

[RE]IMAGINE EDUCATION

A weekly Design·AI newsletter

AI IN EDUCATION WITH PROFESSOR ROSE LUCKIN: RETHINKING ASSESSMENT

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**Professor Emerita
Rose Luckin,
Founder and CEO,
Educate Ventures**

On 18–19 August 2026, the [Artificial Intelligence in Education \(AIED\) Symposium at SUTD](#) brought together educators, researchers and practitioners to explore how AI is reshaping teaching, learning, assessment and the future of human intelligence. Across keynotes, presentations and discussions, the focus moved beyond tools to deeper questions about what students should still know, do and become in an AI-rich world. The conference was organised by SMT and CSD, in collaboration with OSP.

I was privileged to be part of the organising team, and one of the most valuable parts of the programme was a more intimate **faculty dialogue with Professor Rose Luckin**. This gave us space to move from presentation to conversation—to question assumptions, connect ideas to our classrooms, and explore issues such as productive struggle, assessment, human–AI collaboration and the difference between polished performance and genuine understanding.

This issue of **[Re]Imagine Education** focuses on excerpts and reflections from that dialogue. If you missed the conversation, here is your chance to catch up.

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Main organisers: SMT (Dr. Omar Oritz), CSD (Dr. Oka Kurniawan)
in collaboration with OSP (Dr. Nachamma Sockalingam)

Assessment: What are we really measuring?

Professor Rose Luckin began the conversation about teaching and learning in the age of AI by focusing on **assessment** — and on a problem that is becoming increasingly difficult to ignore.

Drawing on a recent review of **41 research papers on generative AI and assessment**, she highlighted **how limited the evidence still is about AI's long-term impact on learning, and in particular on assessment.**

What is becoming clearer, however, is the risk of **cognitive offloading**: students may use AI to produce increasingly sophisticated outputs while bypassing some of the intellectual work through which learning actually develops.

That raises a deceptively simple question: **If AI can produce the essay, the code or the polished solution, what exactly should assessment be assessing?**

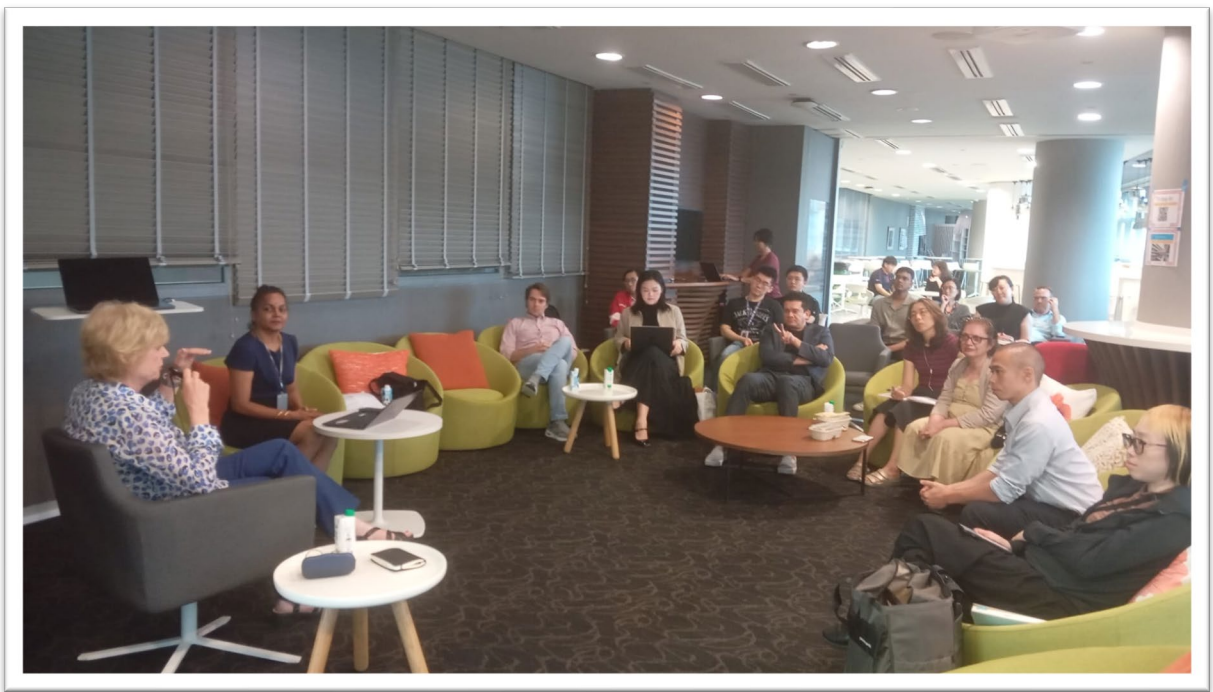
Professor Rose emphasised that the issue is not whether we abandon these forms of assessment, nor whether we simply become better at detecting AI use. Rather, **we need stronger evidence of what the learner actually understands.** A polished artefact may still matter, but it can no longer be treated as sufficient evidence of learning on its own.

One idea that emerged from the conversation with faculty members was the need for **“accountability moments.”** Rather than focusing primarily on detecting and penalising AI use, the **emphasis should be on asking students to explain their reasoning, defend a decision, apply their understanding in a new situation, or demonstrate what they have learnt** without relying completely on the scaffold that helped them get there.

This moves assessment away from a narrow focus on the final product and towards the process of learning.

The question therefore shifts from “**Did the student use AI?**” to “**Can the student demonstrate ownership of the thinking?**” In an AI-rich environment, assessment may increasingly need to capture not only what students produce, but what they know, how they arrived there, whether they can critique their own work, and whether they can transfer that understanding when the problem changes.

In that sense, AI may not be undermining assessment so much as forcing us to become clearer about what assessment is meant to reveal in the first place.



SUTD Faculty dialogue with Professor Emerita Rose Luckin, 19 Aug 2026

Surprise Assessments: Can you defend your learning without AI?

One striking idea from the discussion was the value of **surprise or unstructured assessment moments**.

If students know that, at any point, they may be asked to explain a concept, defend a choice, or respond to an unexpected question without reaching for AI, the nature of learning changes.

The point is not to catch students out. It is to see whether the knowledge has actually become theirs. A presentation, for instance, might suddenly continue without the slides; a student might be asked to explain why a particular solution works; or an assessor might change one condition in the problem and ask what follows. These moments reveal **whether the learner can stand behind the work at any point**, rather than simply stand beside an AI-generated answer.

This connects to the educational idea of **scaffolding**. We learn with scaffolds all the time: examples, prompts, feedback, worked solutions, teachers — and now AI.

Good scaffolding helps us reach beyond what we can initially do alone. But it is not meant to make the learner permanently dependent on the scaffold. **At some point, support should fade so that we can see what has been internalised.** This is the principle of **'fading support'**: gradually removing some of the AI scaffolding to see what the learner can now do independently.

SURPRISE TESTS AS ASSESSMENTS:

Can you defend your learning without AI?

Surprise or unstructured assessment moments reveal real understanding.

Purpose:
Not to catch you out.
To see whether the knowledge has actually become yours.

CONTINUE WITHOUT THE SLIDES

Can you explain the concept without your slides?

EXPLAIN WHY IT WORKS

Can you defend your reasoning in your own words?

CHANGE THE CONDITION

Can you adapt your understanding to a new situation?

These moments show whether you can stand behind the work in the nick of time—not just stand beside an AI-generated answer.

SCAFFOLDING: Support that helps you learn—then fades.

FADING SUPPORT: Removing some AI scaffolding to see what you can do independently.

We learn with scaffolds all the time:

- ✓ examples
- ✓ prompts
- ✓ feedback
- ✓ worked solutions
- ✓ teachers
- ✓ and now AI

Good scaffolding helps us reach beyond what we can initially do alone. But it is not meant to make the learner permanently dependent on the scaffold.

FULL SUPPORT

AI provides ideas, examples, explanations and feedback.

GUIDED SUPPORT

AI gives hints and prompts. You do more of the work.

REDUCED SUPPORT

Less help. You plan, solve and explain with minimal prompts.

MINIMAL SUPPORT

You work independently. AI only available if absolutely needed.

NO SUPPORT (SURPRISE TEST)

Can you do it on your own—right now?

At some point, support should fade so that we can see what has been internalised.

★ **GOAL:** Not to catch you out—but to build confidence in what you know and can do, without a scaffold.

One strategy for assessing in the age of AI: Surprise Assessments

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This suggests an important principle for AI-enabled education: students should learn both with AI and without AI. With AI, they can investigate more deeply, compare more possibilities and undertake more ambitious tasks. Without AI, we should still be able to see foundational understanding, judgment and the ability to reason through what they claim to know.

Perhaps the simplest test is this: **If the AI disappeared for ten minutes, could you still explain what you have learnt? Could you defend your decisions, recognise an error, adapt when the question changes, or reconstruct the core reasoning?** If the answer is yes, AI may genuinely be augmenting learning. If the entire capability disappears with the tool, we need to ask whether the scaffold supported learning — or quietly substituted for it.

AI may enable students to learn faster, explore more possibilities and achieve outcomes beyond what they could accomplish independently. That is precisely the promise of augmentation. **But the bottom line remains: students should still be able to demonstrate the fundamentals without AI. Foundational knowledge, core reasoning and disciplinary judgment must remain internalised,** because without them, students may not be able to evaluate, challenge or meaningfully direct the AI support they receive.

Are students ready for unstructured assessment?

One idea that followed naturally from the discussion was another question: **Are students ready for this kind of assessment?** If learners have spent years succeeding in highly structured environments — with detailed rubrics, model answers, predictable formats and tightly specified criteria — then suddenly moving to an unstructured assessment may feel less like an authentic test of learning and more like a test of confidence.

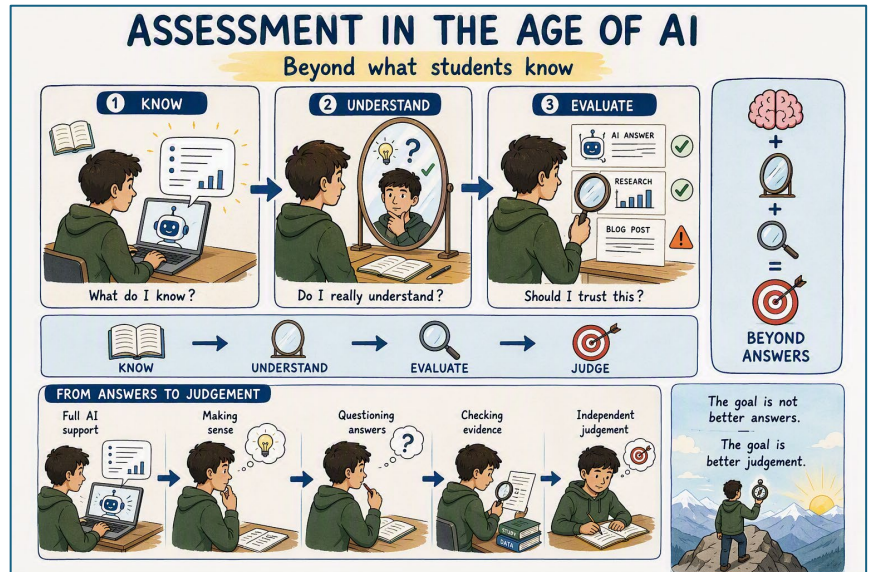
An emerging understanding from the conversation was that this is **where scaffolding across the years becomes important. Early in the learning journey, students may need more guidance: worked examples, structured prompts, formative feedback and supported use of AI. As they progress, some of these supports can gradually fade while expectations for explanation, judgment and independence increase.** This mirrors the progression already seen in SUTD's Design AI learning, where students move from guided AI use and co-creation in earlier years towards increasingly complex integration, creation and research at more advanced levels.

Cosmetic use of AI can create the appearance of stronger learning without strengthening the learning itself. Equally, learning environments that are too unstructured can disadvantage students who have not yet developed the knowledge, confidence or strategies to navigate ambiguity independently. **We need to assess and tailor our scaffolding, and this is one aspect in which AI can help us.**

Are students grade-focused — or are they just responding rationally to the system?

Another assumption that surfaced in the discussion was that **students are grade-focused**.

There is certainly truth in it. Students operate in systems where marks determine progression, scholarships, opportunities and sometimes even how they see themselves.



What to assess in the age of AI?

One provocative idea was whether some assessments could use a **high-bar Pass/Fail model** instead. This does not mean lowering standards. It means shifting the emphasis from “**How many marks can I get?**” to “**Have I demonstrated that I can genuinely do this?**” Used selectively, such an approach could create more room for experimentation, feedback and deep learning without turning every learning activity into a point-scoring exercise.

But this raises a more fundamental question: **what is grading for? Assessing learning and sorting learners are not the same thing.** One asks how much a student has learnt or developed over time; the other provides a comparative index of performance across a cohort.

If grades are intended to represent **absolute attainment against stated standards**, there is no educational reason the resulting distribution must approximate a normal curve. **A normal distribution may be useful for relative differentiation, but it does not necessarily tell us how much learning has taken place.**

The deeper question is whether we are prepared for a system in which **every student could legitimately earn an A — with or without AI — if every student genuinely meets the stated standard.** If that possibility makes us uncomfortable, then perhaps the grade is doing more than certifying learning; it is also being used to sort learners.

What should our assessments actually measure?

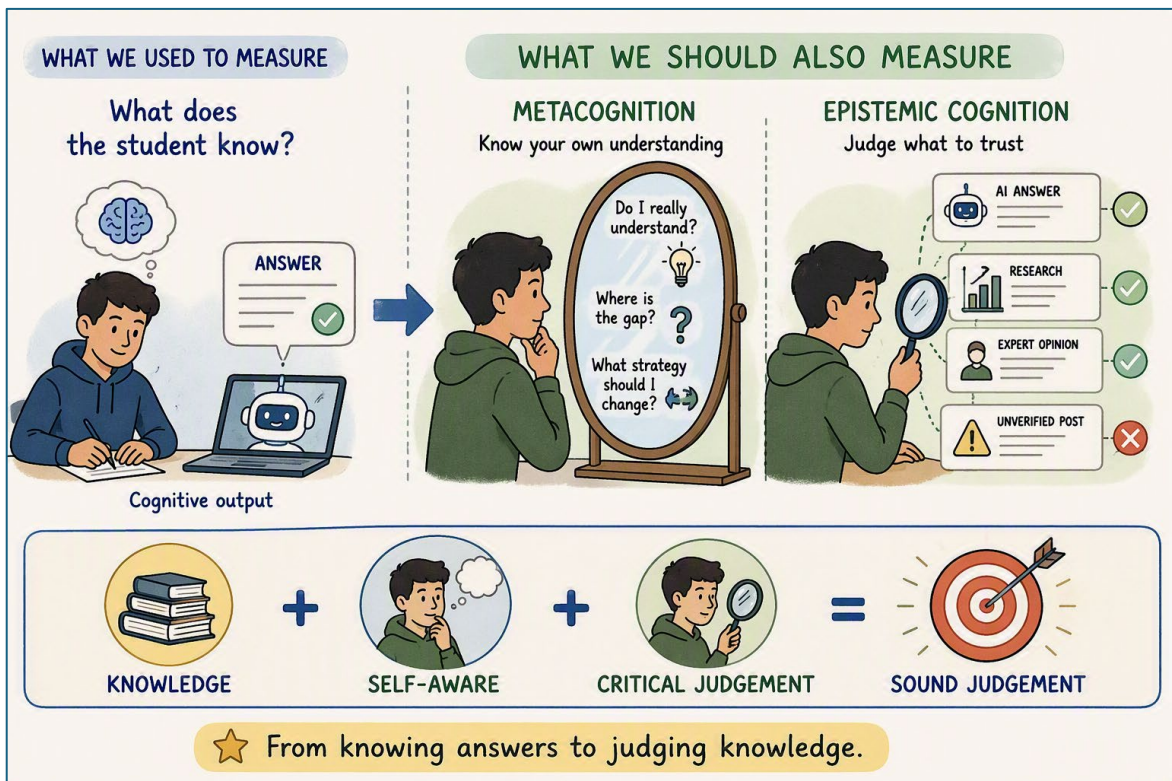
This took the dialogue into a deeper question: **if AI can increasingly produce the visible output, should assessment continue to focus mainly on cognitive performance?**

Professor Rose recommended that **we also need to pay attention to whether students can judge their own understanding, recognise uncertainty, and know when an apparently convincing answer should be questioned.**

This is where **metacognition** becomes important. Can students tell when they genuinely understand something, identify where the gaps are, and adjust their approach? The broader point is that universities need to develop learners who are increasingly self-aware and self-regulating, because these capabilities become more valuable, not less, when AI is always available.

The conversation also moved to **epistemic cognition**: how students decide what counts as credible knowledge and evidence. In an AI-rich environment, fluent output can create false confidence. The important capability is not simply receiving an answer, but being able to interrogate it, compare it against evidence, and decide whether it deserves to be trusted.

So perhaps the assessment question should expand from “**What does the student know?**” to “**How well does the student know what they know, and how well can they judge the knowledge they encounter?**”



The faculty dialogue stimulates ideas and surfaces some practical challenges: **if AI is changing what counts as evidence of learning, then the response cannot sit only with assessment policy.** It has implications for how faculty design learning, how professional staff support the learning environment, and how students take greater responsibility for their own development. We need to take the next steps.

For faculty: design assessments that reveal thinking, not just polished outputs. Build in accountability moments, vary the level of structure, use AI-enabled and AI-free tasks deliberately, and scaffold students progressively towards more open-ended assessment. Be clear about whether an assessment is intended to support learning, certify competence or differentiate performance.

For professional and support staff: create the conditions that make this possible at scale — through assessment design support, AI literacy, appropriate infrastructure, student guidance, governance, and opportunities for faculty to experiment and share evidence. The goal is not simply to roll out tools, but to build institutional readiness.

For students: use AI as a scaffold and collaborator, not a substitute for understanding. Be ready to explain, defend and adapt your work without the tool. Notice where AI is helping you think more deeply — and where it may be doing the thinking for you.

Across all three groups, one principle stands out: **we should be able to see learning, not just the final output.**

“The working world ultimately judges what one can deliver. A university has an additional responsibility: to look beneath the final output and ask whether the learner has actually developed the knowledge, judgment and capability behind it.”

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