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Interdisciplinary Perspectives on the Use of Competency-Based Learning and AI in Personalized Learning Environments

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What does the future of learning look like? "Nowadays, what people call learning is forced on you and everyone is forced to learn the same thing on the same day at the same speed in class. And everyone is different. For some it goes too fast, for some too slow, for some in the wrong direction. [...] Well, in the old days you used to have tutors for children. A person who could afford it would hire a pedagogue, a tutor, and he would teach the children; and if he knew his job he could adapt his teaching to the tastes and abilities of the students, you see. [...] Now, there's a possibility of a one-to-one relationship for the many. Everyone can have a teacher in the form of access to the gathered knowledge of the human species." (Moyers, 1988)



To what extent is education policy impacting





need to be modeled, e.g. in terms of their competencies!

How is the learner data utilized?



Educational algorithms leverage learner data for diverse purposes, such as task sequencing or predicting dropout rates. Al techniques are seeing growing 01010101 adoption in these domains.



At the learner level, a demand for AI literacy becomes evident, as learners progressively immerse themselves in Al-based learning environments.

In education, the use of AI is currently conveyed "as if it must be right, as if the (anticipated) potential justifies its use - even if teachers who employ AI do not (fully) understand the actual mechanisms and models, and the question of legitimacy and accountability remains entirely unclear["] (Allert & Hartong, 2021)

At the educator level, insights drawn from learner data are showcased through teacher-facing dashboards, offering valuable guidance for (re)designing educational settings and the identification of individual support needs. In this context as well, the utilization of AI methods is on the rise, underscoring the importance of AI literacy among educators.

not measurable



considerations





takeaway

The development of educational technology, such as personalized learning environments, necessitates an **interdisciplinary approach** to ensure that neither educational nor computer science falls into the trap of developing a reductionist understanding of the other discipline.

Keferences

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