

Webinar on “What Counts as Learning in the Age of AI? Essential Questions from the Field”

**New Zealand Council for Educational Research
(NZCER)**

Monday, November 3, 3:30pm-4:30pm

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with Denise Johnson, Principal (Tumuaki) of Hutt Valley
High School in Wellington, New Zealand



Today's Webinar Agenda

Introductions, Brent and Carrie discuss upcoming book and findings on AI use in K12 (30 min)

Discussing AI in NZ context with Denise, Carrie & Brent (15-20 min)

Q+A (10+ min)

What is the future of AI for ambitious teaching
and assessment for deeper learning?

Three challenges we've identified in our research so far

LEARNING THEORY



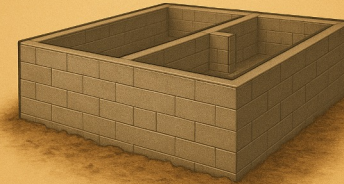
To distinguish
interpassive from
interactive learning

LENS



To illuminate tensions
in learning and the
meaning of
“productive struggle”

FOUNDATION



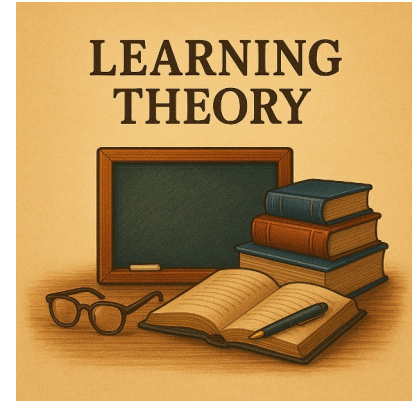
For **assessing what**
matters most, how
and when

We must have a learning theory

To distinguish *interpassive* from *interactive* experiences that are embedded in machine-assisted learning environments we will need learning theory.

Why?

Because we are living in an age of **information processing bots** that now appear as pedagogically sound “**co-teachers**” **tutors**” and “**friends**”



We must have lenses that illuminate tensions in learning

To determine the most enduring
perspectives on *quality of learning experience* in the age
of machine assisted learning

Are we being **pushed and pulled**
into perspectives—as we learn
with AI assisted tools—that cover
up contradictions rather than
explore them?



We must have a foundation for assessing what matters

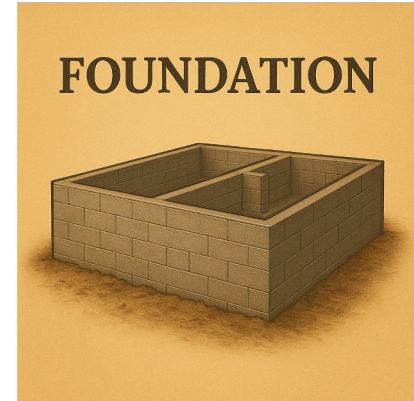
To develop a heuristic framework capable of examining the claims and promises of AI learning technologies and technologists including but not limited the idea that

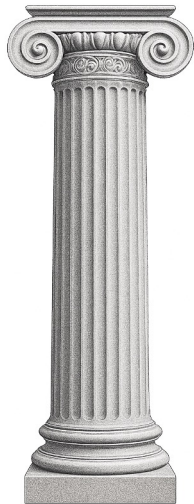
“Builds understanding”

“Offers ‘feedback’”

“Brings about mastery”

“Forms the basis for deeper learning”





Accuracy

Duckor & Holmberg, in press

Is it true?

How would we know?

Where is the bias?

Are there other sources?

Who can verify this?

Are machines more biased than humans?

Accuracy and The Verification Problem in the Age of AI

Challenges and Opportunities:

- ❑ AI often produces fluent but fabricated content (hallucinated citations, made-up “facts”).
- ❑ Students need to verify sources, compare versions, and reflect on what’s “true enough.”
- ❑ Teachers shift from graders to guides of epistemic trust.

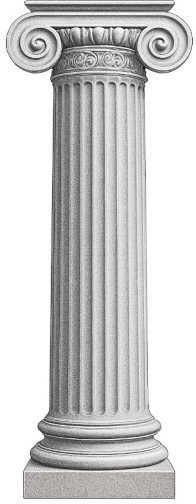
What we are hearing...

“I asked ChatGPT for a summary of my argument... and it invented a paragraph I never wrote.”

--Grade 10 Student

“Accuracy isn’t about being correct. It’s about cultivating judgment.”

--Principal, Design Tech High



Agency

Duckor & Holmberg, in press

To what extent does this platform support autonomy?

Whose thinking is this?

Did I struggle with the ideas?

Or offload it to others?

What's the right balance between *interactive and interpassive engagement* with AI tools and technologies?

The Problem of Agency and Designing for Struggle, Not Shortcuts

Challenges and Opportunities:

- ❑ Students must retain the right to revise, redo, and reflect — not just click ‘generate’ or ‘revise’ or “redo’
- ❑ AI can become a thinking partner, but only with scaffolds for metacognition and process checking.
- ❑ Teachers can use the 4Rs cycle to re-center student decision-making

What we are hearing...

“We don’t ban calculators — but we don’t let them replace number sense either.”

—middle school math coordinator

“To learn is to choose — even in a world of auto-complete.”

—Bay Area Writing Project teacher

Even ChatGPT knows this...but how do WE do it?

Timeline of Student Work

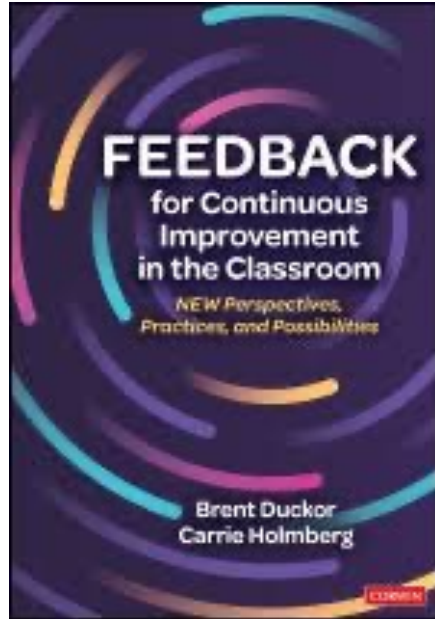
[**Brainstorm**] → [**Draft**] → [**Revision Notes**] → [**Final Product**]

Each bracketed item represents a **phase** in the student learning process. Use bold, color, or icons in Word to enhance:

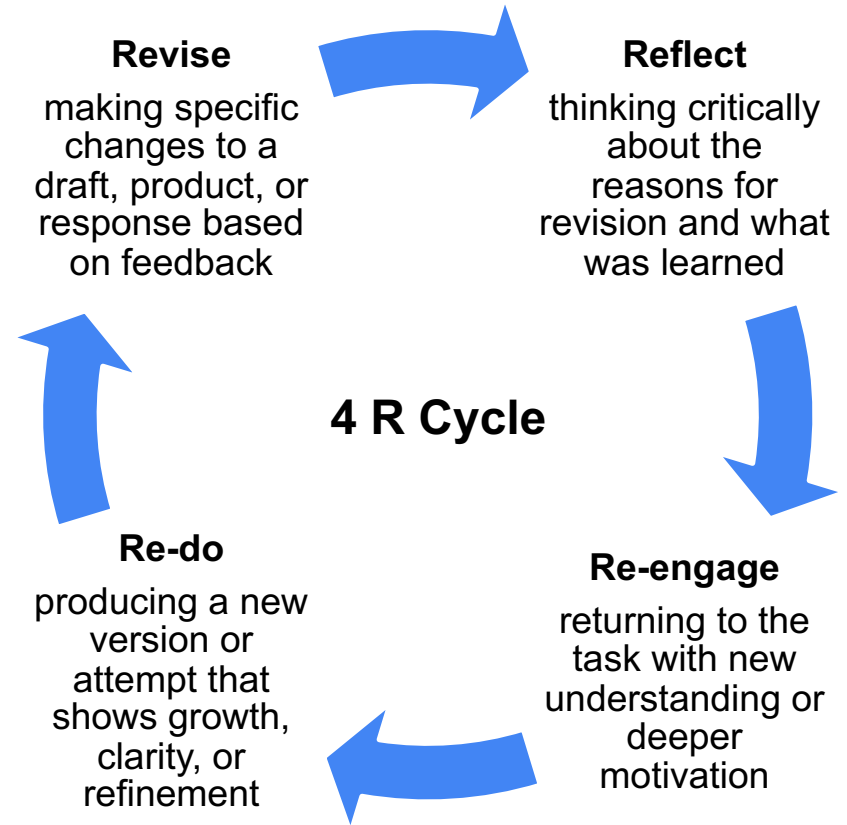
-  **Brainstorm** – idea generation, exploratory thinking
-  **Draft(s)** – initial construction, risk-taking
-  **Revision Notes** – peer/AI/teacher feedback, reflection
-  **Final Product** – polished work, ready for presentation

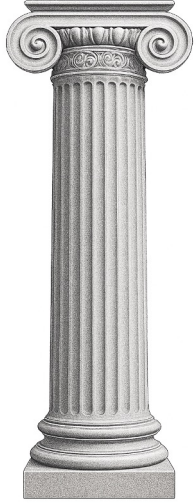


Language arts
History
Science
Math
Physical education
Art
Economics/Civics
Music
Service Learning
And more...



Duckor & Holmberg (2023)





Accessibility

Duckor & Holmberg, in press

Who gets access to the educational materials,
including AI tech platforms?

At what cost?

For whom?

Is the level of AI support adequate or helpful
or safe?

How does AI affect the “simulation of
accessibility”?

The Challenge of Accessibility: Beyond Snappy Features

Challenges and Opportunities:

- ❑ AI tools offer translation, speech-to-text, formatting — but who decides what counts as understanding?
- ❑ Scalable just-in-time feedback must align with developmental and cultural needs.
- ❑ Teachers can use multimodal stations, AI annotation logs, and reflection sheets to support equity.

What we are hearing...

“He got feedback in his home language but it only focused on grammar.”

— *Ms. Luna, high school ELA teacher*

“Access isn’t just a setting on a keyboard. It’s shared practices like learning to use academic language with others.”

—*former teacher and district lead in CA education office*

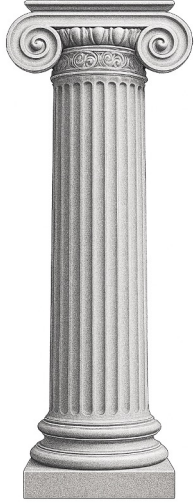
From our current book...

Simulation of access refers to the illusion of equity created when AI tools, digital platforms, or instructional practices appear to provide inclusive opportunities—but in reality, offer only surface-level or cosmetic support. These simulations often arise when accessibility is automated rather than designed—when tools reduce complexity without building capacity, or translate words without fostering comprehension and engagement.

In AI-enhanced classrooms, simulation of access may manifest as voice-to-text tools, automatic translation, or reading-level simplification that claims to support multilingual learners, neurodiverse students, or those with IEPs. But if these tools are not paired with intentional scaffolding, human interaction, or culturally responsive pedagogy, they can mask rather than mitigate exclusion. Students may be “included” in name, but not in practice.

In the our 5As framework, simulation of access is a cautionary signal: it highlights the difference between surface-level inclusion and authentic participation. It challenges educators to examine when tools offer the *appearance* of support without the *substance* of opportunity.

Duckor & Holmberg, in press



Assessment

Duckor & Holmberg, in press

What are we assessing--now?

Is this helping the machine or student improve?

How?

Are students getting genuine formative feedback and taking appropriate “next steps” within their ZPD?

Is this tool supporting the learning process—not just production of final products e.g., assignments?

Can we reliably and validly evaluate students’ work process and product—on what criteria?

Assessment: Matching AfL with AoL with Integrity

Challenges and Opportunities:

- ❑ AI works best for low-stakes formative feedback, draft scaffolding, and surface-level checks.
- ❑ Human judgment is essential for authentic understanding, nuance, and context
- ❑ Task appropriateness: Short-answer CFUs vs. long-term projects and portfolios.

What we are hearing...

“[ChatGPT] helps students get started — but they still need to revise for thinking for a grade.”

— *Ms. Sanders at Dolores Huerta High*

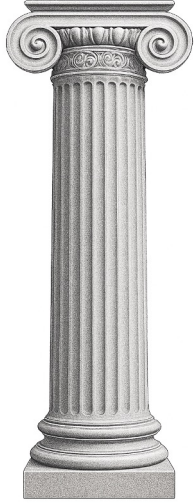
““AI is a powerful evaluation tool — but my pedagogy decides when it’s appropriate for knowing what my students know.””

— *7th/8th grade science teacher*

Challenges assessing student “work” with AI in the mix

Duckor & Holmberg,
in press

Task Type	Tool Use	Who Does the Thinking?
Grammar check	Auto-suggest / AI corrects sentence structure	Mostly AI
Drafting ideas	AI provides starter sentences or outlines	AI often dominates early thinking
Analytical writing	AI gives model responses	Student may copy or rephrase AI
Concept explanation	Student copies AI summary without editing	Mostly AI if all in writing
Peer feedback	AI auto-generates comment bank	Students exchange AI outputs with one another
Final portfolio curation & defense	AI selects “best work” via pattern recognition	Student role may be reduced if accompanied by verbal talk



Authenticity

Duckor & Holmberg, in press

Is this really my work? Who decides?

Does it matter if it's "my voice" or not?

What is "real" or "authentic" when AI has created all—or much—of a student work product (text, image, video, blueprint, composition, etc.)?

Who/whom is this "output" drawn from?

Did I attribute credit where it's due? How?

Authenticity: Designing for Thinking, Not Just Outputs

Challenges and Opportunities:

- ❑ AI risks masking creative labor and authorship.
- ❑ Authenticity requires provenance: documenting where ideas came from, how they evolved, a timeline
- ❑ Portfolios, reflection logs, and remix tracking preserve integrity of process (and products).

What we are hearing...

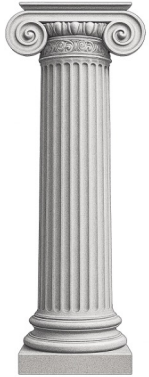
“We’ve got to start asking them to ‘show the thinking behind the claims’, not just turn in a finished product.”

— *AP history and economics teacher*

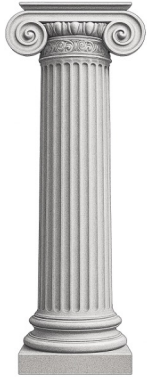
“The final product isn’t the point anymore.”

—*Mr. Joel, art and media studies teacher*

Duckor, B., & Holmberg, C. *AI for Deeper Learning: Promises, Possibilities and Evolving Practices*. Boston, MA: Harvard Education Press. [forthcoming].



Accuracy



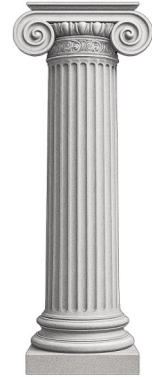
Agency



Accessibility



Assessment



Authenticity

Additional resources

Duckor, B., & Holmberg, C. (in press). Five pillars of ethical AI use for teaching and learning. *Kappan*.

Duckor, B., & Holmberg, C. (in press). *AI for deeper learning: Promises, possibilities and evolving practices*. Boston, MA: Harvard Education Press.

Duckor, B., & Holmberg, C. (2023). *Feedback for continuous improvement in the classroom: New perspectives, practices, and possibilities*. Thousand Oaks, CA: Corwin.

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Thank you and Ngā mihi!



<https://www.sjsu.edu/iaepcenter/>

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