Teenovate: Using Intergenerational Participatory Design to Teach Students about Adolescent Online Safety

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Abstract
One of the best ways to teach child-computer interaction (CCI) is by doing. We present a new program that we are developing called "Teenovate," which will be an intergenerational participatory design group comprised of college students (undergraduate and graduate) and adolescents (ages 13-17). Teenovate members will act as both co-designers and co-researchers to generate innovative design-based solutions to salient adolescent online safety challenges and evaluate the effectiveness of these approaches. Teenovate is meant to be a sustainable educational program for Computer Science students taking the college-level introductory course on participatory design methods, as well as the teens enrolled in the program. Thus, it would be an invaluable opportunity for us to attend an IDC workshop focused on curriculum development for teaching CCI to students.

Author Keywords
Human-Computer Interaction; Child-Computer Interaction; Participatory Design; Teaching

CCS Concepts
• **Human-centered computing~Human computer interaction (HCI)**; HCI theory, concepts and models

Intergenerational Participatory Design

Participatory Design is a methodology used in both technology and research development, where the researchers and end-users are equally engaged in the design process to interpret a problem and co-create solutions [6]. Christiansson et al. investigated teaching PD methods through "live projects" that give students the opportunity to learn through a hands-on experience with real participants [4]. The authors argue that first-hand experiences are key to learning, and we wholeheartedly agree. Inspired by this philosophy and as part of Dr. Wisniewski's NSF CAREER grant, we are in the process of designing "Teenovate," a sustainable PD program, where researchers will work together with local teenagers (ages 13-17) to co-design new interventions and prototypes for addressing issues related to adolescent online safety.

Teenovate aims to be a large-scale effort to empower teens' voices in the creation of socio-technical solutions that they would find useful. PD techniques have proven to be successful for involving young children and adolescents in working together with adult researchers on the design process of online safety technology, such as the University of Washington's Kidsteam program [9]. In our research, we are invested in interaction design patterns that mitigate harm from online risk exposure, and thus, optimize the benefits internet-enabled technologies provide to youth [8]. We have already conducted several PD studies that address the topic of adolescent online safety through PD methods [1,2,3]. Yet, we want to go beyond using PD as an approach to conduct research studies, to reflecting more deeply on the pedagogy of teaching PD as a pathway to developing student competencies in CCI for the specific context of adolescent online safety.

Teaching the Next Generation of Adolescent Online Safety Researchers and Designers

The vision behind Teenovate carefully integrates research with education. Our goal is to train youth, ranging from middle school to Ph.D. level students, on PD methods and how to conduct scholarly research. Students will be educated on important CCI topics related to adolescent online safety, online risks, and resilience. Teenovate members will be trained as both co-designers and co-researchers, gaining valuable STEM skills relevant to the fields of Human-Computer Interaction (HCI) and User Experience (UX). To support these efforts, we will develop two new courses (undergraduate and graduate level) on PD methods. These courses will be novel to UCF computer science students and will strengthen the otherwise weak offering of interdisciplinary HCI courses within the college.

While course content on PD as a research method is no new concept [5,7], students enrolled in these courses will learn foundational principles of CCI and PD by getting hands on experience through Teenovate co-design sessions combined with the course curriculum. Having an already established PD program will allow students to immediately begin applying their classroom knowledge, without the added effort of having to form their own PD groups from scratch. This also creates a safer environment where students can more comfortably explore their abilities as PD researchers, under the supervision of the program supervisors. These courses will later be developed into an online course module on intergenerational participatory design which will be publicly available for other institutions to integrate into their HCI courses.

Benefits of Attending the Workshop

We are still in the early stages of developing Teenovate and the curriculum to support it. Neeraj and Zach are both first-year Ph.D. students who will be working closely with Dr. Wisniewski to design, develop, and launch Teenovate in the next two years. Therefore, they seek to understand functional, ethical, and curricular challenges that might present themselves when helping develop the program and how these challenges might be overcome. Neither student has attended an HCI conference and being able to participate in the remote IDC workshop would be pivotal in helping them acclimate to the HCI community and their research project. They would find it extremely beneficial to gain deeper insight into the merits and challenges of this approach with other CCI researchers and educators as part of the IDC 2020 Workshop on Teaching the Next Generation of Child-Computer Interaction Researchers and Designers.

Conclusion

We have identified a unique approach to teaching participatory design as a research tool within the realm of child-computer interaction. By integrating on-going teen-centered PD programs with courses which teach PD as a research tool, undergraduate and graduate students alike gain both theoretical and practical experience in conducting CCI research.

Neeraj Chatlani is a Ph.D. candidate in the Department of Computer Science at the University of Central Florida, working within the STIR Lab. His current work involves the creation of risk models of teen online interactions, and the use of participatory design to engage teens in the co-development of online safety strategies.

Zachary Shea is a Ph.D. candidate in the Modeling & Simulation program at the University of Central Florida, working within the STIR Lab. His work includes the facilitation of participatory design sessions with teens, as well as the design and development of technologies for user research and field studies.

Pamela J. Wisniewski is the Director of the STIR Lab and an Assistant Professor in the Department of Computer Science at the University of Central Florida. Her work lies at the intersection of Social Computing and Privacy. She is an expert in the interplay between social media, privacy, and online safety for adolescents, particularly at-risk teens who are most vulnerable to serious online risks. https://stirlab.org/

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