Issue Editor's Notes

NEW TECHNOLOGIES are playing an important role in the lives of young people. From mobile phones to social media sites, from video games to virtual worlds, young people are immersed in a technologically rich environment, in a participatory culture where they are not only consuming content but also producing it and sharing it with others.

We know that people learn better when they are given opportunities to create their own projects, as opposed to listening to lectures and completing multiple-choice quizzes. The growing fields of the learning sciences and educational technologies have long acknowledged this. Over the past four decades, work has been done to design, develop, and evaluate new technologies to help children learn by doing by creating their own computer-based projects and sharing them online with local and global communities.

The field of youth development has only recently begun to study how the creation of content might have an impact on children's development. Much of the early work has taken a media effects perspective by looking at the impact of new technologies on children, as opposed to analyzing what children are doing with the technology. Also, too often youth experiences with technology have been framed in negative terms (for example, cyberbullying, sexual predation, invasion of privacy, addiction to videogames, and aggression) by highlighting the dangers of new technologies.

This special issue of *New Directions for Youth Development* explores the many positive ways in which children and youth, in the United States and in other places of the world, in urban and rural settings, are taking advantage of new technologies to create

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projects with their own content. In the process, they are embarking on personal and community journeys that engage them in many facets of development.

The special issue starts by presenting a framework that I have developed over the past fifteen years, Positive Technological Development (PTD), in response to the emphasis put on cognitive development by those working on educational technology programs. While focusing on using software and hardware to promote technological literacy, other important aspects of development (social, emotional, moral, civic, and spiritual) were not always taken into consideration. Based on years of research designing, using, and evaluating diverse technologies for children, ranging from robotics to virtual worlds to storytelling programming languages, in many settings such as schools, after schools, hospitals, and museums, the PTD framework provides both intellectual and design tools for implementing psychoeducational programs that engage children and youth in the most promising uses of new media. PTD builds on the Positive Youth Development approach that looks at pathways of thriving individuals in the first two decades of their lives. The focus on positive processes resulting from youth using new technologies to create and share content informs the work presented in the first article, as well as in the overall special issue. The underlying assumption is that youth are already using technologies but can use them in even better ways, if they are presented with educational opportunities, to construct their sense of identity as having agency toward promoting changes in their own selves and society.

Next, Michael Eisenberg and then Allison Druin introduce two important ideas when thinking about the role of youth as content creators. Eisenberg invites us to think creatively in terms of what we consider new technologies and what we understand as content. By presenting examples based on his own research over the past two decades, he shows the potential of how new technologies for communication, material construction, fabrication, and human-computer interaction can help us reimagine not only effective classroom environments but children's lives. Druin then presents

an approach for engaging children in the creation of the technological tools they will be using in the future. By engaging them as partners in the design process, this approach puts children in an active role in inventing their own tools. Both Druin and Eisenberg present vivid examples based on their own research. These academics are writing not only from a theoretical ivory tower, but from their own role as content creators in the area of new technologies for children.

The next three articles, by Laura M. Beals, Christine Greenhow, and Clement Chau, explore the different ways in which youth create not only content but also communities in the online world. Beals examines the prominent role that virtual worlds are playing in the lives of adolescents and how they are used as playgrounds for exploring issues of identity. She presents vignettes of how this process unfolded in different educational interventions that used the Zora virtual world. Greenhow and Chau both focus on social media as a space where content is created as a means to become participants in a culture that values active contribution by its members. Greenhow presents Hot Dish as a case study, a popular application within Facebook, and Chau focuses on YouTube.

The next three articles provide vivid examples of particular kinds of technologies designed by the authors as tools to promote content creation within a framework that takes into consideration positive youth development. A team of researchers at the MIT Media Laboratory, Karen Brennan, Andrés Monroy-Hernández, and Mitchel Resnick, introduces the programming language Scratch and its online virtual community that supports, inspires, and enables young people to become active creators (and not just consumers) of interactive media such as stories, games, animations, and simulations. The authors introduce different practices of creation and socialization by young people. Erik Klopfer and Josh Sheldon next continue the tradition of tools specifically designed to support youth as creators, but they look at a new kind of application: augmented reality (AR) simulations that superimpose a virtual overlay of data and interactions onto a real-world context by engaging users in playing a game. Although the examples they

provide focus on science education, the ideas behind their work are applicable to a variety of contexts in which gathering information about communities matters. Leo Burd next extends the focus on youth as content creators from a particular application, such as the Scratch online community or the AR simulations, to a community setting. Based on the framework of empowerment theory, he describes two case studies in which both technical and nontechnical elements were considered when implementing technology initiatives for youth participation and local community engagement.

The last two articles provide an international perspective. Christopher M. Napolitano explores the use of mobile phones by adolescents in Africa as a way to form new social relationships, and Claudia Urrea takes us to a rural school in Costa Rica where an innovative program that gives one laptop per child and per teacher was implemented.

In sum, this special issue explores how learning happens in innovative ways through the new possibilities for media creation afforded by new technologies. Although most of the articles are focused on learning, they do not consider schooling as the primary location where learning happens. Quite the opposite. Learning, as understood by all the authors contributing to this special issue, is one of the many activities that happen as youth develop in positive contexts. I hope that this collection of articles will inspire researchers and practitioners working with youth to take advantage of the many creative opportunities that new technologies have for promoting positive development.

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Editor

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