

Synopsis of September 25, 2025 Webinar, "Assessment for Deeper Learning: Making Sense of Machine-driven Feedback in the Age of AI"

Panelists: Dr. Fabienne van der Kleij, Dr. Jill Willis, and Daniel Taylor-Griffiths

Moderators: Dr. Brent Duckor and Dr. Carrie Holmberg

Introduction

The rise of artificial intelligence (AI) has brought profound changes to education, particularly in how feedback is delivered and utilized. In a recent webinar titled *Making Sense of Machine-Driven Feedback in the Age of AI*, experts from Australia and the United States explored the evolving role of AI in transforming feedback processes for deeper learning. Panelists Dr. Fabienne van der Kleij, Dr. Jill Willis, and Daniel Taylor Griffiths shared insights into how AI can enhance learning while raising critical questions about its implications for equity, agency, and teaching practices.

This article synthesizes the key themes of the webinar, offering a roadmap for educators, policymakers, and researchers navigating the integration of AI-driven feedback into teaching and learning.

Defining Feedback in the AI Era

Feedback has long been a cornerstone of effective teaching, traditionally viewed as a one-way process where teachers provide students with guidance to improve their work. However, the advent of AI challenges this model, introducing tools that can generate personalized, immediate, and scalable feedback. As panelists noted, AI-driven feedback has the potential to democratize access, reduce teacher workload, and foster student agency. Yet, it also raises questions about the depth and quality of the learning it supports.

Dr. van der Kleij highlighted a key distinction between feedback as it could be and as it currently exists. Many AI systems remain prescriptive, limiting students' agency by focusing on correction rather than engagement. "We need to move beyond automated feedback that sticks and crosses," she stated, emphasizing the importance of dialogic feedback that prioritizes student understanding and metacognitive growth.

Opportunities for Deeper Learning

AI has the potential to deepen learning by enhancing feedback processes in several ways:

1. **Personalization:** Natural language processing (NLP) advancements enable AI to provide detailed feedback on open-ended responses, adapting to individual student needs. Tools that offer multimodal feedback—such as video, images, and interactive prompts—further enrich the learning experience.
 2. **Student Agency:** By allowing students to seek feedback on demand, AI shifts power dynamics in the classroom. Students are no longer passive recipients but active participants in their learning, using AI tools to explore, evaluate, and refine their work.
 3. **Efficiency and Iteration:** AI can reduce the turnaround time for feedback, enabling multiple cycles of revision and improvement. As Daniel Griffiths noted, "If I can give feedback ten times instead of once, each iteration can spiral deeper into learning."
 4. **Support for Marginalized Students:** AI tools designed for accessibility, such as goblin tools for ADHD support, demonstrate the technology's potential to close gaps for students with disabilities. By scaffolding learning processes, these tools can empower students who face systemic barriers.
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Challenges and Risks

Despite these opportunities, the panelists cautioned against an uncritical embrace of AI-driven feedback. Several challenges must be addressed to ensure equitable and meaningful integration:

1. Equity and Access

The "digital divide" remains a significant barrier. As Dr. Willis observed, students with "Digital Capital and Curiosity Capital" are better positioned to leverage AI tools, potentially widening gaps for those without access to technology or support. Schools must address these disparities to prevent AI from exacerbating existing inequities.

2. Teacher Roles and Workload

AI's promise to reduce teacher workload comes with caveats. Dr. Willis recounted her experience with rapid feedback loops, which, while beneficial for students, placed a heavy emotional toll on her as an educator. "I felt the weight of 150 students' anxieties," she shared, highlighting the need for balance between AI-assisted efficiency and teacher well-being.

3. Quality and Depth of Feedback

Not all AI feedback promotes deep learning. Dr. van der Kleij warned against systems

that merely correct errors without probing deeper cognitive processes. For AI to support authentic learning, it must move beyond surface-level adjustments to foster critical thinking, reflection, and self-regulation.

4. Ethical and Social Implications

AI's reliance on data-driven algorithms raises concerns about bias and misrepresentation. Feedback systems must be carefully designed to avoid reinforcing stereotypes or penalizing atypical responses. As Griffiths noted, "We need solid evidence and mindful implementation to prevent AI from becoming just another shiny new thing."

Rethinking Feedback for the Future

To maximize AI's potential while mitigating its risks, educators and researchers must collaborate on new frameworks for feedback. The panelists offered several guiding principles for this reimagining process:

1. Feedback as a Dialogic Process

Feedback should be seen as an ongoing conversation, not a one-time correction. By integrating AI into a broader ecosystem of teacher-student and peer-to-peer interactions, schools can create feedback systems that are dynamic, participatory, and growth-oriented.

2. Focus on Learning Goals

Clear learning goals and criteria are essential for meaningful feedback. Dr. van der Kleij emphasized that students need to understand the "why" behind their tasks to engage productively with AI feedback. Rubrics, progress guides, and exemplars can anchor AI systems in well-defined learning objectives.

3. Building Feedback Literacy

Students and teachers alike need training to navigate AI tools effectively. Feedback literacy—understanding how to give, receive, and act on feedback—is critical for fostering agency and self-regulation. Griffiths highlighted the importance of professional development to equip educators with the skills to implement AI thoughtfully.

4. Ethical Design and Use

Educational technology companies must collaborate with educators to ensure AI tools align with pedagogical best practices. Dr. Willis called for transparency and accountability in the design of AI systems, emphasizing the need for inclusive, culturally responsive, and bias-free tools.

The Future of Standardized Testing

One of the webinar's most provocative questions was whether AI-driven feedback could render traditional standardized testing obsolete. With AI enabling continuous, formative assessments that provide real-time insights, some panelists envisioned a shift away from high-stakes, summative tests.

Dr. Willis expressed skepticism, noting that large-scale assessments remain entrenched in education systems for accountability and funding purposes. However, she emphasized the importance of preserving teacher creativity and agency in the face of growing pressures. "Teachers play a pivotal role in maintaining possibilities for human connection and good learning," she affirmed.

Conclusion

The integration of AI into feedback processes represents a transformative moment for education. While the technology offers unprecedented opportunities for personalization, agency, and efficiency, it also demands careful consideration of its ethical, social, and pedagogical implications. As the panelists made clear, the future of feedback depends on our ability to navigate these complexities with intentionality and collaboration.

For educators, the challenge is not merely to adopt AI tools but to reimagine feedback as a means of fostering deeper learning, equity, and student empowerment. By centering these values, we can harness AI to enrich—not replace—the human dimensions of teaching and learning.
