Preface to the Proceedings of the D-SAIL Workshop - Transformative Curriculum Design

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This half-day workshop brought together stakeholders in education – among which educators, researchers and practitioners – to reimagine traditional curricula by integrating AI-driven insights, sustainability principles, and digitalisation. It came about due the rapidly evolving technological landscape around teaching and learning that enables innovative approaches to foster adaptive, inclusive, and future-ready learning experiences. The workshop aimed to explore how generative AI can enhance smart learning environments and how comprehensive data analysis can inform effective curriculum development across diverse educational disciplines. Numerous concerns have been raised about the unequal access to such technologies, be it because of the cost of those that are commercial, or the technical background needed to set up others that are freely accessible [1]. A careful consideration of both developments and criticisms could provide valuable insights into creating transformative educational experiences that not only leverage cutting-edge digital tools but also embed sustainability and ethical practices into curriculum design. Importantly, the AI transformation is already happening. It is important that this process is guided by critical insights beyond the bare enthusiasm. Continuous multidisciplinary research is the way to reveal limitations of current approaches and propose improvements and alternatives. The first edition of this workshop has served as a platform to share research findings, discuss innovative pedagogical frameworks, and explore interdisciplinary strategies that prepare students for the emerging needs of the 21st century [1].

Fourteen submissions were made for peer-review within the workshop, coming from 10 countries and 4 continents. From these submissions, 10 were accepted, consisting of a total of 95 pages and amounting to an acceptance rate of 71%. These were contributed by 35 authors from institutions from Australia, Belgium, Bulgaria, Germany, Greece, Italy, Spain and Switzerland. Universitat Pompeu Fabra of Barcelona and Politecnico di Milano each made two successful contributions, the research group from the former institution researching perceptions of various stakeholders towards AI, and from the latter - support interventions for people with neurodevelopment disorders.

This geographic diversity is not the only reason we claim success with the workshop. There was also an extensive coverage of contribution types and addressed educational levels. The accepted contributions collected opinions on topics and interventions in AI for education from more than 200 study participants in total. Further, 3 theoretical frameworks were presented and adopted [2, 3, 4], as well as 4 practical implementations [5, 6, 7, 8] were proposed. Three surveys were reported in detail at the workshop: one about perceptions of students [9], one about perceptions of educators [2] and one about perceptions in focus groups of participants across the educational sector [10]. The bulk of contributions – a total of 6 publications – presented educational interventions. Two were about technical implementations in support of higher education [5, 6], two in-class interventions about school education [6, 4], one proposal for extracurricular activity in pre-school education [3] and two technical implementations for people with neurodevelopment disorders [7, 8]. Last, but not least, the workshop featured one policy paper [11] documenting the introduction of AI in the secondary education curriculum in Italy through the subject of civic education.

Within the wider AIED'2025 conference this workshop provided a platform for interdisciplinary discussion of the opportunities and challenges for curriculum design in the context of the ongoing AI revolution. While this first edition was a mere opening of the conversation, it provided a previously-lacking stage for discussion of this multidisciplinary challenge. The current wave of interest towards artificial intelligence is neither the first, nor is it going to be the last, yet curriculum design needs to adapt within its very specific dimensions and we hope this workshop and its proceedings could serve as constructive provocation and a valuable contribution in the process. Typically for the half-day format and being held together with a large conference, workshops like ours encourage short paper submissions. While contributions of that size could hardly present elaborate solutions for the complex educational landscape, this format has worked well to solicit indications of promising ideas.

The high interest in the workshop and its perceived success give us a reasons to look forward to holding a second version in nearest future. Given the high frequency of events in the field and the specific role that Europe assumes as a more cautious and attentive player in the global AI race, we are convinced that it provides the just setting for this interdisciplinary line of research. Thus, we are looking forward to hosting another edition of D-SAIL in the fringes of another international conference on educational technologies in Europe.

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