Keynote Speaker

“Needs and Tools for Artificial Intelligence in 21st Century Society”
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Abstract

The Covid-19 era unexpectedly made all sectors dependent from remote communication, virtual- and vicarious learning. This lecture is based upon the new book: “Sources for a Better Education: Lessons from Research and Best Practices”.

It signals parallels in society, technology, and demonstrates the risk for biased information; not just lacking knowledge or naïve misconceptions. Starting from abundant information access we now see tempting options for learners to restructure and even reconceive existing information. From the perspective of cognitive growth, the last four decades let learners ‘re-construct meaning’ to stimulate highly individualized understanding: Simulations, modelling, concept mapping, and lately the cultivation of storytelling; they have been promoted as an extra to just absorbing new knowledge. So far, education still underestimated the flip side of constructivist and engagement in the form of externalization and transformative learning.”
Hello! My name is:

Piet Kommers

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Artificial intelligence is already altering the world and raising important questions for society, the economy, and governance.
AI systems have the ability to learn and adapt as they make decisions, in the case of self-driving cars, for example, auto-pilots and autonomous vehicles have to take into account various factors such as weather conditions, traffic patterns, and the actions of other vehicles on the road, without human intervention, and the ability to quickly adjust to different scenarios and respond appropriately is key to their effectiveness and reliability in similar environments.

The goal of artificial intelligence is to achieve the Sustainable Development Goals. AI can enable the accomplishment of 134 targets across all goals, but it may also inhibit 50 targets. However, current research has overlooked important aspects. The fast development of AI needs to be supported by the necessary regulatory framework and oversight for AI-based technologies to enable sustainable development. Failure to do so could result in gaps in transparency, safety, and ethical standards.

Societal Demands for Artificial Intelligence in Education
- From the perspective of cognitive growth, the last few decades have seen a significant increase in the popularity and proliferation of AI-based education tools, with the aim of enhancing learning outcomes.
- The integration of AI in education has opened new possibilities for personalized learning, adaptive assessments, and real-time feedback. However, the ethical implications and the potential for misuse also need to be carefully considered.

Learning as Existential Drive
- So far, education still underestimated the flip side of constructive learning practices. Critical thinking seemed to be a good candidate for a more active learning attitude. It may create more authentic students who build upon existential drivers. "What do I need to make a difference in life?"

Deep Learning
- Problem- and challenge-based learning are the keywords. The book "Bloom's Higher Order Thinking Skills" explores the landscape of learning theories and how teachers can benefit from the larger spectrum of AI tools: big data, data mining, deep learning, machine learning, learning analytics, and multi-variate interactive reasoning.

STEAM and Web-Based Learning Communities
- What digital measures allow teachers to make students unable to do work? What are the key elements that are needed to develop a STEAM program? How can we integrate technology, science, engineering, arts, and mathematics?
- What social media mechanisms are used in web-based communities? Why are they effective in terms of learning outcomes?

ICT supporting the Covid-19 Pandemic
- Education is a sector that easily shifts to online. For instance, times of emerging educational needs that arise- and kind-of technologies that were initially intended to be accepted in schools are now used in the ICT tools that are already in use for two decades.
Kenneth Dunn

If students don’t learn the way we teach them, let’s teach them the way they learn.
Learning

Playing

Working
Thanks for your Attention