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Editorial: Teaching and learning human–computer interaction (HCI): current and emerging practices

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Editorial on the Research Topic
Teaching and learning human–computer interaction (HCI): current and emerging practices

Human–computer interaction (HCI) is the academic discipline dedicated to understanding how humans interact with technology. Since technologies play such a prominent role in our daily lives, ensuring that they are designed to reflect the full spectrum of human abilities, skills, and experiences is more important than ever. Between higher education HCI courses and degrees and practitioner-oriented UX training programs, there are more opportunities than ever to teach and learn HCI, but HCI can be taught from various disciplinary perspectives at different academic levels, in different modalities, and in different institutional contexts. Therefore, for educators, what does it mean to teach HCI? For students, what are the most impactful and effective ways to learn HCI?

To help answer these questions, over the past several years, we have been developing an international community of practice focused on HCI education. This work began in 2011 when the Association for Computing Machinery (ACM) Special Interest Group on Computer—Human Interaction (SIGCHI) Executive Committee sponsored a research project about the future of HCI education worldwide (Churchill et al., 2013, 2016). After hearing from hundreds of international HCI scholars and educators, Churchill et al. (2013, 2016) noticed a recurring theme: The need for both a place to share HCI teaching materials and a platform to discuss HCI pedagogical approaches. Inspired by these results, St-Cyr et al. (2018) organized a workshop at CHI in 2018 to begin developing an HCI education community of practice (St-Cyr et al., 2018), which soon transformed into the EduCHI symposium which has been held annually since 2019 as part of the ACM CHI conference (St-Cyr et al., 2019, 2020; MacDonald et al., 2021, 2022). A related effort was a special HCI issue of the EngageCSEdu repository of Open Educational Resources (OERs) published in 2022 (St-Cyr and MacDonald, 2022). This Research Topic further

extends this work by providing a dedicated platform for educators to investigate, analyze, and critique current and emerging best practices for teaching HCI from a global and interdisciplinary perspective. To that end, this topic includes 10 published articles from 30 contributing authors representing eight different countries on four continents and from various academic disciplines, including computer science and information technology, digital media, information science, interaction design, industrial design, architecture, and communication studies.

The first group of contributions to the Research Topic discussed different pedagogical approaches to engage students and deepen their understanding of HCI concepts, skills, and methods. Kang et al. conducted a scoping review of the past 20 years of HCI education literature to identify 12 types of experiential learning strategies, including applied research projects, industry/community projects, hands-on activities, role-plays, and interactive workshops. They found evidence that these techniques offer a range of benefits to students, such as enhancing their technical knowledge, acquiring soft skills, and increasing their job marketability. Gamboa and Ljungblad discussed the benefits of using a community-based studio approach in a master-level UX design course to teach "designerly ways of knowing" and helped students learn how to manage the chaos and ambiguity of design projects in a supportive, peer-led environment. Alenljung et al. evaluated a bachelor-level UX design program inspired by the apprenticeship model and featuring situated and embodied teaching practices that emphasized guided participation, realistic, work-like settings, and multiple opportunities for reflection. While the findings were specific to their program, other academics can learn from this experience, both in terms of the contents of the curriculum and as a method to evaluate a curriculum. De Wet explored various emergency remote teaching methods to keep students engaged in the HCI class that was forced to be taught entirely online due to COVID-19.

The second group of contributions examined various methods to incorporate ethical principles and values into HCI education. Nunes Vilaza and Bækgaard discussed the benefits and challenges of using five normative principles to teach engineering students how to make ethical UX design decisions and called for a much stronger emphasis on moral philosophy education in engineering. Sin et al. presented a series of case studies where instructors implemented the Digital Design Marginalization (DDM) framework in seven different contexts, showing its potential value to improve design pedagogy by helping students become more thoughtful and inclusive designers. Eriksson et al. described 28 inspirational suggestions for teaching HCI students how to incorporate values into their work in all five phases of the design process. In a similar vein, Fernandez used a quadrant learning activity to familiarize students with the concepts of instrumentalism and technological determinism and help them become more aware of their personal beliefs and values as they relate to human–technology interaction.

The third and final group of contributions focused on teaching HCI skills to different types of student populations. On the one hand, Grace et al. discussed the benefits of using student-led learning and pair programming to teach coding to interaction design students. On the other hand, Lewis and Sturdee explored pedagogical approaches to teach sketching to computer science and HCI students, many of whom were uncomfortable with the technique and needed to be convinced of its value as an ideation and exploration method.

Author contributions

CM drafted the editorial. KS, AK, AJ, and OS-C contributed to the draft. All authors approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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