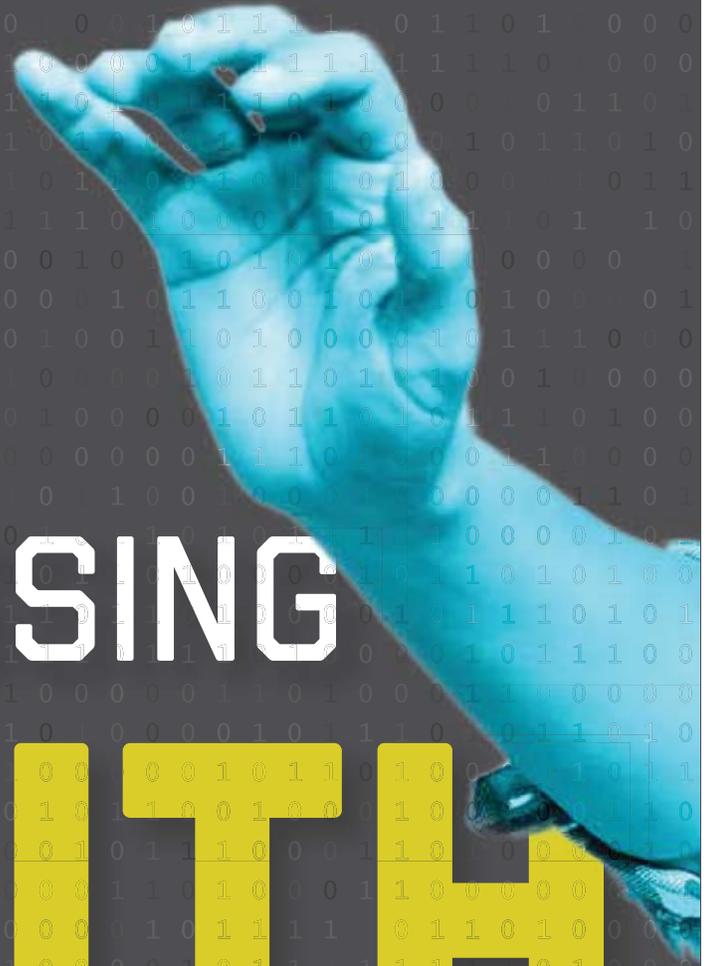
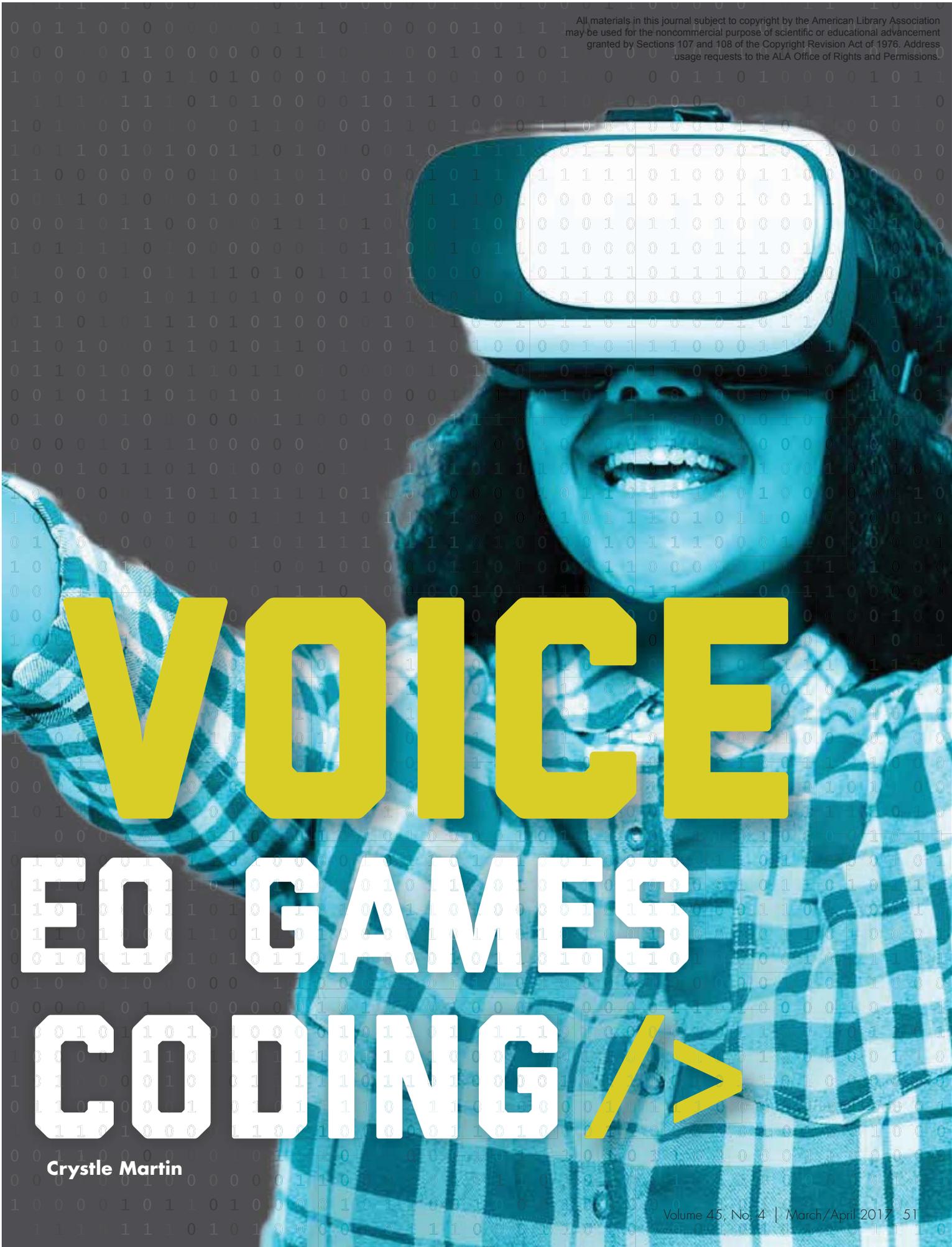


FEATURE



# < EXPRESSING YOUTH THROUGH VIDEO AND



# VOICE

## ED GAMES

### CODING / >

**Crystle Martin**

## Introduction

A growing body of research focuses on the impact of video games and coding on learning. The research often elevates learning the technical skills associated with video games and coding or the importance of problem solving and computational thinking, which are, of course, necessary and relevant. However, the literature less often explores how young people use and develop voice through these interests. Being able to express themselves and explore different identities is important for young people's development. To create a context for this discussion, I will locate the topic in existing research. To expand the discussion I will focus on Scratch, a free visual coding language, and World of Warcraft, a massively multiplayer online game (MMOG), and bring in examples from ethnographic studies of the Scratch and World of Warcraft communities. The feature will conclude with an implementation section for school librarians who want to apply the findings to their practice.

## Youth Identity and Expressing Youth Voice in Interest-Driven Activities.

Participating in interest-driven communities—whether physical or virtual—offers participants more than just community; participation is about the *creation* of identity. Those who participate in interest-driven communities develop a sense of themselves within the contrasting social situations of this supportive community and in the larger, oftentimes unsupportive, world (Holland et al. 1998) and use multiple identities to navigate the complex landscape (Weber and Mitchell 2008). Participants express identity through their creative media production.

These benefits were evident in the professional wrestling-oriented community I've called the Wrestling Boards (a pseudonym for the community), in which youth express their identity as professional wrestling fans, inhabiting the personas of professional wrestlers as participants design a fantasy wrestling federation (Martin 2014a, 2017). In this fantasy wrestling federation, participants create their own wrestlers that fit genre conventions and role play as these wrestlers. This role playing not only helps young people understand the genre of wrestling deeply and actively participate in fandom but it also creates opportunities to understand social boundaries and how to civilly disagree with someone. The community has very strict rules about acceptable treatment of other people, and yet, when in character, feuding with others is required. So the youth who participate actively switch between being themselves and playing personas, developing a voice for each situation. Online environments create opportunities for people to create multiple representations of themselves and to explore new aspects of themselves (Turkle 1997; Reid 1998).

Youth who participate in online communities—especially when creating and not just consuming—use their voice to express their identity. According to Elisabeth Soep, "In participating in the kinds of conversations I have spotlighted here, young people are continually producing and shifting situations for their own learning, using language, and specifically crowded speech, to do so" (2006, 209). Creative media production also empowers youth. Yasmin B. Kafai and Kylie A. Peppler described creative media production as "an appropriate and healthy counterpoint to a culture of consumption" (2011, 113). Through this creative

production, such as coding, young people are able to express their voice.

In the process of my recent research, I've found numerous examples of young people who, through participation in face-to-face or online activities, have developed and evidenced a greater sense of their own agency.

## Methods

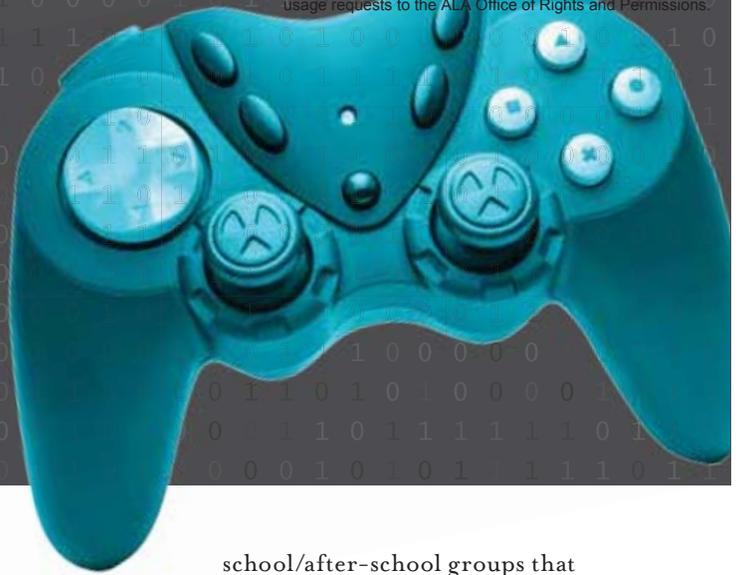
I recently performed two large ethnographic studies. One is of Scratch and its implementation in library programming. The Scratch community was chosen because it has low barriers for participants' entry. The second study is of the MMOG World of Warcraft; that study followed the play habits of male teens who were struggling and disengaged with school.

### *Research Context: Scratch*

Scratch is a free online visual coding language used for authoring multimedia projects. Coding occurs through "snapping" together block-based elements that interlock like Legos. Scratchers (those who use Scratch) code by dragging blocks from a palette and attaching them in a jigsaw-like fashion.

Scratch has been designed with this easy-to-use interface to remove barriers to entry into coding; people can code without knowing the syntax of any programming language. Scratch has a low floor and a high ceiling (Papert 1980), meaning that it has easy entry and yet has a lot of room for growth and expansion. While Scratch has been designed primarily for ages eight to sixteen (MIT Media Lab n.d.-a), the online community hosts participants younger than eight through retirement age. As of August 2016, the community had nearly thirteen million registered users, more than sixteen million projects shared,

# < CREATIVE MEDIA PRODUCTION ALSO EMPOWERS YOUTH. />



and more than eighty-five million comments posted (MIT Media Lab n.d.-b).

## *Research Context: World of Warcraft*

At its peak World of Warcraft (WoW) had about twelve million subscribers. The community is continually engaged in producing resources, creating fan materials, and building collective knowledge. When creating a character in WoW, a plethora of choices are available on the character-creation screen. At the time of data collection a player had the option of choosing between two factions, two genders, seven races, and ten classes, each of which had the option of three specializations.

Along with creating a character, WoW players develop their own play style and seek information to help them advance in the game. Methods for improvement include trial and error, which involves wandering around looking for vendors in cities, some of which are spread out and confusing for beginners. Using in-game chat within a city or town allows a player to seek advice from other people who are currently playing. At any point in the game, in-game chat can be used to communicate privately with an individual, with a small group, or with a "guild" (medium to large group with which the player has become affiliated). Alternatively,

a player can use completely public channels, such as the chat channels in towns and the vast number of WoW-related resources available on the Web. Many times players feel that the most-trusted sources of information are other characters with whom the player has made a personal connection in the game or members of the player's own guild. Character creation, play style, and preferred channel for information seeking are all reflective of the voice of the player, and are tied into motivation and engagement.

## *Participants for Scratch Study*

For the Scratch study, using ethnographic methodology (Hammersley and Atkinson 2007), I conducted interviews over an eighteen-month period with youth who live in the United States and Western Europe. Each participant was interviewed once with follow-up questions conducted through e-mail. (All participants' names have been replaced by pseudonyms.) Twenty-seven females and forty-three males participated in this study, for a total of seventy interviews. The participants ranged in age from eight to twenty-one.

I recruited Scratchers from three different spaces: the online Scratch community, existing out-of-

school/after-school groups that use Scratch to teach coding, and workshops facilitated in conjunction with librarians at two public library systems (see my feature in the January/February issue of *KQ*). Recruitment locations were diversified to capture the breadth of entry points for youth into Scratch. The criteria for participation were not prescriptive, but I actively sought girls and youth of color for interviews. The participants needed to self-identify as being a Scratcher or being engaged with Scratch. Because Scratch offers many different avenues of participation, I did not impose specific limitations, which could privilege certain types of participation over others.

## *Participants for WoW Study*

For the World of Warcraft study the data originated from an afterschool lab. The lab ran for two years with nine participants in the pilot year and twenty-two participants in the formal program year. The participants of the lab were thirteen- to eighteen-year-old males from rural Wisconsin. The lab met monthly in a face-to-face setting in a game lab on a university campus, as well as online during regular collaborative gaming within WoW. Communication also took place asynchronously on forums created on a guild website set up for the study. For both studies, analysis entailed qualitative coding

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(Saldaña 2016) with *a priori* and emergent codes. The *a priori* coding drew codes from computational thinking (Brennan and Resnick 2012) and connected learning (Ito et al. 2013) for the Scratch study. Coding was undertaken using the online qualitative research software Dedoose. For the WoW, codes were drawn from a range of educational areas, including information literacy, science reasoning, and epistemology. Both coding schemes had codes that related to identity. In this paper, I share examples related to the themes of voice, identity, engagement, and motivation.

### *Observation and Interviews for Scratch*

Data collection for the Scratch study included ethnographic fieldnotes (Emerson, Fretz, and Shaw 2011) and interviews (Hammersley and Atkinson 2007). I conducted interviews over a two-year period with youth who participated in the library workshops. I interviewed each participant once. The interview recordings were transcribed by a professional transcriptionist. Once the interviews had been transcribed, I assigned each participant a pseudonym. The interviews were conducted using a protocol that I developed based on computational thinking (Brennan and Resnick 2012) and the connected learning framework (Ito et al. 2013), which focused on equity in learning to code. Since this was a semi-structured interview protocol, questions and order were dynamically changed based on context and the unique experiences of the respondent. (For more information about interviews with participants and facilitators at public library-sponsored workshops, see my feature in the January/February 2017 issue of *KQ*.)

### *Observation and Interviews for World of Warcraft*

Data for the World of Warcraft study came from an eight-month ethnography of the online community, as well as data and observations collected from an afterschool lab. The afterschool lab served high-school-age male youth, many of whom were struggling in school. The main objective of the afterschool lab was to provide resources for academic growth and trace individuals' learning trajectories and interests throughout the duration of participation in World of Warcraft. The youth were interviewed about their participation in the lab as well as their participation in WoW. The youth who participated took on leadership roles in the guild, supported each other while playing, and developed their own voices through their play style and interactions.

## **Discussion**

### *WoW*

Identity development occurs for players in World of Warcraft (Martin 2012, 2014b), development that can also be seen with youth who participate in Scratch as is detailed below. Players are able to develop a voice based on their play style. When asked to describe their information-seeking process, youth would describe their process in terms of their player identity: casual to serious, novice to expert. They used their identity as a type of player to situate themselves in the vast information world of WoW.

Noel, an expert in WoW, was a white seventeen-year-old who had been struggling in a traditional high school but began to flourish when he changed to an alternative high school. At the time of the interview, he had been playing for five years. In his alternative high school, he

felt that he had the agency to suggest curriculum modifications, has run the computer lab for the school, and helped the school find and apply for grants to pay for technology upgrades. Being involved and helping out were part of both his gamer and his everyday identity. He really enjoyed helping those around him who were learning the game or had questions about higher-level content. "There is a lot of peer-to-peer interaction in WoW and players like to work together as they play the game. I like to help others level up instead of playing end-game content, because it is fun to watch them get better." Noel expressed his voice through the help he provided to others and his supportive interactions with other players. He also felt that he developed leadership qualities through his game play that translated to other parts of his life. Helping others, both at his alternative high school and in WoW, contributed to his motivation and engagement with developing skills both in and out of school.

At the time of the interview, Neil, a white and Native American fifteen-year-old and expert player, was the opposite of Noel. He was a very solitary player who did not like to ask other people for help. He also did not offer help to others. As his main source of information he used a website designed specifically for expert players; on the site players debated nuances of the game and broke down spell rotations by statistics. Noel expressed his voice through his high quality of play and the level at which his collaborators could rely on him in cooperative play situations. "I only use players in my guild and a [website for high level players] to play [my character]. I like to play by myself or in my raid group; being good at playing my character is important to me being able to play in my raid group." His character expressed his voice and

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his play style, and his perfecting his quality of play keeps him motivated and engaged with World of Warcraft. Noel and Neil are typical of two different play styles that both allow players to develop voice, which supports their motivation and engagement, demonstrating that participating in the social environment, powered by interest, offers youth a way to develop their own unique voices.

## *Scratch*

For the students in the Scratch study, their motivation and engagement with coding is tied to their ability to have agency and express their voice through coding.

Damian, a seventeen-year-old from the East Coast, who declined to share his race or ethnicity, created projects on Scratch, was an administrator for the Scratch wiki, and helped others come up with ideas for projects. He explained how Scratch has let him express himself: "Scratch put me into a situation where I really liked coding. And combined with the computer science classes I've taken at my high school I've just grown a really deep interest in computer science—what I can do with it, how I can explore my interests, my ideas that way, and so on. So without Scratch I would imagine I wouldn't be so interested.

I also would imagine I wouldn't be as good at coding, or art, or creativity."

When interviewed, Jessica, a fourteen-year-old white high school student, expressed that she definitely felt that her ability to have agency motivated her to participate and share her voice through art. "Like, on Scratch you have a lot of freedom. Like, you can do anything you want really. You can code projects; you can make art; you can make games; you can animate. There's a lot of things you can do on it, and I like that, that you have a lot of freedom in what you can do. There's not really any other websites where you can really express yourself in a lot of different ways."

During his interview, Antonio, a fourteen-year-old African American student from Los Angeles, reported that he started coding through Scratch and used his expertise to help his teacher in class when she did Scratch lessons. Like Jessica, he felt that the perceived limitlessness of Scratch is a motivating factor that enables expression and voice. "Everything, I mean, there's like endless possibilities of what you can do with Scratch. The only limit you have is your mind. Actually, and your skill, like your understanding of Scratch, I like it. I mean, because even if I'm helping, like teaching and stuff, I'll still learn new things. I mean, there's so many different ways to do one thing, so it's kind of cool."

These youth all like coding because it gives them a means to express themselves, and the openness and flexibility of it allows them agency, which provides motivation. The interviews presented here are typical of youth I interviewed. As a group the interviewees stay engaged with Scratch because it allows them to make projects that reflect them as individuals.

## **Implementation**

Although some of these examples of students' feelings of agency are not specifically from library programming, they can offer school and public librarians important insights. Librarians should take away that youth can develop engagement and motivation with interests both as novices and experts, and use that experience to express their voice and identity. Creating library programs that are open and flexible enough for youth to bring in an existing interest to incorporate into the program is one approach librarians can use to foster young people's sense of agency.

Another approach would be to juxtapose something like coding with an existing interest, possibly something that might not seem instantly obvious. For example, the workshops I observed in libraries as part of the study were using a workshop that combines Hip Hop and coding. Many of the youth came

to the workshop because they were intrigued by what they saw as an unlikely pairing. Similarly, gaming can be used as a lure. Librarians can tie gaming as an interest and skill set to other types of programming and allow young people to express their voices.

Another lesson that can be learned is that youth with a strong interest can be highly motivated to take charge of their own learning. Interest spaces can be an opportunity for students to use this agency to take a leadership role. For example, once a student has shown a passion for video games, librarians could support that student in starting an afterschool or lunchtime club, or librarians can offer students the chance to facilitate workshops with video game themes.

Creating the opportunity for students to explore video games and coding in a supportive and yet unencumbered way can be foundational for a deep connection with learning to code and developing their voice. In the words of Mario,



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Irvine. Her research focuses on equity for youth learning through information practices and computational thinking in interest-driven environments, with particular focus on supporting underserved youth as they connect informal learning to academic and future opportunities. Her current research explores the paths of youth—especially those from non-dominant communities—into, through, and out of Scratch, a free online visual coding language. She is also secretary of the YALSA Board of Directors.

a twelve-year-old Latino boy who participated in the Scratch library workshop, “I could see it. You could make your own image. It’s really creative, like it could really inspire any kid that’s at our school. [In the

Scratch community] people are always helping you, and you’re always in it trying to create everything you can, do the best you can do, just having fun. Just creating anything you want like in your own image.”

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