EduCHI 2023: 5th Annual Symposium on HCI Education

Colin M. Gray gray42@purdue.edu Purdue University West Lafayette, Indiana, USA

Alannah Oleson olesona@uw.edu University of Washington Seattle, USA Craig M. MacDonald cmacdona@pratt.edu Pratt Institute Brooklyn, New York, USA

Anna R. L. Carter a.r.l.carter@swansea.ac.uk Swansea University Swansea, UK

Caroline Pitt
pittc@uw.edu
University of Washington
Seattle, USA

Carine Lallemand c.e.lallemand@tue.nl Eindhoven University of Technology Eindhoven, The Netherlands

> Olivier St-Cyr olivier.st.cyr@utoronto.ca University of Toronto Toronto, Canada

ABSTRACT

EduCHI 2023 will bring together an international community of scholars, practitioners, and researchers to shape the future of Human–Computer Interaction (HCI) education. Held as part of the CHI 2023 conference, the one-day symposium will feature interactive discussions about HCI educational research, pedagogical innovations, teaching practices, and current and future challenges facing HCI educators. In addition to providing a platform to share pedagogical strategies and continue to build a scholarly knowledge base for HCI education, EduCHI 2023 will also provide opportunities for HCI educators to learn new instructional strategies and deepen their pedagogical knowledge.

CCS CONCEPTS

• Social and professional topics \rightarrow Computing education.

KEYWORDS

HCI education, HCI pedagogy, design and technology education, Community of Practice

ACM Reference Format:

Colin M. Gray, Craig M. MacDonald, Carine Lallemand, Alannah Oleson, Anna R. L. Carter, Olivier St-Cyr, and Caroline Pitt. 2023. EduCHI 2023: 5th Annual Symposium on HCI Education. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23), April 23–28, 2023, Hamburg, Germany.* ACM, New York, NY, USA, 5 pages. https://doi.org/10.1145/3544549.3573790

1 BACKGROUND

The past few years has seen rapid growth of an international Community of Practice (CoP) dedicated to Human-Computer Interaction (HCI) education. The root of these efforts began in 2011 when

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

CHI EA '23, April 23–28, 2023, Hamburg, Germany © 2023 Copyright held by the owner/author(s). ACM ISBN 978-1-4503-9422-2/23/04. https://doi.org/10.1145/3544549.3573790

the ACM Special Interest Group on Computer-Human Interaction (SIGCHI) Executive Committee sponsored a project to investigate the present and future of HCI education [2] with the ultimate goal of updating the ACM SIGCHI Curricula for Human-Computer Interaction (published back in 1992) [3]. Throughout this project, a common request from HCI scholars and educators was the creation of a living curriculum, or an evolving online collection of course outlines, curricula, and teaching materials [1]. Subsequent efforts to build support and interest in this initiative included workshops at CHI 2014 [1] and AfriCHI 2016 [4], and a workshop at CHI 2018 [9] to officially launch the creation of a Community of Practice (CoP) dedicated to building excitement and interest in the living curriculum [7].

During its six-year history, the HCI Education CoP has had two parallel aims: (1) creating channels for interested stakeholders to discuss issues pertinent to HCI education and (2) providing a platform for sharing HCI research, curricula, and teaching experiences. The EduCHI Symposia, held in conjunction with the CHI conference for the last four years (2019–2022), have played a vital role in growing and sustaining the HCI Education CoP by providing opportunities for educators to build knowledge to support the future of HCI education and provide a venue for HCI educators, scholars, and practitioners to share insights about successful HCI curricula, pedagogies, and teaching practices.

Following up on these efforts, the past success of our series of EduCHI events, and the growing interest in HCI education, we propose a one-day symposium for EduCHI 2023. This symposium will encourage attendees to participate in multifaceted discussions that begin in our pre-symposium engagement efforts and culminate in the hybrid symposium at CHI 2023. Our goals for EduCHI 2023, the 5th Annual Symposium on HCI Education, are as follows:

- (1) Continue growing the HCI education CoP;
- (2) Provide a platform to build and disseminate knowledge about HCI education;
- Share innovative pedagogies and teaching methods by HCI educators to encourage inclusive teaching practices; and
- (4) Promote and support a global, diverse, and inclusive vision for HCI education.

2 ORGANIZERS

The team below includes faculty and students who are active HCI educators and researchers, many of whom were also involved in organizing previous EduCHI Symposia [5, 6, 8, 10]. Colin M. Gray and Craig M. MacDonald will serve as General Chairs (GCs) for the symposium; Carine Lallemand and Alannah Oleson will serve as Technical Program Chairs (TPCs); Anna Carter will serve as Accessibility Chair; and Olivier St-Cyr and Caroline Pitt will serve as Publicity and Web Chairs.

Colin M. Gray is an Associate Professor at Purdue University, where he is program lead for an undergraduate major and graduate concentration in UX Design. Their research focuses on the ways in which the pedagogy and practice of designers informs the development of design ability, particularly in relation to ethics, design knowledge, and professional identity formation. Colin's work crosses multiple disciplines, including human-computer interaction, instructional design and technology, design theory and education, and engineering and technology education.

Craig M. MacDonald is an Associate Professor in the School of Information at Pratt Institute where he developed the Master of Science in Information Experience Design program and directs the Center for Digital Experiences, a student-driven, faculty-led UX consultancy and academic research lab. He is one of the co-founders of EduCHI. He holds a Ph.D. in Information Studies and Human-Computer Interaction from Drexel University and his research focuses on building organizational UX capacity in practical settings and strengthening HCI/UX education.

Carine Lallemand is an Assistant Professor in the Industrial Design Department at the Eindhoven University of Technology (TU/e) and the University of Luxembourg. Her research focuses on the development of user experience design and evaluation methods, as well as designerly ways to trigger behavior change for healthier lifestyles. She is also a passionate educator, who likes to innovate and reflect on the pedagogy and practice of design.

Alannah Oleson is a PhD Candidate in the Information School at the University of Washington, Seattle affiliated with the Code & Cognition Lab and the DUB group. They have eight years of research experience in HCI and design methods, including four years researching the overlap of interface design and computing education. Their current research focuses on critical HCI education, integrating aspects of justice-centered design and critical computing pedagogy to support the teaching and learning of inclusive technology design.

Anna Carter is a PhD student in the Centre for Doctoral training at Swansea University where she is focusing on enhancing human interactions and collaborations with intelligence driven systems. Swansea City and County are stakeholders within the PhD project which involves deploying a range of technologies within the £1.3bn city regeneration project. Her research focuses on using human centred methods to co-create an immersive digital experience throughout the city centre using a range of next generation technologies created through participatory design.

Olivier St-Cyr is an Associate Professor, Teaching Stream in the Faculty of Information at the University of Toronto, in Toronto, Canada. He is one of the co-founders of EduCHI. His research interests lie in the areas of studio teaching, active learning, and

community engaged learning. Prior to joining the University of Toronto, he spent eight years working in industry on HCI related projects.

Caroline Pitt is a PhD candidate in the Information School at the University of Washington, Seattle, affiliated with the Digital Youth Lab, CTRL+F Lab, and GAMER Group. Her current research focuses on designing and implementing informal educational technologies with and for teens and their communities, as well as developing best practices for concluding long-term research-practice partnerships in informal learning settings. She is interested in further incorporating design justice and longer-term perspectives into both HCI education and practice.

3 WEBSITE

The symposium website (https://educhi2023.hcilivingcurriculum. org/) contains background information about HCI education and our motivations for holding the symposium, details about the symposium organizers, and the call for participation. It will also contain the symposium agenda and copies of all accepted papers, similar to our websites for previous symposia (e.g. https://educhi2022. hcilivingcurriculum.org/).

4 PRE-SYMPOSIUM PLANS

4.1 Identifying Opportunities for Growth in the Symposium Series

As part of our planning for this symposium, we distributed a survey to previous symposia participants and other members of the EduCHI community. In total, we received 38 responses, including representatives of diverse constituencies that we have sought to reach in growing the EduCHI CoP (8 established research-focused faculty, 11 established teaching-focused faculty, 5 early-career teachingfocused faculty, 5 early-career research-focused faculty, and 9 doctoral students/candidates). These responses indicated continued interest in the symposium series, including two areas of growth: creating archival publication of symposium proceedings (e.g., through the ACM Digital Library), and creating opportunities for conversation and discussion. While the 2022 EduCHI Symposium, held as a two-day symposium, was very well accepted by the community, the two-day registration rate was prohibitively expensive for many participants. Therefore, we have requested a one-day hybrid symposium for CHI 2023, but will plan to include a series of presymposium engagement efforts to meet our goals of building a truly global CoP, and use these events to garner additional interest in attending the 2023 EduCHI symposium.

4.2 Publicizing the Symposium and Pre-Symposium Events

We will distribute a call for participation to all attendees from all previous HCI education events that have been part of this series, including workshops and symposia held from 2018–2022. We will also distribute information about this symposium on relevant academic mailing lists, including the CHI-EDUCATION listserv, and through social media, specifically through the HCI Education Facebook group (453 members, as of 27 September, 2022) and the

@HCI_Education Twitter account (408 followers, as of 27 September, 2022). We will also actively solicit submissions from individuals who have expressed an interest in HCI education issues, either through their involvement in previous HCI education activities or through published research about education-related topics, including a recent special issue on HCI education published in *Frontiers in Computer Science* and an HCI-focused repository of educational materials in *EngageCSEdu*. Our goal is to solicit submissions from a broad and diverse range of HCI and human-centered educators, recruited from all regions of the world, from different disciplinary perspectives (e.g., design, computer science, interaction design, information science, and psychology), institutional perspectives (e.g., Public, Private, Research-Intensive, Primarily Undergraduate Institutions (PUIs), and Historically Black Colleges and Universities (HBCUs)), and across a variety of cultural viewpoints.

4.3 Pre-Symposium Events to Generate Awareness and Build Community

Building on the success of two virtual events that were held in Summer 2020 by HCI Education CoP organizers, we will plan a set of 2-3 pre-symposium events in the weeks and months leading up to the symposium at CHI 2023. These pre-symposium events will take the form of a Master Class, a format introduced at the 2022 EduCHI symposium—an opportunity for an experienced HCI educator or researcher to lead an interactive training session on a particular topic, concept, or teaching method that can be incorporated into an HCI assignment, class, or program. The authors of accepted Master Class submissions will be asked to lead a 60 minute virtual session via Zoom. We plan on accepting 2-4 Master Class proposals, with one session to be held every 3-4 weeks in the two months prior to CHI 2023. We will explicitly seek to identify presenters that represent geographic diversity, differing cultural perspectives on HCI education, and opportunities for engagement by community members across many time zones. Each session will be broadly publicized using the mechanisms listed above and will be hosted by members of the EduCHI 2023 organizer team. During each session, we will publicize the EduCHI 2023 symposium and share opportunities to continue the conversation begun by each Master Class session during the symposium.

4.4 Creating and Disseminating the Symposium Program

Potential presenters will be asked to submit a 4–10 page manuscript in the single-column ACM Master Article Submission template. Any submissions related to HCI education will be welcomed, including, but not limited to: research on HCI education, effective HCI pedagogies and teaching practices (e.g., assignments, assessments, pedagogical modes, resources, readings, case studies, lecture materials, online/remote teaching, diversification of HCI curricula), HCI curricula and their development and/or deployment, thought-provoking or inspirational perspectives on HCI education, provocations for HCI educators, or descriptions of unsolved HCI education challenges. Building on its successful reception in the 2022 symposium, we will also create more expansive opportunities for HCI educators or researchers to submit proposals for a Master Class. Through a Master Class, the presenter shares a 60 minute virtual

training session on a particular topic, concept, or teaching method that can be incorporated into an HCI assignment, class, or program. These Master Classes will be a key part of our pre-conference engagement strategy, building momentum for the CoP at large and generating awareness and interest for the EduCHI 2023 symposium.

All submissions will go through a rigorous, double-blind peer review process with three primary review criteria: the paper's overall quality, its originality and novelty to the HCI education community, and its potential to engage attendees in thoughtful discussions. The Technical Program Chairs will oversee the review process, including establishing a program committee (PC) of past EduCHI authors and those with expertise in the topic, selecting a minimum of three knowledgeable reviewers for each paper (at least one of which will be a member of the PC), and forming an initial recommendation for conditional paper acceptance or rejection based on the resulting reviews at a formal committee meeting with PC members. Following a conditional acceptance, participants will be asked to prepare the final camera-ready version of their submission as well as a brief summary of changes and clarifications in response to reviewers' feedback. The TPCs will review the camera-ready versions and summaries of changes to approve and formally accept the paper. Authors of formally accepted papers will also be given the option of creating a captioned pre-recorded presentation and other supplemental content about their submission (slides, video, etc.) to be published on the symposium website and distributed to attendees prior to the event.

The TPCs, in collaboration with the General Chairs, will create and promote the completed program, including a series of community-building events highlighting our Master Classes prior to the symposium, through the same venues as indicated above.

We expect to meet or exceed the number of participants for last year's hybrid EduCHI 2022 Symposium, which had 35 registered attendees (19 in person, 16 attending virtually). With the change from a two-day to one-day symposium (bringing with it decreased registration costs), we expect additional virtual participants and increasing in-person attendance, likely moving closer to attendance numbers at the fully-virtual EduCHI 2021 Symposium, which had 51 registered attendees.

Over time, the quality of submissions has increased, leading to higher acceptance rates but also an overall increase in quality of scholarship. EduCHI 2020 received 29 submissions, of which 14 were accepted (48%). EduCHI 2021 received 15 submissions, of which 9 were accepted (64%). Last year's hybrid EduCHI 2022 received 20 submissions, of which 15 were accepted (75%). The accepted submissions for 2022 represented the growing breadth of our community, including a total of 60 authors, 24 institutions or organizations, and 13 countries! Five of these presentations were conducted virtually, underscoring our ongoing commitment to create parity for virtual participation throughout the symposium. We expect the numbers of submissions to begin to rise this year after a decline over the past two years during the peak of the pandemic, and anticipate receiving 25-30 submissions. We plan to accept approximately 10-12 submissions to be presented at the symposium in addition to 2-4 Master Class events held prior to the symposium that will culminate in a set of structured lightning talks and World Café-style discussions at the symposium.

5 HYBRID PLANS

Based on patterns of participation over the last three symposia (2020 and 2021 conducted entirely online and 2022 conducted in hybrid format), we plan to offer the EduCHI 2023 symposium in hybrid format with in-person and virtual components. As part of our vision for a truly global CoP, we recognize that many participants will be unable to attend in person, and thus a hybrid format not only pragmatically increases opportunities for participation, but also increases the potential equity of participation. Using this hybrid format, we will host a Zoom session with breakout room capabilities (or similar platform, as supported by the conference organizers) in conjunction with our existing Slack workspace to ensure that online participants can effectively engage in discussion. To support this hybrid format, in the conference venue we request: 1) a projector that displays the Zoom room and all virtual participants, 2) house audio to allow Zoom participants to be heard in the in-person conference venue, and 3) microphones for in-person presenters and other participants that are linked into the Zoom room to allow virtual participants to hear what is happening in the conference room.

We piloted this hybrid format during the EduCHI 2022 symposium, which successfully included presentations by in-person presenters, virtual participants, and recorded presentations. Across our range of contribution formats, we intentionally built time into the schedule for small group conversation (tables for in-person participants, breakout rooms for virtual participants), with results reported out in the Slack workspace in session-specific threads alongside questions and conversation. We found this format to be equally accessible for in-person and virtual participants, allowing for all participants to be heard and engage in meaningful conversation. All of these conversations in Slack were available for asynchronous conversation following the symposium, allowing participants unable to attend synchronously to benefit from the presentation materials and discussion.

6 SYMPOSIUM STRUCTURE

The symposium will be a one-day hybrid event, held in conjunction with the CHI 2023 conference, in which participants will be an integral part in presenting their vision and sharing their perspectives on HCI education. The symposium will be simulcast via Zoom (or a similar video conferencing platform, as indicated by the conference organizers) to enable remote participation. We will also utilize channels in a pre-existing HCI Education Slack workspace (https://educhi.slack.com) to facilitate discussion in the pre-symposium events, during the symposium, and as an ongoing source for knowledge exchange and networking. To maximize engagement and encourage both formal and informal knowledge sharing, the symposium will feature a mix of pre-recorded and live presentations, interactive tutorials, and collaborative discussion sessions. To build the technical program, we will solicit four distinct types of submissions:

- Research Paper: describe novel research on or about HCI education.
- (2) Provocation/Unsolved Challenge: present a new, controversial, inspiring, unsolved, or otherwise thought-provoking perspective on or about HCI education.

- (3) Teachable Moment: describe and/or demonstrate an interesting or innovative teaching method, curricular approach, or other pedagogical tool for HCI educators.
- (4) Master Class: propose a 60 minute interactive training session on a particular topic, concept, or teaching method that HCI educators can incorporate into an assignment, class, or program. These Master Class submissions will be the focus of our pre-symposium engagement with the EduCHI community, along with additional opportunities for engagement through structured conversation during the symposium.

The symposium program will include three 60–90 minute sessions featuring a combination of presentations (research papers and provocations/unsolved challenges), interactive demonstrations (teachable moments), and World Café-style discussions building on previously held Master Class sessions that are part of the presymposium activities. The symposium will begin with an overview of the symposium goals and a summary of our progress in building an HCI Education Community of Practice, and the day will conclude with a brainstorming session about the future of the symposium and community. We will also invite participants to an optional post-event networking dinner where they will be able to continue discussions started earlier at the symposium. We will also provide a virtual networking session for participants who are not attending in person.

Table 1 provides the proposed symposium schedule; the exact session times may be modified to accommodate the type and format of submissions. We will have a dedicated Accessibility Chair who will be responsible for ensuring all participants can participate in all symposium activities.

7 POST-SYMPOSIUM PLANS

We will make a request for all proceedings be archived on the ACM Digital Library, but regardless of whether this request is successful, we will archive all papers on the symposium website. We will continue to promote conversations using the HCI Education Facebook group and Slack workspace, and will gauge continued community interest in regular events inspired by the Master Class virtual sessions.

Moreover, we will post a link to the online brainstorming document created during the symposium, which will capture notes and resources shared by attendees during the event. We will also keep the HCI education community aware of developments through our Facebook HCI Education group and on Twitter (@HCI_Education). Further, we will continue organizing virtual meetings on issues discussed at the symposium and other topics of interest to the HCI education community.

8 CALL FOR PARTICIPATION

EduCHI 2023, the 5th Annual Symposium on HCI Education, will bring together an international community of scholars, practitioners, and researchers for a series of presentations and interactive discussions about HCI education trends and challenges. As a platform for sharing HCI curricula, materials, and teaching experiences, we seek four types of submissions:

 Research Paper: Describe novel research on or about HCI education. (6–10 pages)

Timing	Activity
9:00-9:30 am	Welcome: Agenda, background, and goals
9:30-10:30 am	Session #1: Provocation/Unsolved Challenge presentations and dialogue
10:30-11:00 am	Break
11:00 am-12:00 pm	Session #2: Research Paper presentations and dialogue
12:00-2:00 pm	Lunch
2:00-3:00 pm	Session#3: Master Class lightning talks and World Café discussions
3:00-3:30 pm	Break
3:30-4:30 pm	Session#4: Teachable Moments presentations and dialogue
4:30-5:00 pm	Closing and Brainstorming for the Future of the CoP
5:00 pm	Optional post-symposium networking dinner

Table 1: Proposed EduCHI 2023 Symposium Schedule

- (2) **Provocation/Unsolved Challenge:** Present a new, controversial, inspiring, unsolved, or otherwise thought-provoking perspective on or about HCI education. (4–6 pages)
- (3) **Teachable Moment:** Describe and/or demonstrate an useful or innovative teaching method, curricular approach, or other pedagogical tools for HCI educators. (4–6 pages)
- (4) Master Class: Propose a 60 minute interactive training session on a particular topic, concept, or teaching method that HCI educators can incorporate into an assignment, class, or program. These submissions will be delivered prior to the symposium as part of a series of virtual sessions, along with additional opportunities for engagement through structured conversation during the symposium. (4–6 pages)

To apply, authors should prepare a 4–10 page manuscript using the ACM Master Article Submission template and submit it via https://educhi2023.hotcrp.com by **10 February 2023**. All accepted papers will be published on the symposium website.

Each submission will go through a rigorous, double-blind peer review process with three primary review criteria: the paper's overall quality, its originality and novelty to the HCI education community, and its potential to engage attendees in thoughtful discussions. Following a conditional acceptance, authors will be asked to prepare a final camera-ready version and a summary of changes to be reviewed by the program committee before final acceptance. Authors will also be given the option of creating a pre-recorded presentation that will be shared on the symposium website at http://educhi2023.hcilivingcurriculum.org. At least one author of each accepted paper must register for the symposium.

REFERENCES

- [1] Elizabeth Churchill, Jennifer Preece, and Anne Bowser. 2014. Developing a living HCI curriculum to support a global community. In CHI '14 Extended Abstracts on Human Factors in Computing Systems (New York, NY, USA). ACM, New York, NY, USA, 135–138. https://doi.org/10.1145/2559206.2559236
- [2] Elizabeth F Churchill, Anne Bowser, and Jennifer Preece. 2013. Teaching and learning human-computer interaction: past, present, and future. *Interactions* 20, 2 (March 2013), 44–53. https://doi.org/10.1145/2427076.2427086
- [3] Thomas T Hewett, Ronald Baecker, Stuart Card, Tom Carey, Jean Gasen, Marilyn Mantei, Gary Perlman, Gary Strong, and William Verplank. 1992. ACM SIGCHI Curricula for Human-Computer Interaction. Technical Report. https://dl.acm.org/citation.cfm?id=2594128
- [4] Zayira Jordan, Jose Abdelnour Nocera, Anicia Peters, Susan Dray, and Stephen Kimani. 2016. A Living HCI Curriculum. In Proceedings of the First African Conference on Human Computer Interaction (Nairobi, Kenya) (AfriCHI'16). Association for Computing Machinery, New York, NY, USA, 229–232. https:

- //doi.org/10.1145/2998581.2998623
- [5] Craig M. MacDonald, Olivier St-Cyr, Colin M. Gray, Leigh Ellen Potter, Carine Lallemand, Anna Vasilchenko, Jaisie Sin, Anna R. L. Carter, Caroline Pitt, Eunice Sari, Deepak Ranjan Padhi, and Ajit G. Pillai. 2022. EduCHI 2022: 4th Annual Symposium on HCI Education. In Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems (New Orleans, LA, USA) (CHI EA '22, Article 118). Association for Computing Machinery, New York, NY, USA, 1–5. https://doi.org/10.1145/3491101.3503703
- [6] Craig M. MacDonald, Olivier St-Cyr, Colin M. Gray, Leigh Ellen Potter, Jaisie Sin, Anna Vasilchenko, and Elizabeth Churchill. 2021. EduCHI 2021: 3rd Annual Symposium on HCI Education. In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (Yokohama, Japan) (CHI EA '21, Article 122). Association for Computing Machinery, New York, NY, USA, 1-4. https: //doi.org/10.1145/3411763.3441320
- [7] Olivier St-Cyr, Andrea Jovanovic, Mark Chignell, Craig M MacDonald, and Elizabeth F Churchill. 2018. The HCI living curriculum as a community of practice. Interactions 25, 5 (Aug. 2018), 68–75. https://doi.org/10.1145/3215842
- [8] Olivier St-Cyr, Craig M MacDonald, and Elizabeth F Churchill. 2019. EduCHI 2019 Symposium: Global Perspectives on HCI Education. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (Glasgow, Scotland Uk) (CHI EA '19, Paper Sym03). Association for Computing Machinery, New York, NY, USA, 1-7. https://doi.org/10.1145/3290607.3298994
- [9] Olivier St-Cyr, Craig M MacDonald, Elizabeth F Churchill, Jenny J Preece, and Anna Bowser. 2018. Developing a Community of Practice to Support Global HCI Education. In Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (New York, NY, USA). ACM, W25. https://doi.org/10.1145/ 3170427.3170616
- 10] Olivier St-Cyr, Craig M MacDonald, Colin M Gray, Leigh Ellen Potter, Anna Vasilchenko, Jaisie Sin, and Elizabeth F Churchill. 2020. EduCHI 2020: 2nd Annual Symposium on HCI Education. In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI'20). ACM Press, New York, NY. https://doi.org/10.1145/3334480.3375066