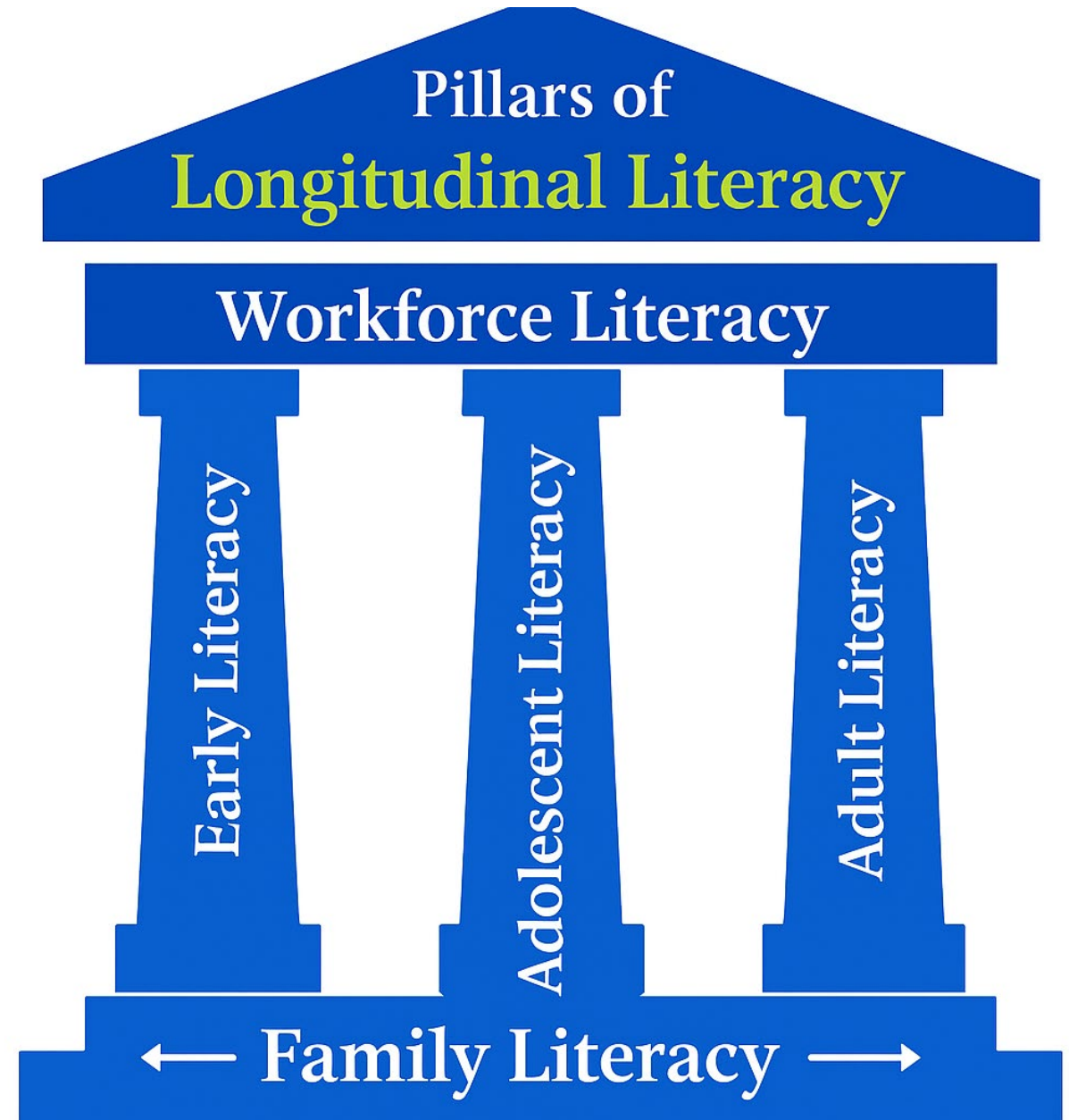| Early Literacy | Adolescent Literacy | Workforce Literacy | Adult Literacy | Family Literacy |

Comprehend → **Process** → **Apply**

Longitudinal literacy understands literacy as a continuous journey, with each stage playing a crucial role in shaping personal and professional success. It is a lifelong approach to learning that views literacy as a progression through **three interconnected skills: comprehending, processing, and applying information.**

Longitudinal Literacy

What is it?

- There are many types of literacies
- Literacy evolves as we age
- Literacy changes over time
- Pillars versus Foundation

Pillars of **Longitudinal Literacy**

Workforce Literacy

Early Literacy · Adolescent Literacy · Adult Literacy

← Family Literacy →

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# Exploring Longitudinal Literacy as a Workforce Driver

Hypothesis:

We will have a literate workforce if we ensure that students/workers/citizens master the crucial literacy skills of comprehending, processing and applying from cradle to gray.

The Process:

- Teachers collaborated with industry leaders to understand the demands of the workplace.
  - What do your employees need to be successful?
  - Where are our students falling short?
  - How can schools better prepare your future workers?
- Instructional activities were revised for workforce relevance.

The Results

- Teacher confidence in workforce-aligned instruction more than doubled

- Staff reported greater comfort with embedding scenarios, giving feedback, and co-planning with CTE teachers

- Over 80% of participating teachers reported a major shift in instructional mindset and relevance

- Students reported stronger confidence in being prepared for careers and/or college

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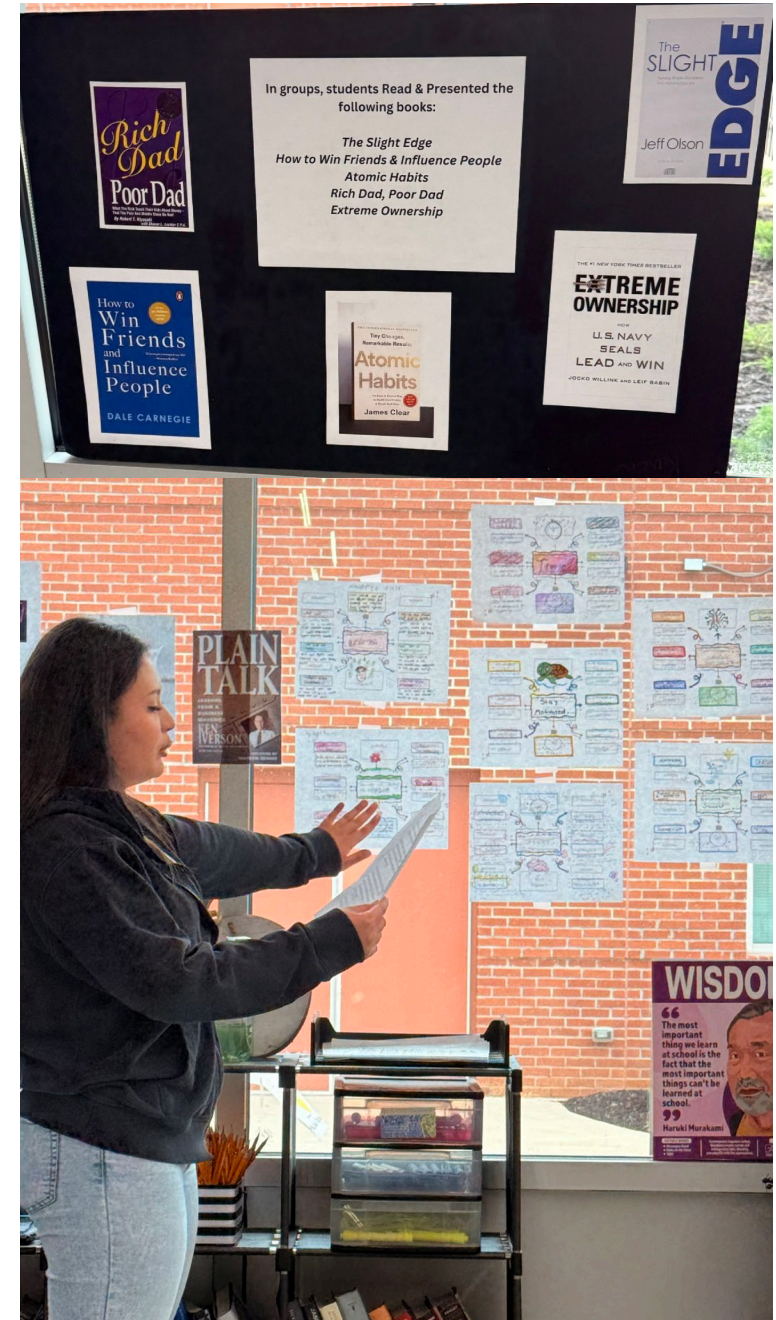
Exploring Literacy and the Workforce

David Steiner, PhD

Executive Director

Johns Hopkins Institute for Education Policy

Our Discussion

The What – Defining the Skills

The Why – Connecting Skills to Employability

The How – Supporting Learners to Build Skills

**Now What – Using Policies to Safeguard Development**

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Agree or Disagree –

Relying on teachers to create their own instructional materials can negatively impact student learning outcomes.

Teachers Creating Instructional Materials: Why it's Harmful

- The quality of a **child's education becomes a matter of luck**.

- Teachers can't be effectively coached.

- Teachers can't benefit from sharing curriculum-specific best practices.

- The school district **cannot support effective remediation if there is no shared classroom content**.

- Data from the United States indicates that **80% of what teachers select as instructional materials is below grade level** – and even higher for poor students. ("The Opportunity Myth" TNTP).
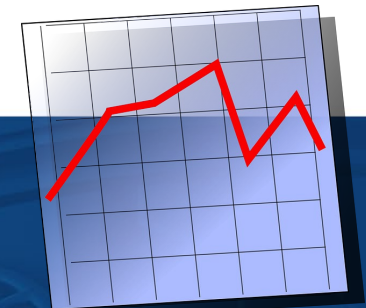
Are Teachers Ready to Teach SOR?

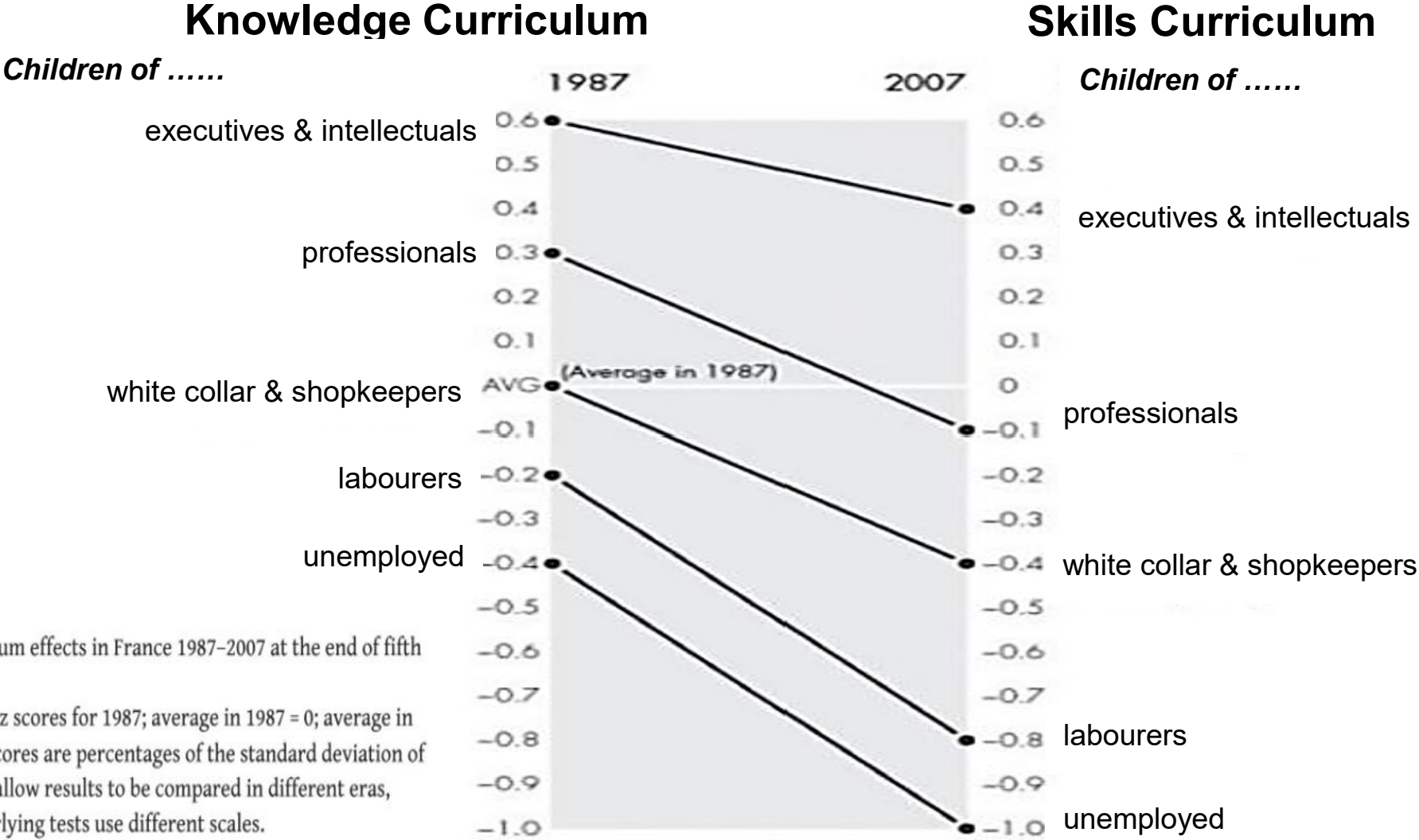## Too many of our Teacher Prep Programs fail to provide training

Key national findings of the NCTQ data include:

Only 25% of programs adequately cover all five core components of scientifically based reading instruction. 25% of programs do not adequately cover even a single component.

Many programs (40%) still teach multiple instructional practices that run counter to the research on effective reading instruction. For example, nearly 10% of programs continue to teach the debunked three-cueing method to aspiring elementary teachers.

Two out of three programs fail to adequately address phonemic awareness, meaning aspiring teachers from these programs may not be prepared to help students develop the ability to identify and manipulate the individual sounds within spoken words, the foundation that allows them to link those sounds to the written word.

JOHNS HOPKINS
SCHOOL of EDUCATION

Curriculum Effects: France Abandons a Content-Rich National Curriculum

Knowledge Curriculum

Skills Curriculum

Children of ……

Children of ……

1987

2007

executives & intellectuals — 0.6

0.6

0.5

0.5

0.4 — executives & intellectuals

professionals — 0.3

0.3

0.2

0.2

0.1

0.1

white collar & shopkeepers — AVG (Average in 1987)

0

−0.1 professionals

labourers — −0.2

−0.2

−0.3

unemployed — −0.4

−0.4 white collar & shopkeepers

−0.5

−0.5

−0.6

−0.6

−0.7

−0.7

−0.8 labourers

−0.9

−0.9

−1.0 unemployed

FIGURE 7.2 Curriculum effects in France 1987–2007 at the end of fifth grade

Note: Vertical scale = z scores for 1987; average in 1987 = 0; average in 2007 = minus .37. Z scores are percentages of the standard deviation of a distribution. They allow results to be compared in different eras, even when the underlying tests use different scales.

From E.D. Hirsch, *Why Knowledge Matters*

Knowledge Building

- Research suggests that students' reading levels – particularly from fifth grade onwards – **relate significantly to their level of background content knowledge.**

- Students in more affluent systems demonstrate more success in skill-based ELA assessments not because they are better at recognizing main ideas, but because they are **far more likely to be equipped with knowledge on the subject matter discussed in any given text**.

- Research from around the world reveals that most democracies **require all schools to teach a standard body of knowledge; a comprehensive and content-rich curriculum** is a signature feature of high-performing education systems.

- Despite this research record, a majority of ELA curricula in the United States treat texts not as a source of building knowledge, but instead as a **site for attempting to hone abstract reading skills.**

When A State Implements a Knowledge-Rich ELA Curriculum:

- **Leading in 4th-grade reading growth: Louisiana's 4th graders led the nation in reading growth in both the 2022 and 2024 NAEP cycles. The state was the only one where 4th-grade reading scores showed a significant increase compared to 2019.**

- **Surpassing pre-pandemic levels: Louisiana was one of only two states where 4th-grade ELA scores surpassed pre-pandemic levels on the 2024 NAEP.**

- **Improved National Ranking: Louisiana's composite ranking for 4th and 8th-grade reading and math improved significantly, rising from 49th in the nation in 2019 to 32nd in recent rankings.**

- **Gains among diverse student groups: Economically disadvantaged students and students with disabilities in Louisiana have shown greater gains than their national peers in both achievement and growth.**

HQIM Implementation to Date:

❑ **Multiple States have made outstanding progress** in raising the percentage of school districts implementing HQIM in math and ELA.

❑ **Some districts** have shown strong correlations between HQIM outcomes and higher student outcomes.

At the same time, two more troubling findings:
- Tom Kane found sobering results from the implementation of HQIM math results, largely attributable to the lack of HQIM use in the classroom.

- While some districts show major gains, others – often in the same state with similar demographics show less positive results.

So What We Need:

- The use of ELA Curriculum that include the Science of Reading (for the early grades and remediation for later grades) and Content-Rich, Knowledge-Building ELA materials.

- Districts procure these curriculum (often called HQIM or "high-quality instructional materials"

- Teachers who are ready and willing to teach these curricula.

Teaching HQIM:

Finding 1: After several years of district implementation of HQIM teachers were using the materials, but still mixing them with other elements from sources such as Pinterest and Teachers Pay Teachers.
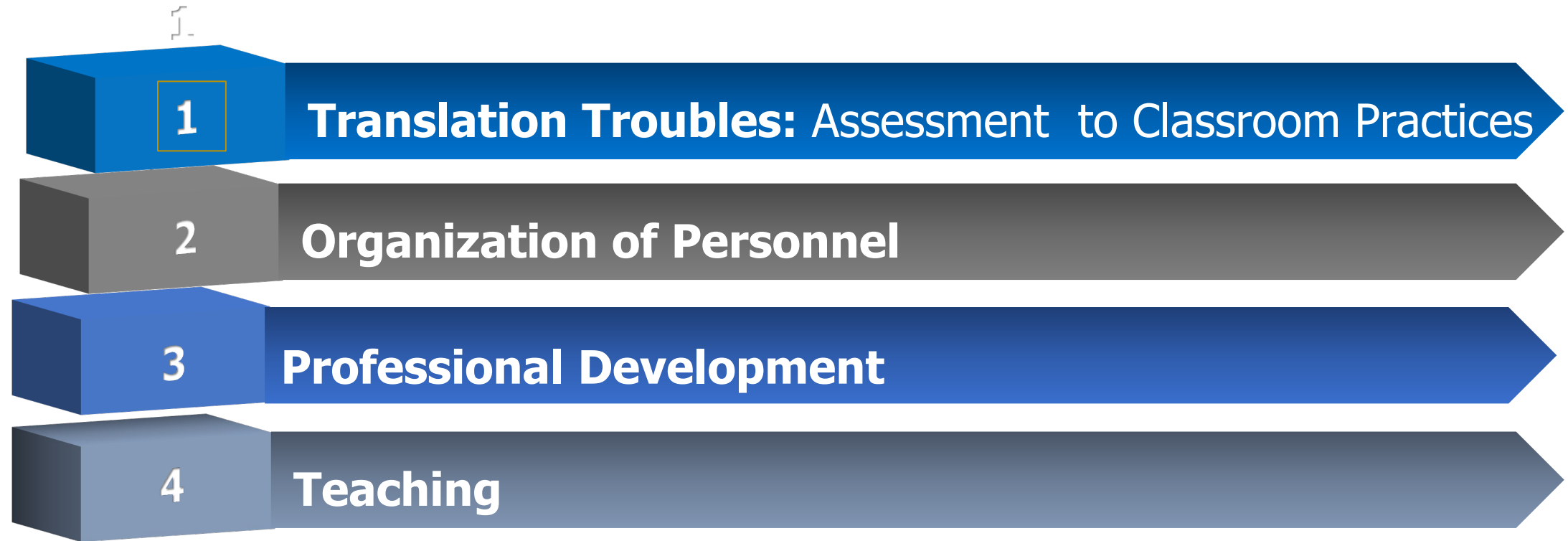
Finding 2: Teachers were generally struggling with differentiating instruction during whole group class time. They used one narrative with all students.

Finding 3: Teachers didn't trust students with the rigor of HQIM. They rapidly simplified questions, over-scaffolded, and used HQIM for some student activities but not core instruction. Teachers asked and then answered their own questions.

The Devil is in the Details:

1. **Translation Troubles:** Assessment to Classroom Practices
2. **Organization of Personnel**
3. **Professional Development**
4. **Teaching**

Professional Development:

There is considerable confusion in this domain. Districts and **schools struggle** for **control of PD time** – and its purpose was uncertain: While districts may offer PD focused on the specific HQIM curriculum being taught, it is rarely "in real time." That is, the PD was about the curriculum in general, not on teaching a specific unit **just** **before** teaching that unit.

PD lacks attention to unpacking the appropriate scaffolding, the student work, and the student misunderstandings that teachers need to be prepared to organize and manage.

District Action:

Support PD for teachers And school leaders

-Focus explicitly on the translation of Interim Assessments (such as i-Ready/Map into HQIM instruction) for use with HQIM ELA curriculum, using examples from different grade bands and providing examples using the most used HQIM in the state.

- Offer guidance on using diagnostic assessments and then identifying content for small-group, differentiated instruction of students struggling with ELA material. This means EXPLICITLY designing Tier 2 instruction.

Hold Providers Accountable

Establish contract prerequisites for Professional Learning providers that include data reporting requirements including information on multiple indicators of fidelity of implementation (strong example from TN).

An Essential Connection for the Future
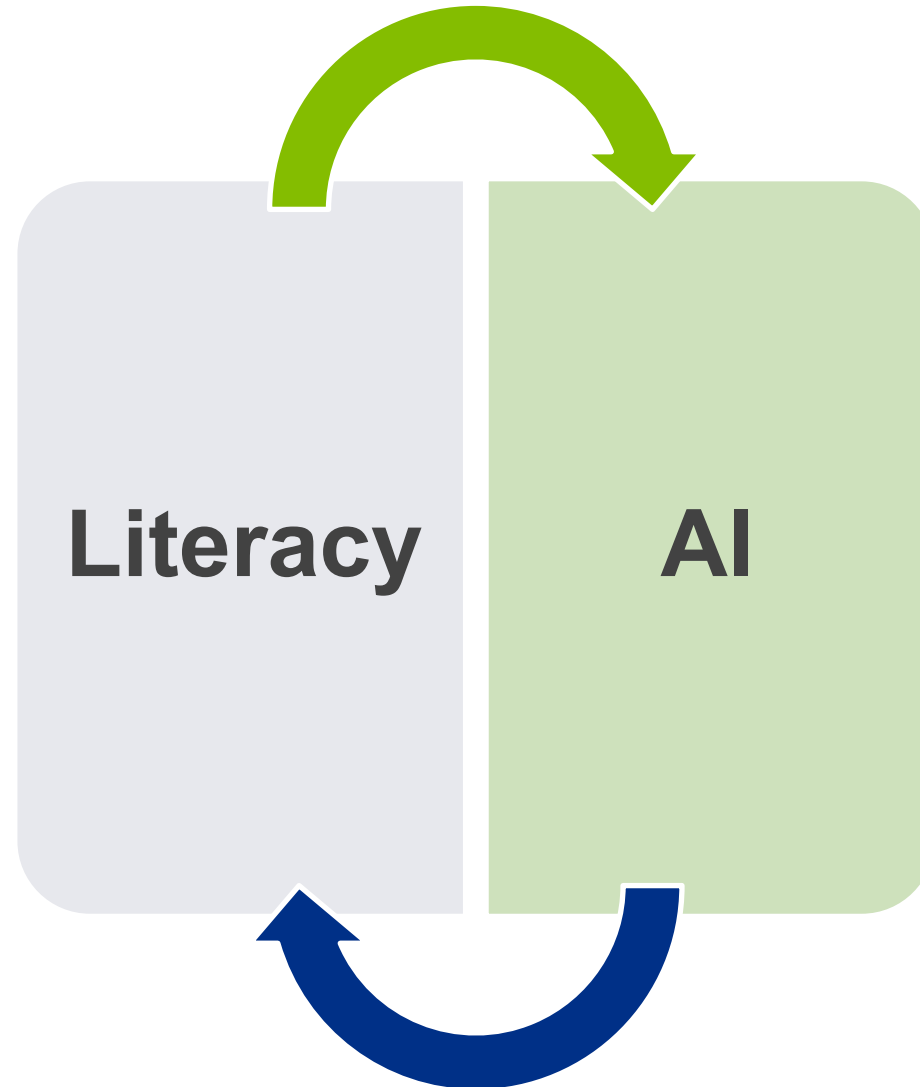
SREB's Skills for an AI-Ready Workforce
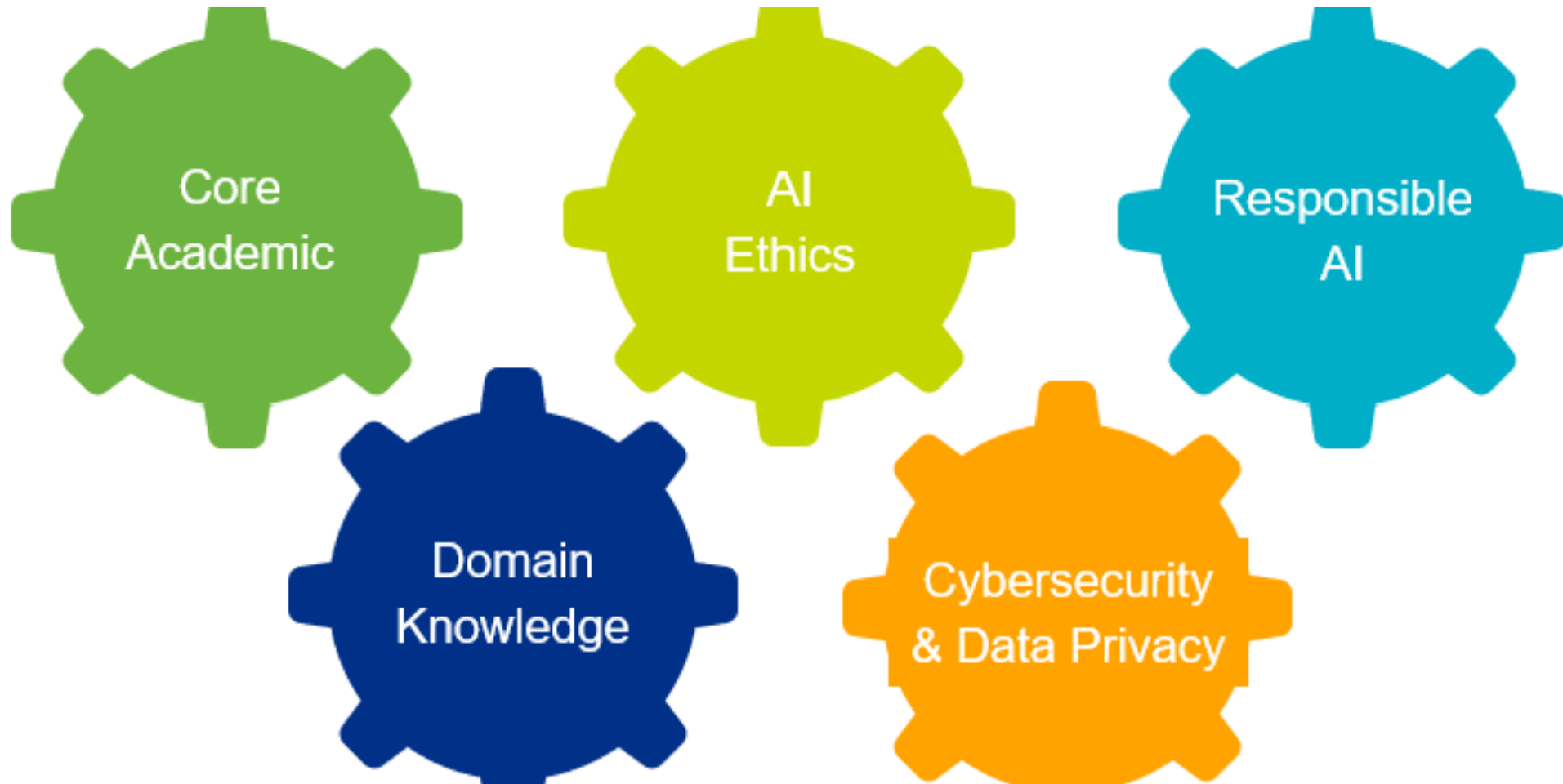
Success Skills

Industry Baseline Skills

Technical Skills

Industry Baseline Skills

Technical Skills

Data Literacy
Programming

Machine Learning
Deep Learning
Generative AI

Language Models
Computer Vision
Multi-Model AI
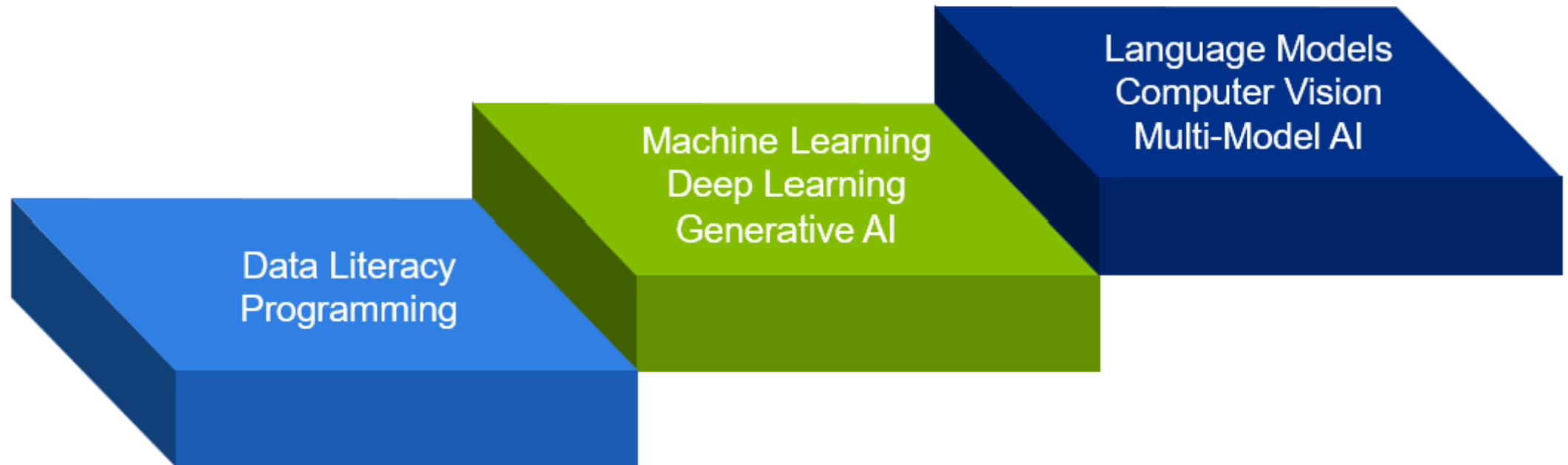
Exploring AI and the Workforce

Adam Garry

President,

StrategicEDU Consulting

Our Discussion

The What – Defining the Skills

The Why – Connecting Skills to Employability

The How – Supporting Learners to Build Skills

Now What – Using Policies to Ensure Development

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Muppetize

AI COMPETENCY FRAMEWORK FOR STUDENTS

PREPARING STUDENTS TO BE RESPONSIBLE AND CREATIVE CITIZENS IN THE ERA OF AI

I recognize AI is created by people and affects human lives.

I take responsibility for how I use AI and who it impacts.

I shape the future of AI with empathy, curiosity & social purpose.

I can define a problem for AI and know what it takes to build a useful system.

I can plan, design, and build simple AI systems that reflect ethical and technical thinking.

I improve and evaluate AI systems based on testing, feedback, and impact on people and society.

I know AI can raise issues of fairness, bias, and rights.

I make sure I use AI safely, ethically, and fairly.

I design or evaluate AI to be ethical from the start, including all voices.

I understand how AI uses data and algorithms

I can build or use AI tools thoughtfully and critically.

I create or improve AI tools with real-world impact and ethical awareness.

HUMAN-CENTRED MINDSET

ETHICS OF AI

AI SYSTEM DESIGN

TECHNIQUES & APPLICATIONS

UNDERSTAND   APPLY   CREATE

Adapted from **UNESCO's AI COMPETENCY FRAMEWORK FOR STUDENTS (2024**
Poster by Stephen Taylor (@sjtylr).

Source: https://www.unesco.org/en/digital-education/ai-future-learning/guidance

2023/ 2025 Future of Jobs Report Comparison

Description	2023 Stats	2025 Stats
Predicted growth in demand for AI and Machine Learning Specialists	40% growth, 1 million jobs by 2027	35% growth, 900,000 jobs by 2030
Current percentage of tasks automated by LLMs	15%	22%
Projected percentage of tasks automated by LLMs by 2027 (with improvements)	50%	60% (adjusted based on trends for 2030)
Ranking of AI and Big Data as a core skill for mass employment vs. company training priorities until 2027	15th as a core skill; 3rd in training strategies	Still outside the top 10 as a core skill; 1st in company training priorities (in 70% of strategies)

2025 Future of Jobs Report

Top fastest growing jobs

Job	Value (approx.)
Big Data Specialists	~113
FinTech Engineers	~93
AI and Machine Learning Specialists	~82
Software and Applications Developers	~57
Security Management Specialists	~53
Data Warehousing Specialists	~49
Autonomous and Electric Vehicle Specialists	~48
UI and UX Designers	~47
Light Truck or Delivery Services Drivers	~46
Internet of Things Specialists	~42
Data Analysts and Scientists	~41
Environmental Engineers	~40
Information Security Analysts	~39
Devops Engineer	~38
Renewable Energy Engineers	~38

The Top 15 In-Demand Skills

- Relationship Building
- Strategic Thinking
- AI Literacy
- Communication
- Large Language Model (LLM) Utilization
- Adaptability
- Financial Planning and Analysis
- Social Media Proactive
- Documentation
- Regulatory Compliance
- Financial Planning and Analysis
- Social Media Management

Business Impact of These Skills

81% of businesses utilizing AI reported revenue increases or ronr or 10% or more, highlighting the tangible value of these amerging skills.

How LinkedIn Determines In-Demand Skills

Linkedin uses a sophisticated methodology to Identify growing skills, considérring-1) skill acquisition rates on member profiles. 2) hiring success for members with specific skills, and increasing appearance of skills in job postings.

AI literacy includes the **knowledge and skills** that enable humans to critically **understand, evaluate, and use AI** systems and tools to safely and ethically participate in an increasingly digital world.

AI Literacy Framework

Digital Promise
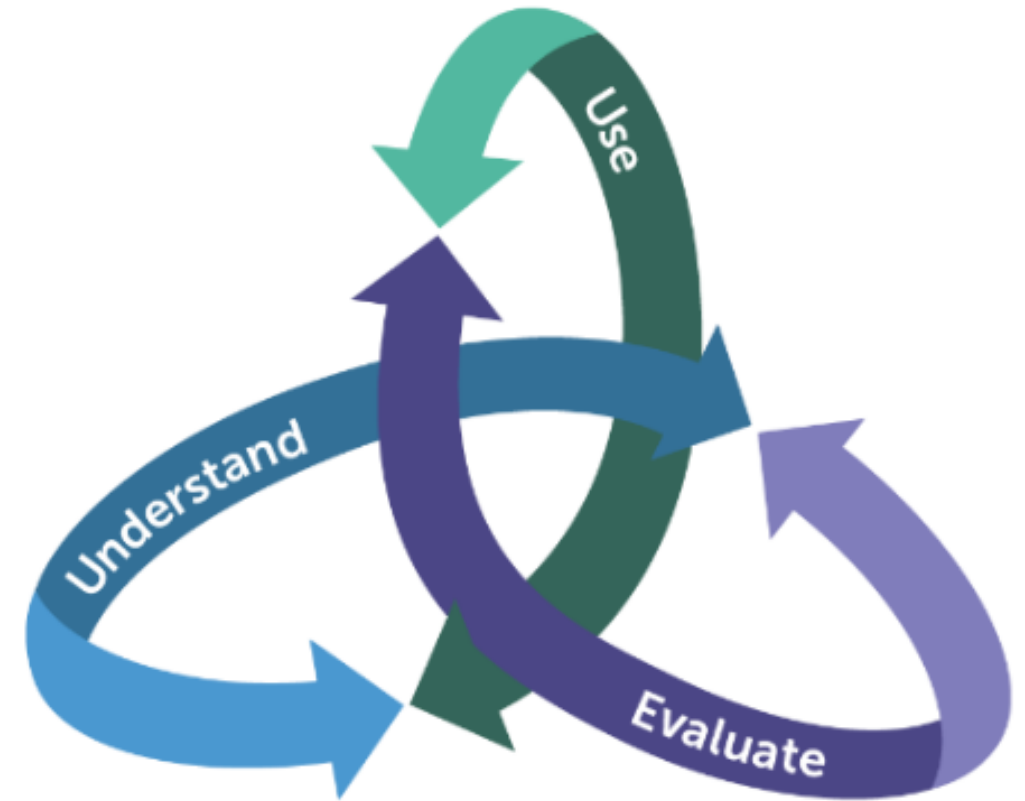
Figure 1. AI Literacy Framework includes three components: Understand, Evaluate, and Use

AI Literacy Scope and Sequence

Strand 1: Why AI: The Evolution and Integration of AI into t[...]

Reading This Document

Four Major Strands

	Elementary [3-5]	Middle [6-8]	High [9-12]
1. AI in My Life	1.1.E: Students will investigate how AI is used in their daily [...] how AI makes these tools more customized and helpful.	1.1.M: Students will analyze how AI impacts personal [...]ons, such as [...]mendations on social [...] or shop[...]g websites. They will r[...] these AI sy[...] their beha[...] their suggestions.	1.1.H: Students will evaluate the role of AI in personal life by assessing tools like virtual assistants, smart devices, and recommendation engines. [...] decision-making.

16 Topics

Highlighted Priority Concepts

Concepts by Grade Band

	Primary [PK-2]	Elementary [3-5]	Middle [6-8]	High [9-12]
1. AI in My Life	1.1.P: Students will explore everyday tools, like smart speakers and tablets, that use AI to help with tasks. They will identify how AI can assist with simple activities, such as playing music or answering questions.	1.1.E: Students will investigate how AI is used in their daily lives, such as in online searches, navigation apps, or video games. They will discuss how AI makes these tools more customized and helpful.	1.1.M: Students will analyze how AI impacts personal decisions, such as recommendations on social media or shopping websites. They will reflect on how these AI systems learn from their behavior to improve their suggestions.	1.1.H: Students will evaluate the role of AI in personal life by assessing tools like virtual assistants, smart devices, and recommendation engines. They will critically examine the potential benefits and risks of relying on AI tools for personal decision-making.

AG Great. First I want you to recheck the discrete parts that you shared that make up each skill to make sure they are appropriate in a K-12 education setting. Then I want you to complete a matrix that has each skill or disposition and the discrete skills for each listed and then answer three questions with a yes, no, or not sure. First column: Does AI outperform humans today? Second column: Does AI complement humans? Third column: Can AI catch up to humans in the next 5 years? For the question about catching up in 5 years you should use your analysis of the discrete skill to compare what AI is good at today and what visionaries have shared about where the technology is going. Do you understand? I've attached an example.

5. EMPATHY

Discrete Skill	AI Outperforms Humans Today?	AI Complements Humans?	AI Can Catch Up in 5 Years?
Demonstrating understanding, sensitivity, concern, and respect	Not Sure	Yes	Not Sure
Sharing in others' feelings, opinions, and experiences through personal and digital connections	No	Yes	No
Valuing and embracing diverse cultures and unique perspectives	Yes	Yes	Yes
Fostering belonging and trust through mutual respect and dialogue	No	Yes	No

Curiosity

Capable of being educated

Kids are born curious.
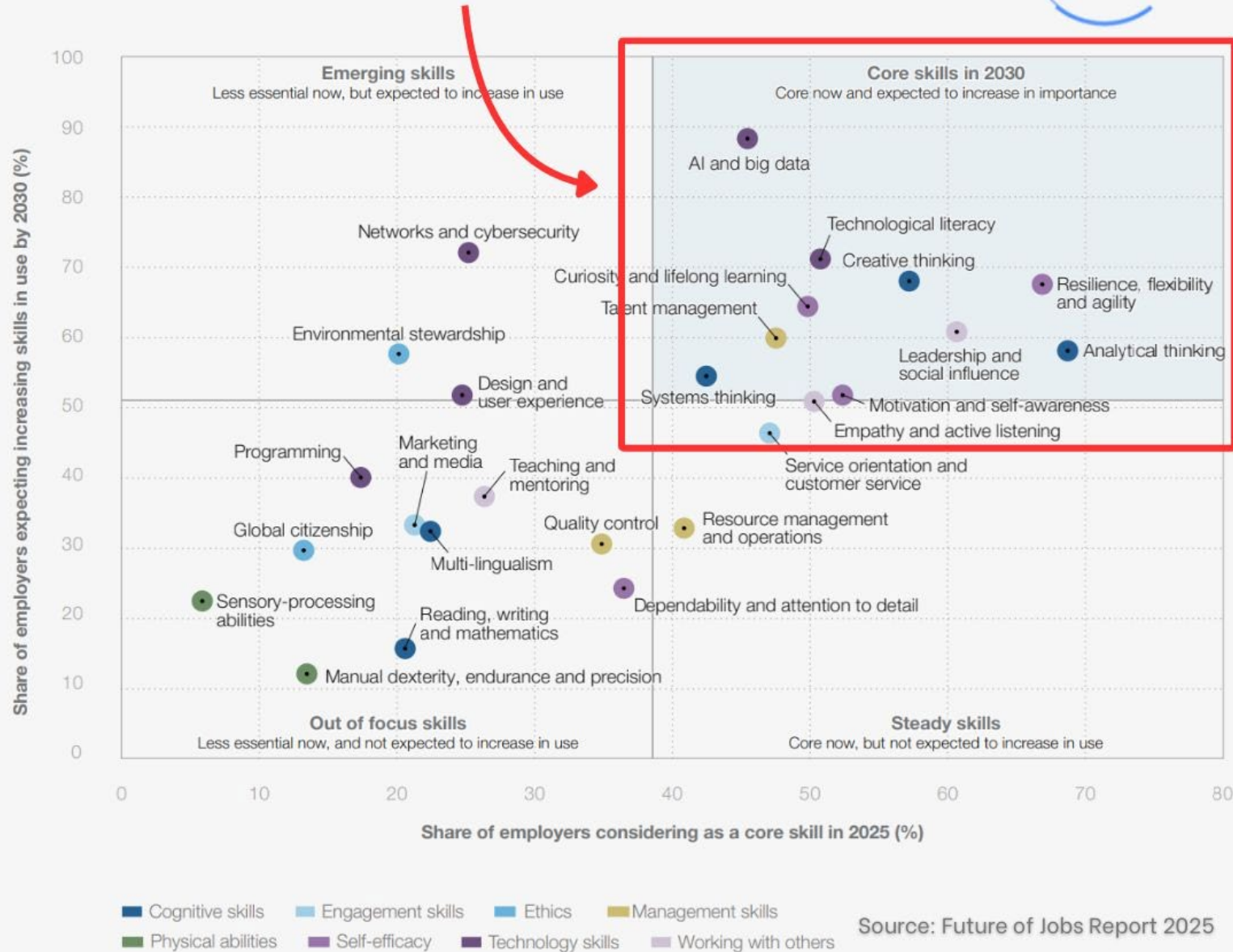
In research for her book *The Hungry Mind*, the psychologist Susan Engel found that in kindergarten, students expressed curiosity 2.4 times every two hours of class time. By fifth grade, that was down to 0.48 times.

And when children have lost their curiosity by age 11, Engel believes, they tend to remain incurious for the rest of their life.

Core Skills in 2030

WORLD ECONOMIC FORUM

Emerging skills
Less essential now, but expected to increase in use

Core skills in 2030
Core now and expected to increase in importance

Out of focus skills
Less essential now, and not expected to increase in use

Steady skills
Core now, but not expected to increase in use

Y-axis: Share of employers expecting increasing skills in use by 2030 (%)

X-axis: Share of employers considering as a core skill in 2025 (%)

Data points (approximate):
- AI and big data
- Networks and cybersecurity
- Technological literacy
- Creative thinking
- Curiosity and lifelong learning
- Resilience, flexibility and agility
- Talent management
- Environmental stewardship
- Leadership and social influence
- Analytical thinking
- Design and user experience
- Systems thinking
- Motivation and self-awareness
- Empathy and active listening
- Programming
- Marketing and media
- Teaching and mentoring
- Service orientation and customer service
- Global citizenship
- Quality control
- Resource management and operations
- Multi-lingualism
- Sensory-processing abilities
- Reading, writing and mathematics
- Dependability and attention to detail
- Manual dexterity, endurance and precision

Legend:
- Cognitive skills
- Engagement skills
- Ethics
- Management skills
- Physical abilities
- Self-efficacy
- Technology skills
- Working with others

Source: Future of Jobs Report 2025

Asking the Right Questions (fluency)

The **goal** of Prompt Engineering **isn't** to futz around with the words in the prompt or **to cut/paste from a prompt library**. **The goal of Prompt Engineering is to help people learn how to express their goals in a much richer format than they are used to for consumption by Generative AI.** The goal is to help people learn to **support their own problem solving skills** by realizing that, accurate expression of the problem itself in text, photos, video, and audio is now a critical task in computing.
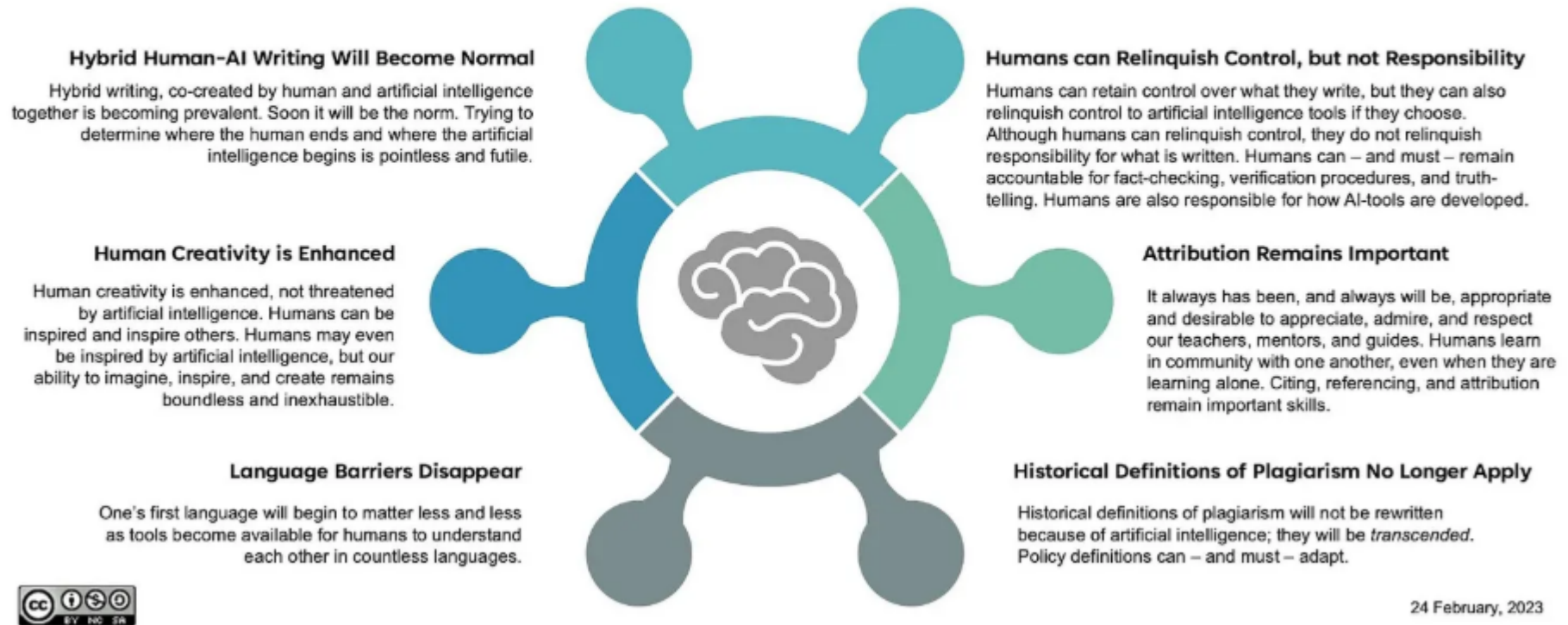
https://www.gaiin.org/agentic-ai-living-software-systems/
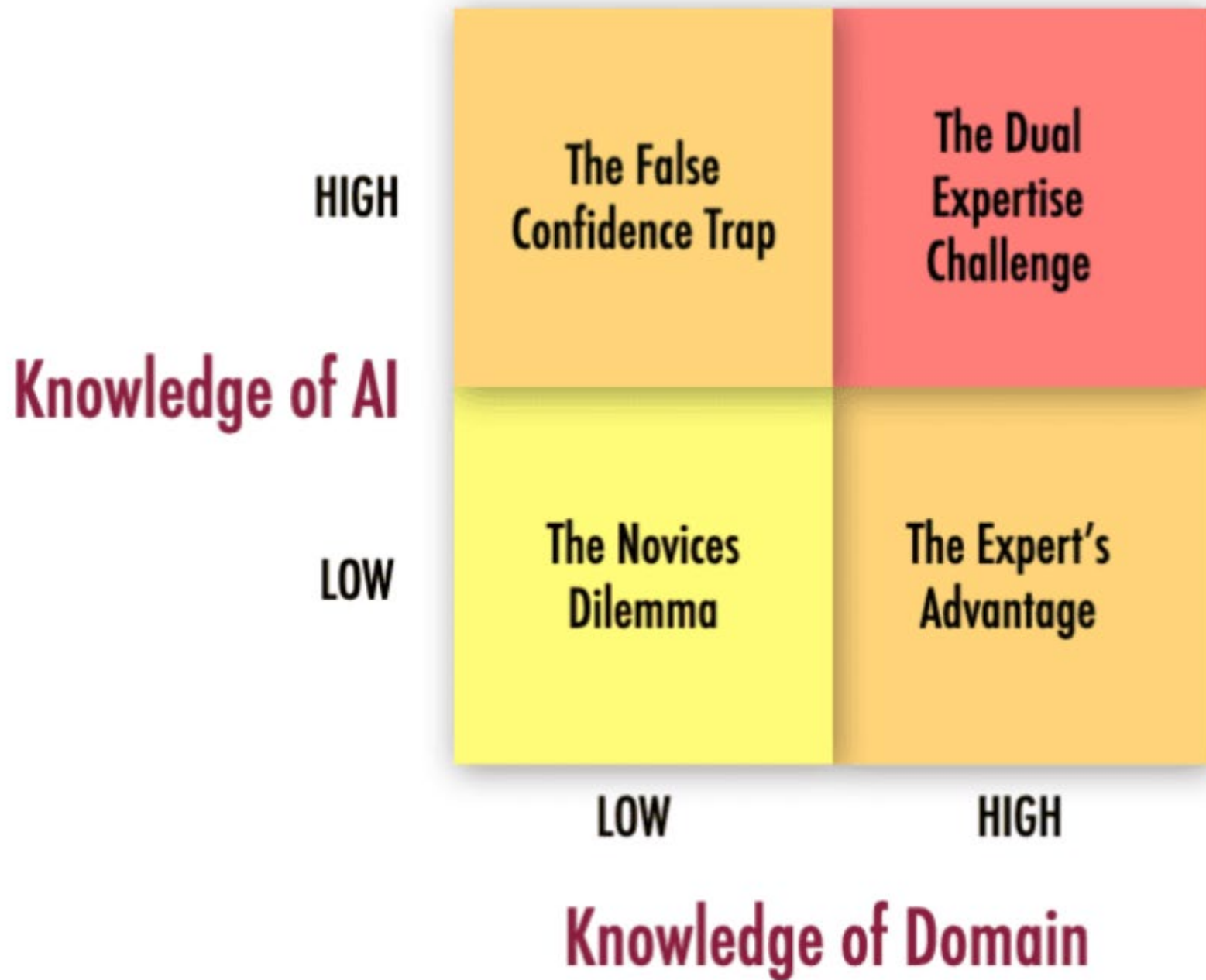
6 Tenets of Postplagiarism:
Writing in the Age of Artificial Intelligence

Sarah Elaine Eaton

Source: "Six Tenets of Postplagiarism: Writing in the Age of Artificial Intelligence"

Implementation Strategies That Work

1. This needs to be a top-down and bottom-up approach
2. We need to approach this as an emerging technology and ensure we discuss risks and possibilities.
3. It needs to be a cohort model of professional development that combines bringing multiple districts together, mixing rural, suburban, and urban.
   -Virginia
4. Outcomes have to create a sense of urgency, ensure that every district has the necessary policies, guidelines, and frameworks to roll out systemically. Every district has a one year plan for AI Literacy.

Overview of 4 days

Day 1- Risk and Possibilities with Curiosity as your superpower. -- Developing guiding principles

Day 2- Begin to develop policies/regulations, guidelines, and frameworks

Day 3- Feedback on the resource you have developed and refinement. Start AI Literacy work.

Day 4- Complete your AI Literacy plan for the year.

Survey responses Days 1-4

Survey Question	Day 1	Day 2	Day 3*	Day 4	
I know how generative AI can help me	96%	95%	96%	96%	Agree/Strongly agree
I am able to critically evaluate responses from GenAI	86%	88%	93%	96%	Agree/Strongly agree
The use of GenAI has the potential to positively impact K-12	96%	94%	95%	96%	Agree/Strongly agree
I am concerned about students circumventing learning via AI	64%	61%	64%	67%	Agree/Strongly agree
I feel equipped with resources for GenAI implementation	66%	86%	95%	96%	Agree/Strongly agree

Ready to make sound decisions on GenAI usage	34%	58%	79%	87%	Agree/Strongly agree
Ready to lead the development of GenAI policies/practices	30%	56%	72%	86%	Agree/Strongly agree
Used AI as Tool - Processing information (e.g., summarizing)	51%	65%	68%	72%	Often/Very often
Used AI as Tool - Solving technical problems	32%	43%	45%	50%	Often/Very often
Used AI as Co-Creator - Getting feedback on existing content	45%	57%	62%	66%	Often/Very often
Used AI as Co-Creator - Creating content	60%	67%	70%	75%	Often/Very often
Used AI as Teammate - Thought partnership	43%	53%	57%	62%	Often/Very often
Used AI as Mentor - Engaging in personalized learning	35%	42%	48%	49%	Often/Very often

This documen

- This will be an ongoing endeavour and should be considered when funding
- We faster cycles of standards and framework revisions
- Districts need help with implementation
- Articulation between K-12, Hi-ed, and business is essential and should be considered a reciprocal partnership

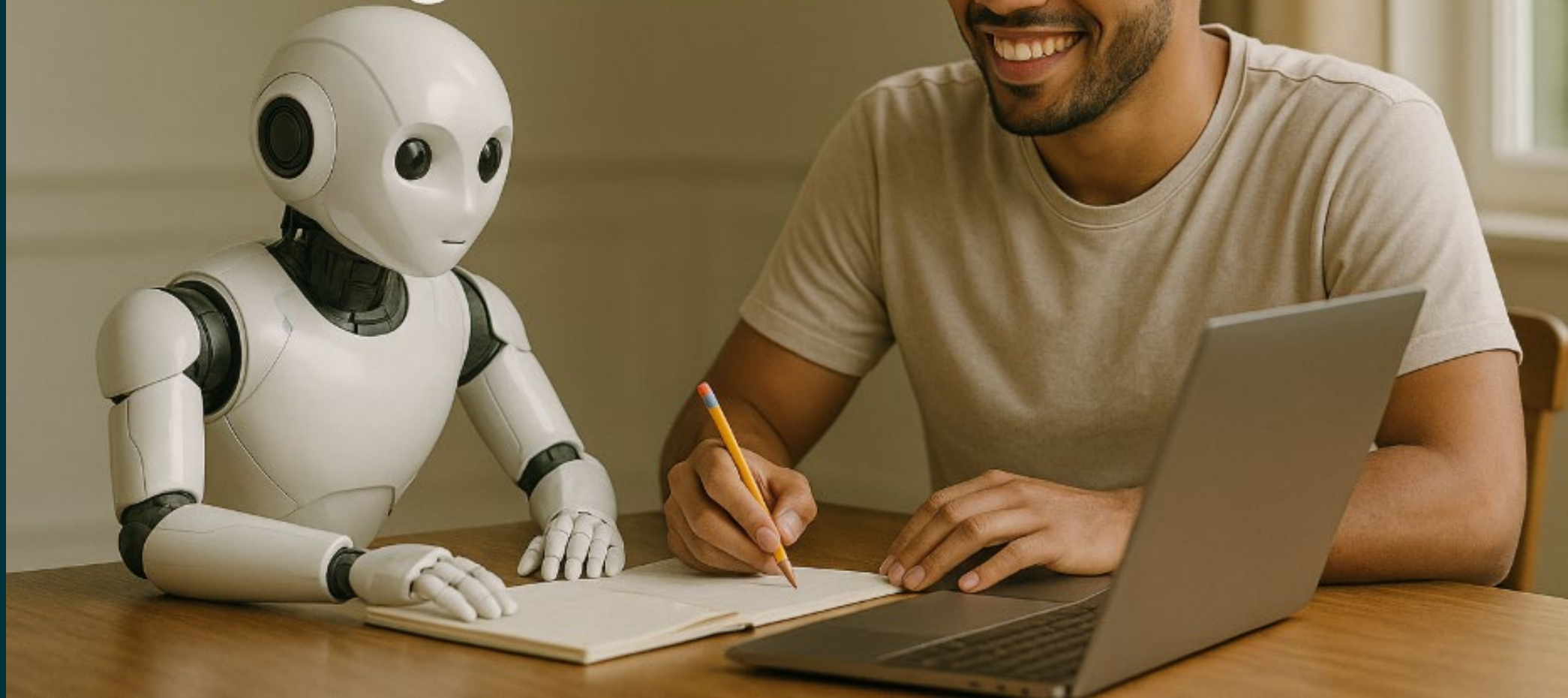Shift from learning about AI to learning with AI

Table Discussion – Mentimeter Sharing

Using both the conversation you just heard and the Skills for an AI-Ready Workforce document, take a few minutes to revisit your table's graduate profile and economic dashboard.

- Do the AI-related skills discussed today **reinforce** what you listed—or are there skills that need to be **added or reframed**?

- Are there updates or **edits** you would recommend to strengthen your profile's alignment to **current workforce demands**?

- Did anything in Adam's examples or insights trigger new thinking that should be reflected in your **economic indicators**?

Mentimeter Results (1 of 3)

Ethics	need to add knowledge of domain	Accountability	Adaptability (Nimble)
Critical thinking: when and how to use it as a tool and a resource.	questioning is even more important	Emphasis on content knowledge	No, I don't think so...

Mentimeter Results (2 of 3)

Analysis skills	Integrity and ethics	• Critical thinking skills • Problem solving • Adaptability Asking the right questions	Consistency of curriculum
Embedding AI into content	Continuous learning through failure	No changes.	what jobs will be eliminated and what will they shift to?

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Where is the balance between standard content and letting the teachers be the expert? AI should be a tool that is customizable.

Results driven

What is the AI curriculum - what are we teaching - what is the domain of needed expertise - current skills vs anticipated - will require constant re-evaluation what will be obsolete / emerg

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The world is changing fast — and the best way to prepare our learners is to align literacy, AI and workforce skills with precision and purpose.

Thank you!

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