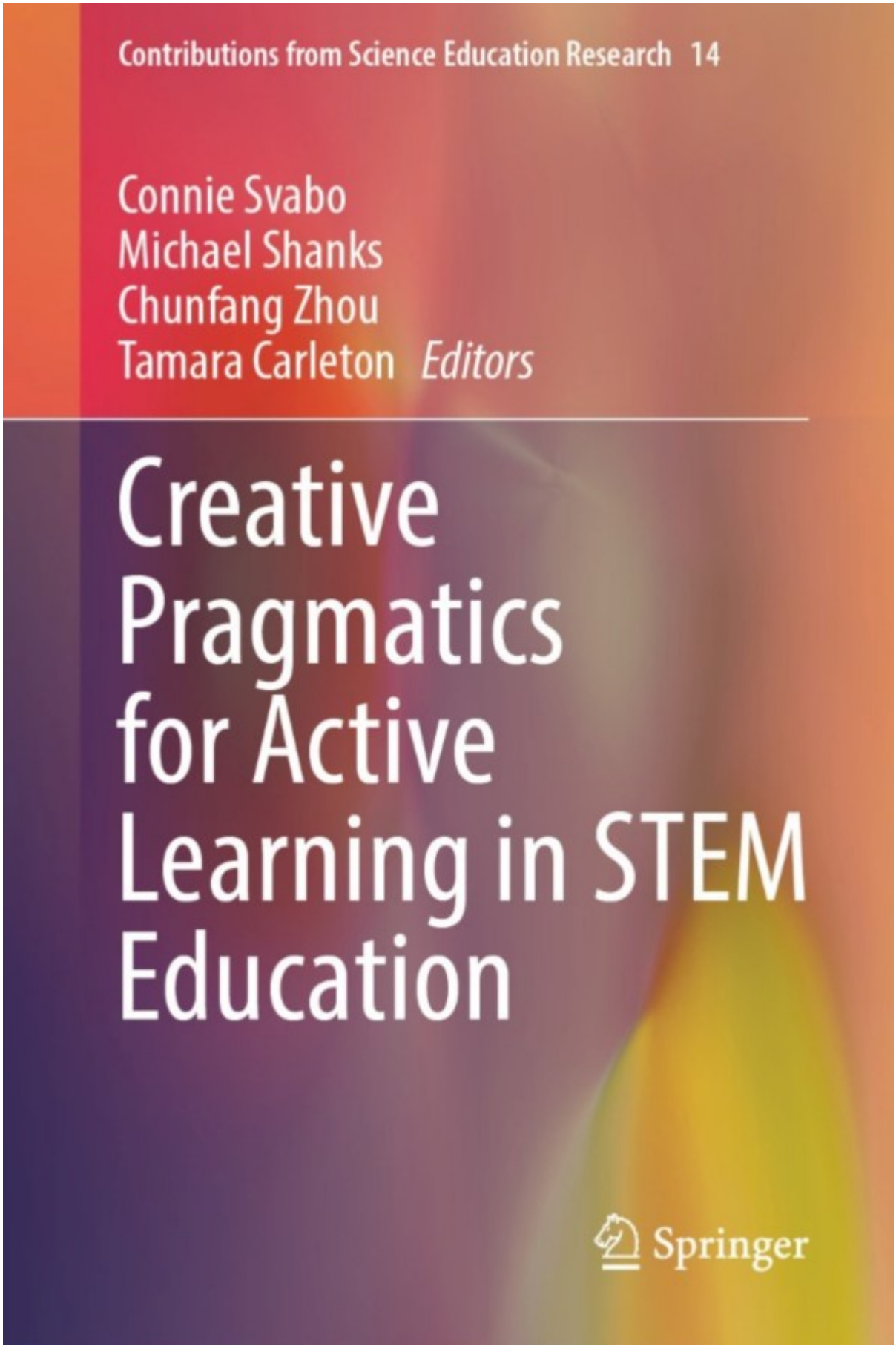
CREATIVE PRAGMATICS FOR ACTIVE LEARNING – IMPLICATIONS OF AI IN ASSESSMENT


Contributions from Science Education Research 14
Connie Svabo
Michael Shanks
Chunfang Zhou
Tamara Carleton Editors
Creative Pragmatics for Active Learning in STEM Education
Springer

Assessment in the AI era: a moment we have been preparing for since the 1980s

A comment on the Stanford Accelerator for Learning white paper "Responsible Assessment in the AI Era" (2026)

Quick summary — AI is revealing the flaws of traditional pedagogy based on standardized testing of final course deliverables. I am not alone in pointing out that we have known this for a very long time, and we already have tried-and-tested ways of making pedagogy more centered on skills and competencies, and on the people that really matter — students themselves.

The Stanford Accelerator for Learning, with ETS, has just published the findings of its January 2026 convening, Responsible Assessment in the AI Era. Some hundred leaders from research, technology, K-12 and higher education gathered around a question posed by Candace Thille: "How do we shape the current moment?"

The paper is a lucid statement of where assessment now finds itself, and I recommend it. Its diagnosis runs in three parts. Traditional assessment is misaligned with how learning actually occurs — learning unfolds as a process, while assessment remains largely event-based, a snapshot at a single point in time. Generative AI has exposed the limits of judging learning by final outputs, since a learner can now produce a high-quality product without engaging in the learning processes the product was meant to represent; outputs alone, the authors conclude, "can no longer be assumed to serve as reliable indicators of human capability." And there is a growing gap between what we measure and what matters: as AI absorbs routine cognitive tasks, what education must cultivate are the durable, distinctly human capabilities — critical thinking, creativity, collaboration, curiosity, agency, adaptability — precisely the things our assessment instruments were never designed to see.

The prescriptions follow: move from isolated testing events to systems of inference built on evidence accumulated over time; expand what counts as evidence to include social and relational learning; extend the role of formative assessment; adopt portfolio- and competency-based approaches that capture artefacts, projects, and collaborative work; co-design assessment with the people it affects; and keep humans in the loop.

All of this is very familiar to some of us. This is the diagnosis – and some indication of the cure – that a group of us set out last year in Creative Pragmatics for Active Learning in STEM Education (Springer, 2025, edited with Connie Svabo, Chunfang Zhou, and Tamara Carleton [Link]). And the book itself is a distillation of a much longer practice – half a century and more of project-based active learning, in my case reaching back through the d.school and Stanford Humanities Lab, the modular research-led curriculum we built at Lampeter in the 1990s, integrated curricula in a classics classroom in the 1980s, and a master's thesis I wrote in 1981 on the radical tradition of student-centred learning – alongside the Danish tradition of problem- and project-based learning at Roskilde and Aalborg that my co-editors carry.

The white paper describes a future for assessment sensitive to the implications of AI. It is a future that active learning has been rehearsing for decades.

AI didn't break assessment; it exposed it

The deepest point of contact is philosophical, and it matters because everything practical follows from it.

The white paper observes that when a machine can produce the product, the product ceases to be evidence of the person. Quite so. But notice what this concedes: the equation of learning with outputs was always a convenience of measurement, not a truth about knowing. Creative Pragmatics begins from Vico's aphorism *verum ipsum factum* – truth itself is made. Knowledge is not a commodity transmitted and then inspected; it is a performance, an achievement, situated and iterative, accomplished by people working with materials, instruments, institutions, and each other. That is the settled finding of half a century of science and technology studies, and it is the working assumption of every studio, lab, and project team.

If knowing is a performance, then assessing only the frozen end-product was always a category error. Generative AI has not created this problem; it has made it impossible to ignore. The paper's own trajectory – from testing events to "continuous, context-rich, and developmentally oriented" assessment – is exactly the move from what Andrew Pickering calls a representational to a performative model of knowing, which is the theoretical spine of our book.

The solutions on offer are time-served

Take the paper's areas for action in turn, and in each case project-based active learning turns out to hold a worked solution — not a proposal but a repertoire, tested in classrooms, studios, and national programmes.

Portfolio- and competency-based assessment, "evidence of learning across time and contexts," "artifacts, projects, and collaborative work" — this is simply a description of the project studio. The brief, the research, the iterations, the prototypes, the critique, the final review: a semester of studio work generates continuously exactly the accumulated, socially situated evidence the paper calls for, and it has done so since long before anyone thought to call it a system of inference. Our book treats this machinery in detail — how project briefs are crafted with external partners (a decade of data from the Stanford-linked SUGAR network), how design studios at Columbia, Stanford, and Nebraska scaffold and assess competence in context, how summative assessment of integrated STEM competencies can be made sensitive to affect and engagement, and how "feedback literacy" is itself a competency to be taught, through rehearsal and enactment.

Formative assessment "embedded in instruction to guide next steps," with peer feedback in the loop — this is the daily texture of studio critique and problem-based learning, where feedback is not an adjunct to the work but the medium in which the work proceeds.

The durable human skills the paper worries we cannot yet define or measure — adaptability, collaboration, creative problem-solving, judgement under uncertainty — are what our book calls competencies for navigating complexity, and they are not undefined: the European Qualifications Framework, the OECD's transformative competencies, and a large research literature specify them, expecting graduates to "integrate knowledge and handle complexity, and formulate judgments with incomplete or limited information." What Creative Pragmatics adds is the pedagogical mechanism: you do not teach judgement in unpredictable situations by lecturing about it, and you cannot assess it with an item bank. You place learners in open-ended projects with real stakes and distributed responsibility, and you attend to how they perform.

And sociocultural responsiveness — Kadriye Ercikan's point that learners bring their "full self" into assessment — is what the tradition from Dewey through Lave

and Wenger has always insisted on: knowing is situated; the “environing conditions” are part of the cognition. A pedagogy built on situated performances of knowing does not need to retrofit context; it starts there.

A shared caution

The paper is also honest about the risks, and here too we converge. Measurement signals what systems value, as OpenAI’s Sara Caldwell put it; assessment shapes what education prioritises, and repeated use narrows what counts as learning. Our third chapter presses the same warning through Pasi Sahlberg’s critique of standardised, accountability-driven reform: competence-based approaches themselves turn reductive the moment we assess only what is easily measured. The paper’s call to “clarify and operationalize complex constructs” is necessary work — but operationalisation must not collapse holistic competence back into isolated, testable skills. That is the specific challenge Creative Pragmatics is designed to avoid, by keeping competence whole: knowledge, skill, judgement, responsibility, and the agency to act.

I would add one note of friendly pressure. The paper looks chiefly to AI to expand the evidentiary base — stealth assessment, process data, continuous data streams — and, to its credit, immediately registers the concerns: privacy, learner awareness, more data not meaning better insight, and Ben Domingue’s caution that passive collection raises hard ethical questions. The active-learning tradition suggests the alternative was available all along: rather than instrumenting ordinary instruction ever more densely so that assessment can be extracted from it, design the learning so that rich evidence of competence is what the work itself produces — visibly, with the learner’s knowledge and participation, in portfolios, prototypes, performances, and critique. Co-designed with learners, as the paper itself recommends. Trust, its authors note, is built through transparency; a studio review is about as transparent as evidence gets.

In the classroom, now

This is not, for me, only a matter of frameworks. In my own teaching policy the same commitments are operational. Assessment is designed to test the competence a course actually develops, with criteria public and intelligible, self- and peer-assessment as serious components, and a clear distinction between the formation of capacity and the certification of completion. Student AI use is met not with

surveillance but with transparency and reflection: disclosure of prompts and exchanges, and critical analysis of what the tool did and did not do, so that AI use becomes an object of pedagogical work rather than a credentialing risk. Some assignments are deliberately AI-resistant — fieldwork, studio work, work with original sources — not to defeat the machine but because certain cognitive musculature is built only through sustained, unmediated engagement. And one refusal above all: pedagogy redesigned around preventing AI use, rather than around developing competence, a defensive pedagogy, is a deformation of teaching. The white paper's plea that we strengthen learner support "without turning every moment of learning into another layer of assessment" makes the same point from the other side.

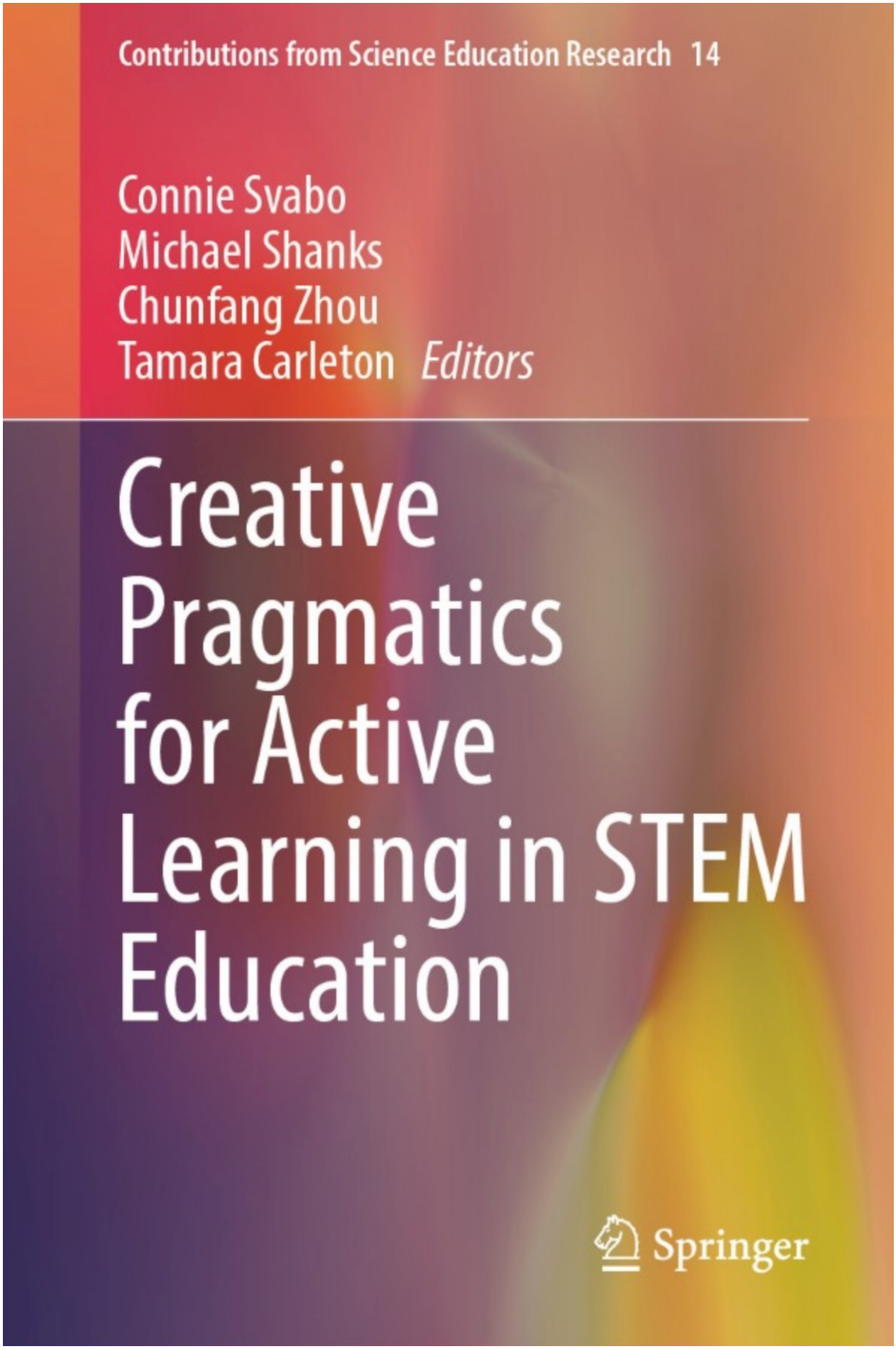
Shaping the moment

The paper closes where it should: AI can expand what is feasible, "but it cannot be held accountable for the consequences of assessment decisions. People can… humans must decide which possibilities are worth pursuing." That is a statement about agency — and creative agency, the capacity of people, cooperating with the world, to make it otherwise, is the very heart of Creative Pragmatics.

Dan Schwartz says in the paper: "We need instruction that produces adaptive learners and assessment that can tell." Dewey was making that argument in 1938; the Roskilde experiment institutionalised it in 1972; the studios and labs have been quietly practising it ever since. What the AI era has changed is not the answer but the urgency of the question. The moment the convening asks us to shape is one that the tradition of active learning through creative pragmatics has long been preparing for. The invitation now — and our book is meant as exactly this — is to stop treating these practices as boutique alternatives and to take them up as the mainstream design of teaching, learning, and responsible assessment.

The white paper: Nneka J. McGee, Candace Thille, Ikkyu Choi, Kadriye Ercikan, and Isabelle C. Hau, "Responsible Assessment in the AI Era: Key Insights from a Future-Focused Convening," Stanford Accelerator for Learning, Stanford University, 2026.

The book: Connie Svabo, Michael Shanks, Chunfang Zhou, and Tamara Carleton (eds.), Creative Pragmatics for Active Learning in STEM Education, Springer, 2025. [Link]


Contributions from Science Education Research 14
Connie Svabo
Michael Shanks
Chunfang Zhou
Tamara Carleton Editors
Creative Pragmatics for Active Learning in STEM Education
Springer