What Does the Camera Communicate? An Inquiry into the Politics and Possibilities of Video Research on Learning

SHIRIN VOSSOUGHI
MEG ESCUDÉ

This piece explores the politics and possibilities of video research on learning in educational settings. The authors (a research–practice team) argue that changing the stance of inquiry from surveillance to relationship is an ongoing and contingent practice that involves pedagogical, political, and ethical choices on the part of researchers and educators. This discussion is grounded in ethnographic data collected in an equity-oriented, after-school program organized around science, engineering, and arts education. [learning, video, ethnography, methodology, equity]

As I set the camera down to record another group’s interactions, I turned to Stephanie, who was just settling in to work on the cardboard automata she had started making the previous week. These automata are hand-cranked moving sculptures that use foam cams, skewer sticks, and cardboard to tell a story. Stephanie’s automata included a giant sun and moon that transitioned from day to night as she turned the handle. She looked at me and said (teasingly) “So you don’t have anyone to work with yet?” Stephanie is 9 years old, and we have known each other for about two years, since she first started participating in the after-school tinkering program. I’ve come to know her as a wise kid that often does her own thing, and our relationship involves a good amount of humor (largely directed at me), so I chose to interpret her question as an invitation to work together. I mentioned that I’d like to work with her and that I was also researching at the same time, gesturing towards the camera to my left. Stephanie said (smiling), “You mean the camera is researching. You aren’t doing anything!” Though I have talked about the research with all of the students in the setting, Stephanie has expressed a particular interest in learning about the ins and outs of what it means to be a researcher. I smiled and said, “I’ve learned to stay close to the camera when I set it down in case it might be good to move it or turn it off.” Stephanie grew serious and thought for a moment. She then asked, “In case someone might be embarrassed?” I responded, “Yeah, exactly. Sometimes it can feel like pressure when we’re trying to learn something new so I don’t want to add to that.” She looked at me and said (with palpable authority), “That’s good.”

[Vossoughi, Field notes, 4/14/14]

Introduction

This piece explores the politics and possibilities of video research on learning in educational settings. As reflected in the interaction between Stephanie and the researcher (Vossoughi), we argue that changing the stance of inquiry from surveillance to relationship (Erickson 1996) is an ongoing and contingent practice that involves pedagogical, political, and ethical choices on the part of researchers and educators. In other words, the various functions associated with the presence of a video camera in an educational setting—as arbiter of rich learning, as panoptican, as a shared and democratic tool for documentation and reflection, as a second set of eyes for the teacher, as a recorder of data that goes elsewhere—are not fixed or easily disentangled. Rather, the roles and meanings associated with the camera can shift, moment to moment and day to day. We have found that reflecting on these shifts is fundamental to the iterative process of conducting ethnographic research in ways that challenge rather than reproduce logics of surveillance, working to privilege the trust and dignity of participants in the setting.

This discussion is grounded in ethnographic data collected in an after-school program organized around inquiry-based science, engineering, and arts education. This program is
a partnership between a science museum and an after-school center that serves children and youth from immigrant and diasporic backgrounds (Mexican, Central American, Chinese, Vietnamese, Filipino/a, and African American) in a working-class urban community. We served as ethnographers and educators in this setting over a three-year period, working together as a research–practice team to develop ethnographic insights that meaningfully inform pedagogical and curricular design, both in the local setting and beyond. Vossoughi was the lead researcher on the project, and Escudé was the lead educator and director of the after-school program. All program staff and researchers were also from immigrant and diasporic backgrounds.

A central goal of this project was to challenge educational inequities by developing and documenting pedagogies that are responsive to students needs and capabilities; question dominant definitions of learning, intelligence and science; and expand our understandings of where and how learning takes place (Banks et al. 2007; McDermott and Raley 2011; Medin and Bang 2014; Vossoughi et al. 2013). Guided by these goals, we used video to document the moment-to-moment interactions that constituted learning in the after-school setting, to analyze the pedagogical work leading up to and precipitating from rich learning moments and to design and revise curriculum, pedagogy, and professional development based on insights gleaned from audio and video records. Our video recordings focused on whole group activities as well as small group “workshop time,” during which researchers often moved around the room, documenting and participating in interactions among children and program staff (both adult and teen educators).

Though this setting enjoyed a relative freedom from the high-stakes assessment and standardized curriculum that disproportionately shaped the schooling experiences of our students (Crocco and Costigan 2007; Rose 2011) and are increasingly encroaching upon after-school programs (Nocon and Cole 2006), the tensions of research as surveillance were ever-present. As reflected in the opening vignette, questions and discussions about the role of the camera were a regular occurrence in the setting. These impromptu conversations emerged alongside explicit efforts to introduce the camera (and the research more broadly) as nonevaluative and as focused on documenting the kinds of rich learning interactions that took place in the program. This framing of the research sometimes led students to call attention to interactions they believed to be worth documenting or to pick up the camera and take on the role of a researcher—a potential marker of their own agency and window into what learning means to them. At the same time, we recognized that moving away from one interaction to document another may unintentionally communicate that some interactions are less compelling. In either case, awareness of the camera and its potential meanings (what some documentary filmmakers refer to as “camera consciousness”) was pervasive and, we argue, worth attending to.

This runs counter to the common axiom that participants in a study will simply forget about the presence of the camera after a period of time. Though there are surely moments of greater or lesser camera consciousness, we treat awareness of the camera and its potential meanings as our analytic point of departure. We also challenge the notion that fading awareness of the camera is the only (or the desired) sign of trust. In our experience, Stephanie’s sensitivity to the potential “embarrassment” or face-threat2 experienced by participants in a learning environment is not unique. Yet, discussions of ethics and surveillance in video research on learning tend to focus on IRB approval and consent, the potential risks associated with shared databases, and the presentation of video records beyond the setting (Derry et al. 2010). These issues are undoubtedly important. However, less attention has been given to the moment-to-moment tensions that emerge in the collection of video data in educational settings and to the shifting meanings and influences video documentation may have on the teaching and learning itself. Further, methodological texts and handbooks often turn to questions of ethics after discussing the specifics of data selection, collection,
and analysis. Drawing from critical and decolonizing methodologies (Bang et al. 2015; Paris and Winn 2013; Smith 1999; Zavala 2013), we argue for a more interwoven approach that treats questions of method as simultaneously ethical, political, and pedagogical. To this end, we ask: (1) What tensions emerge in the moment-to-moment collection and analysis of video research on learning? (2) What kinds of practices contribute to shifting the stance of inquiry from surveillance to relationship? We engage these questions by discussing specific interactions that exemplify the tensions and possibilities of video research in our context. We selected these examples based on the ways they have served to shift our own thinking and practice over time, with the hope that they might be useful to practitioners and researchers engaged in similar kinds of documentation.

We begin by addressing some of the ways questions of surveillance have (or have not) been conceptualized in video-based educational research, drawing connections to similar discussions in anthropology, sociology, documentary film, and photography. We then turn to the focal setting, describing the context and study in greater detail. This includes a more elaborate description of our working relationship as tied to the literature on participatory design research. We then offer an empirically grounded discussion of the tensions and possibilities that emerged in video research on learning in the after-school setting. This discussion is organized around two central themes: the camera as an evaluative or generative audience and the exercise of agency over documentation. Where relevant, we also address the formative use of video data in the continuous development of the setting. We conclude by discussing the implications of this analysis for research that resists logics of surveillance in favor of a reflective process arched towards dignifying and humanizing forms of social inquiry.

Questions of Surveillance in Video Research on Learning

Surveillance is a strong word. It connotes the act of spying on and monitoring populations, usually without their consent. It is associated with government agencies and often considered a tool for social control, political repression, and discipline. In considering the qualitative distinctions between research as surveillance and research as relationship, we do not simply mean to be provocative. Rather, we aim to discuss the specific ways video documentation of teaching and learning can—depending on the meanings and purposes associated with it—become a tool for spying, monitoring, and evaluating or, alternatively, a tool for mutual reflection, formative development, and transformation. As Ricki Goldman writes:

For educators who study learning, one possible negative consequence of creating ethnographic platforms and databases is that our practice of gathering video could allow unfettered video surveillance. The camera becomes a data collector and an evaluative eye, rather than a tool for researchers and those being videotaped to construct compelling documentary-style stories . . . we need to ask ourselves what we are collecting and for what purpose. And, for whose benefit? [2009:28–29]

As Virginia Eubanks (2014) asserts, these questions are particularly essential when working in communities targeted by surveillance:

The most sweeping digital surveillance technologies are designed and tested in what could be called “low rights environments” . . . poor communities, repressive social programs, dictatorial regimes and military and intelligence operations—where there are low expectations of political accountability and transparency.

Similarly, Frederick Erickson cautions that “too often teaching and qualitative research involve looking and watching and then going and telling more powerful people what the
less powerful are up to” (1996:9). Thus, while the dynamics of video research as a potential tool for surveillance are pervasive across contexts, they are particularly salient in working with communities (and age groups) that are systematically denied political power and decision-making authority. To imagine and develop alterative research practices, questions of method must be accompanied by analyses of power.

Scholars in participatory action research, critical ethnography, and decolonizing methodology (Noffke 1997; Simon and Dippo 1986; Smith 1999) argue that redefining the role of the researcher (and the camera) as something other than mere “data collector and evaluative eye” therefore involves engaging participants in an open dialogue about the questions, purposes, risks, and benefits of research. It also means interrupting the hierarchy of “high” and “low rights communities” by working to ensure political accountability and transparency. In line with our central argument, we consider transparency an ongoing practice that involves openly discussing and developing the goals of research with participants, making recording equipment and research practices visible, and consistently treating participation in video research as voluntary. Accountability may also be strengthened by finding and creating opportunities to share field notes and video recordings with participants, engaging in a collaborative process of analysis, and making shared decisions about who will have access to video recordings in the future. These practices generate their own challenges and possibilities, which we return to below.

Distinguishing between research as surveillance and research as relationship also involves considering the ways the camera and the researcher both influence and are influenced by the events being recorded. In our case, this meant attending to the active (rather than passive) role of video recording and analysis in a learning environment. As Erickson argues:

> human social interaction is a semiotic ecology enacted continuously in real time; an ecology contributed to by all parties engaged in the interaction, making use of nonverbal and verbal means for doing listening and speaking. Thus, the listening activity of listeners while speakers are speaking is considered as having as much importance in an analysis as is the speaking activity of speakers. [2011:181]

Drawing from this ecological view, we focused our video recordings, field notes, and photographs on joint rather than individual activity—privileging the active role that listening, speaking, gaze, proximity, and gesture play in the social interactions that constitute and engender learning. At the same time, we recognize the camera as an equally active participant in the setting, one that is often rendered invisible through the process of data collection. In other words, when the information sources used for analysis focus exclusively on what is happening on one side of the video camera, the role the camera (and the researcher) play in the ways an interaction unfolds may be minimized or overlooked. While some researchers address the potentially constraining or generative role of the camera within their substantive analysis of learning (Barron 2000; Winn and Ubiles 2011), explicit attention to the presence of the camera continues to be rare.

Questioning this veneer of invisibility, sociologists Wesley Shrum, Ricardo Duque, and Timothy Brown (2005) consider what it means to treat the camera as “an actor in the research process.” As they argue, “the camera can take on the identity of the researcher or that of the subject, and in the next instant be a third party observer, a meta-subject occupying the focus of the video-active context or meta-researcher hovering inconspicuously over the research scene” (2005:7). From this perspective, it may not make sense to speak of the “role of the camera” without also considering the role of the researcher. The camera may take on the identity of the researcher such that participants’ individual relationships with the camera’s gaze may reflect their relationships with the researcher as another participant in the setting. Students and teachers may also imbue the camera with
their own meanings and purposes. Working to understand these meanings requires attending to moments when the camera is the focus of activity or discussion, “a meta-subject occupying the focus of the video-active context.”

Recognizing the active role of the camera can help us name and reflect on the ethical decisions that emerge in the course of research: Once IRB forms have been signed, is it necessary to ask permission to record an interaction? When and how should the camera be moved or turned off? Who has the right to turn it off? When should researchers set the camera down to help a student who needs assistance? As Ruth Behar asks, “Are there limits—of respect, piety and pathos—that should not be crossed, even to leave a record?” (1996:2). Documentary filmmaker Calvin Pryluck poses a similar question: “What is the boundary between society’s right to know and the individual’s right to be free of humiliation, shame and indignity?” (1988:260). Though such questions may be treated as extraneous to standard practice, or as an affront to the persistent myth of academic omniscience (Behar 1996), their articulation is essential to identifying the seeds for methodologies grounded in an ethics of relationship and solidarity. As Ariana Manguel Figueroa writes:

In addition to obtaining official IRB approval to conduct research, qualitative researchers should consider developing a set of ethical procedures that are specific to their research site and that shift away from a framework of protecting participants from research toward a model of engaging participants in the research process. [2014:17]

In this vein, Shrum, Duque, and Brown (2005) argue for replacing the myth of the “invisible wall” (between participants and the camera) with a “fluid wall” that allows researchers to leverage opportunities for interaction, collaboration, and the productive exchange of roles. Such fluidity may involve students and teachers openly discussing the role of the camera or taking on an active part in recording. Researchers may also become actors in the scene, taking on the role of educators and recognizing when to prioritize student learning over the gathering of data. Erickson (2006) proposes that when researchers “pick up our end of the pedagogical log” we open ourselves to experiencing the “social gravity” of teaching and learning—the moment-to-moment pressures, intellectual risks, details, and joys—that may be missed when we maintain the position of an observer. Similarly, Maisha Winn and Joseph Ubiles (2011) consider what it means for researchers to engage in “worthy witnessing,” entering into a reciprocal relationship as opposed to solely gathering data for a study. In this approach, researchers and teachers become legitimate partners through day-to-day collaboration, and research becomes an occasion for shared reflection, reciprocity, and the valuing of pedagogical work and creativity. “Worthy witnessing” also refers to the quality of relationships developed between researchers and students:

When students and researchers work side by side, the bonds of mutual respect and understanding allow a new practice to evolve in which the researcher is fellow traveler, journalist, critic, and contributor. Additionally, students begin to see themselves in analytic and reciprocal roles in relationship to the researcher . . . Students realize that there are implications for what they are doing that can inform students and teachers in other schools and regions. [Winn and Ubiles 2011:303]

Within this frame, the video camera can bring a level of attention and affirmation to the moment-to-moment practices of teaching and learning, highlighting forms of intellectual activity that may otherwise go under the radar. Our own decision to use video was influenced by our understanding that “assessment may miss what the video camera and the researcher do not” (Goldman 2009:11, citing Goldman and McDermott 2009). For researchers to become adept at noticing the complexity and ingenuity of human activity, Ray McDermott and Shelley Goldman argue for “staying the course” with those we study,
and continuously “looking and listening [in ways] that can reveal both the complexity of participants and the poverty of language available for describing them” (2009:101). Thus, in addition to wrestling with issues of transparency and with the active role of the camera, efforts to develop careful forms of video documentation must be coupled with analyses that are grounded in solidarity with students and teachers and mindful of the tensions involved in drawing conclusions about the meanings of their activity.

Context and Methods of Research

Having described some of the ethical and methodological issues involved in video research on learning, we now turn to an elaborated discussion of the context, goals, and methods of our research. As stated, the focal setting of this study was an after-school program organized around scientific inquiry and arts education. Building on the work of the affiliated science museum, the after-school program aimed to develop teaching and learning practices that cultivate “tinkering dispositions” and shared experiences of intellectual possibility. Adults, teen educators, and elementary-aged children met in a workshop setting on a weekly basis to design and co-create artifacts such as scribbling machines, stop-motion animation films, paper circuits, and musical instruments. While these activities have particular parameters and goals, they are intentionally designed to support multiple pathways and to imply a range of solutions (Nasir et al. 2006; Petrich et al. 2013). The program privileged the collaborative process of creating and learning, emphasizing iteration and working to bring skills and concepts alive in the context of play and artistic activity (Vossoughi et al. 2013).

Participants in the study were primarily children (K-5) who attend the after-school center on a daily basis. A second (smaller) group of participants included teen educators, most of whom attended the after-school center as children. The center is adjacent to the local elementary school that many of the children attend. Due to scheduling and space constraints, the tinkering program was alternately housed at the after-school center itself, at the local library around the corner from the center, and at two different public housing complexes in the neighborhood. Thus, on any given day, participants in the program included children who had been attending regularly for two or more years, drop-in participants from the after-school center that were new to the program, and children who began participating since the program moved to a location near them. This range in age and experience offered challenges as well as opportunities for extended curriculum and apprenticeship across veteran and novice participants. It also influenced the practices involved in video documentation and research. Because new children entered the setting on a regular basis, official consent was an ongoing process that involved revisiting the goals of the research and clarifying the reasons for the presence of the video camera. Conversations with new participants also created a context for long-time members to raise new questions, or intervene to explain the goals of the research to newcomers, offering a window into how they interpreted the role of video documentation.

Our research focused on studying the kinds of thinking, collaboration, and learning that emerged across children, youth, and adults in this setting. From the outset, we also considered equity a central goal of both the program and the research. While some equity efforts focus primarily on broadening access to high quality STEM learning opportunities, we sought to consider the pedagogical how of creating environments that are deeply responsive to students’ needs and strengths and grounded in a critical, historical analysis of educational and social inequity. In this approach, curriculum and pedagogy are attuned to students’ interests and histories rather than designed elsewhere and imported from the outside. The meaning of “science” itself is also open to critical reflection (Medin and Bang 2014).
This project utilized ethnographic methods (participant observation, audio-video analysis, photographic documentation of children’s artifacts and writing, audio recordings of post-program debriefs, and individual and group interviews) to document and describe teaching and learning. Within this framework, we also drew on social-interactional analysis of educational discourse (Bremme and Erickson 1977; Cazden 2001). Our efforts to capture the kinds of information that allow for such fine-grained analysis engendered some of the specific tensions and possibilities we discuss below. In line with collaborative action research (Erickson 2006), formative interventions (Engeström 2011), and social design experiments (Gutiérrez and Vossoughi 2010), our research was also deeply embedded in program design and implementation. Educators served as core members of the research team, and researchers participated as co-designers of curriculum and pedagogy. We therefore situate these reflections in ongoing work that argues for explicit attention to the ethical and political dimensions of participatory design research (Bang and Vossoughi in press; Vakil et al. in press).

Collaborative Research

Here, we elaborate on the development of our relationship as a research–practice team. Due to the nature of the collaboration between the science museum and the after-school centers, we began working together from the inception of the after-school program. Escudé came on as the director and lead educator while Vossoughi participated as a postdoctoral researcher at the science museum. In addition to these professional circumstances, our discovery of shared philosophical and political perspectives served as fertile ground for the emergence of a collaborative partnership. This was coupled with Escudé’s history as an artist and documentary photographer and Vossoughi’s history as an educator—a mix of experiences that allowed for a greater fluidity of roles. Further, both of us were in the position of learners with regard to the kinds of tinkering activities that would be the focus of the program. This allowed us to work together to understand the underlying philosophies of these activities as they had been developed in the museum and to consider how we would adapt and change them to best serve the children with whom we worked.

Once the program began, we became engaged in an ongoing conversation about teaching and learning, equity and social justice, and about how to continue improving the program based on our shared pedagogical and research-based reflections. Over time, we developed a set of practices that allowed us to leverage our respective roles. This included sharing video clips on a regular basis to look closely at classroom events or to brainstorm ways of supporting particular children. We also began using these clips in professional development trainings for teen and adult educators. During the initial phase of the research, Escudé played a central role in co-designing research questions, observational and interview protocols, and tentative codes and analyses. These conversations allowed us to draw from our respective knowledge to identify the kinds of events and interactions we wanted to focus on in the analysis. After the first year of the program, Vossoughi conducted a series of interviews with children, after-school center staff, and parents. As was agreed upon with participants, recordings of these interviews were shared with Escudé and other educators, providing a resource for learning about the meanings the program held for participants. Vossoughi also began to write extensive weekly field notes that incorporated analysis of video recordings and photographs. These field notes were shared with the teaching team prior to the next time they worked with the students and served as a space for shared reflection and dialogue. Educators routinely added their own observer comments to the field notes, which were then used in weekly curriculum and
lesson planning sessions. These practices created an explicit and shared context for the formative use of video documentation in the continuous development of the setting.

Finally, our employment at the science museum posed distinct opportunities and challenges. With regard to our working relationship, the opportunity to talk on a daily basis allowed for a level of trust and understanding that may have been more difficult had we only seen each other during the after-school program. Over time, this trust allowed us to talk about pedagogical challenges as well as successes. The role of the science museum in the national discourse on informal STEM learning also allowed us to present together at various conferences and develop a shared narrative around the work, one that sometimes engaged critically with the museum’s normative practices. This type of collaboration is often difficult without the time and resources dedicated to teachers’ involvement in developing and sharing research. Indeed, while Escudé played an active role in the research, our employment at the science museum also meant that we were not engaged in the same type of day-to-day conversations with the staff at the after-school centers, some of whom participated in the program as educators. We worked to remedy this by initiating weekly meetings with after-school center staff to discuss curriculum, learn from their insights, and develop strategies for supporting particular children, as well as establishing quarterly workshops to share examples from the research and receive feedback on the work. These conversations also allowed us to learn more about the specific inequities our students were facing in their schools and communities and to shape the curriculum in ways that were responsive to their social and political contexts.

In one such meeting, we shared clips of video data from children’s interactions in the tinkering program with after-school center staff. Educators who routinely work with the students that appeared in the clips remarked that they were moved and impressed by their level of engagement and interaction. They also shared that because they are often responsible for a larger group of kids, they seldom have the chance to zoom in on such micro-interactions. Sharing video clips with parents opened up similar conversations. One mother had a strong positive reaction to watching a clip of her daughter investigating circuitry in the after-school program. After remarking that she did not realize her daughter has such an affinity for science, she spoke with us about other opportunities to sign her daughter up for science-oriented programs. After-school center staff later recognized this moment as a shift in the parent’s view of her daughter’s capabilities. These examples offer a window into the formative uses of video documentation that can open through long-term relationships with students, teachers, and parents. They also speak to the need for time and resources to be dedicated to engaging in such collaborative work.

Analysis

Within this context, our shared reflections on the tensions and possibilities of video research coalesced around two themes: the camera as an evaluative or generative audience, and the exercise of agency over documentation. As an entry point into our discussion of these themes, we present a second vignette. Here, Escudé reflects on the parallels between her experiences as a documentary photographer and the methodological issues that emerged in our research on the after-school program:

As a photographer, I have always felt uncomfortable with the dynamic of wanting access to the private lives of others and wanting to collect pieces of their experiences as they happen as opposed to how they might choose to construct them. As with the research practices discussed here, part of overcoming that imbalance lies in the relationships and trust that are built between photographer and subject. In the case of a documentary project I did looking at the lives of circus performers, this tension was especially present because the people I photographed were performers who had a public persona. I was choosing not to photograph their public persona but rather the private one that revealed itself in the moments before and after
performances. Because the performers were aware of the negative assumptions people have about their living conditions while traveling with the circus, they were especially suspicious of my motivations in photographing their lives. One of the choices I made to build trust was to spend time with them without the camera being present at all. But the most transformative shift in our relationship emerged when I came back with prints of the photographs I had taken on a previous visit. It was then that they understood the perspective I was seeking—one that sought to show the dignity and beauty of their daily lives. At this point, I felt that they moved from simply giving me access to becoming contributors to a shared vision. I started to notice that when the performers saw me photographing them, they would hold still a few seconds longer, stand a little prouder or smile and settle into whatever pose I had naturally found them in just long enough for me to focus my manual film camera and take a few frames.

Developing a relationship with the subject is almost impossible when photographing strangers in public scenes. I’ve recently become aware of a tendency amongst street vendors or performers in large cities where tourists are prevalent to draw attention to the inequity of exchange when they are photographed on the street. In the city where I work, there is a long-time resident shoe-shine vendor with an elaborate and aesthetically refined stand in a prominent downtown location. He has started to post a sign that reads “tips for photos.” This statement not only requests compensation for granting access to his image but also forces photographers out of their assumed place of invisibility to the subject. It forces them to recognize the agency of the person whose image they are collecting.

I noticed students in the after-school program finding similar ways to assert their agency and make visible their awareness of the camera and the researcher. Something as small as pausing to smile and wave to the camera while a learning moment was being filmed can be interpreted as an acknowledgment of their active participation in the interaction between researcher and participant. Such moments can be seen as a way of recognizing the camera’s presence and granting permission to be recorded, but they can also be seen as an assertion of the right to give or withhold that permission. There are more involved ways that students have addressed the camera, including picking it up themselves or asking to be filmed. These actions beg careful examination. At what point in their learning arc are these assertions made, and what are the other conditions of power and vulnerability in the setting at that moment? How might the act of breaking the wall between observer and observed serve as an indication of how the camera is affecting the environment and the learner? When and how is the camera used as a form of self-assessment, or an audiencing tool used to draw attention to successes? [Escudé, Memo, 5/16/14]

The Camera as Evaluative or Generative Audience

Escudé’s reflections speak to the active role of the camera and the ways its presence may shift or influence the actions of participants. In this section, we consider how this dynamic takes on particular meanings within educational research, where the camera’s gaze may serve as a form of academic evaluation, or, alternatively, as a generative audience for students’ talk and participation. This distinction follows from our earlier discussions of surveillance and relationship and can be defined by the extent to which the presence of the camera constrains and/or supports learning interactions in the moment.

Escudé writes about a turning point that emerged when she shared prints of the photographs she was taking with participants. Having the opportunity to see and approve or disapprove of the perspective Escudé was taking in her photographs served to shift her relationship with the people she was photographing and their relationship with her project. In this case, trust can be (partially) understood as a working assurance that the photographer was seeking beauty and dignity where others may enact a more pejorative or exotifying gaze. A similar turning point emerged in the after-school program. About ten months after the program started, we presented preliminary research findings and video data at a parent night hosted by the after-school center. We also encouraged students from the program to attend and participate in the discussion. Through a combination of the clips we selected and the ways both parents and children commented on the interactions depicted, the tenor of the discussion was a celebratory one that honored the kinds of thinking and collaboration evidenced in the examples. As stated, one mother was particularly moved by the visual image of her daughter’s expert investigation of circuitry. In line
with our substantive research focus, these moments reflect the possibilities for expanded views of children and their capabilities that can emerge within particular learning arrangements.

This event was followed by a series of interviews with children who regularly participated in the program. Similar to the parent night, Vossoughi showed the children clips of their own engagement in tinkering activities and asked them to share what they remember about these experiences. These interactions were not all successful or easy learning moments; some involved frustration and struggle. However, we were intentional about sharing challenging moments after one or two clips where children were engaged in ways they might interpret as recognizably successful or enjoyable. The interview protocol was also crafted with this tension in mind. Questions about difficult moments began with phrases like, “You know how tinkering activities can sometimes be frustrating? Do you remember any particular challenges you worked through? What or who was helpful in the process?”

We noticed that sharing selections from the video archive with participants and their parents served to shift students’ relationships with the camera. Following both of these events, we witnessed a rise in children asking for their projects to be documented or calling us over to record what they perceived to be an important learning moment. In hindsight, we sense that it was important for children to see moments that looked like play and that involved everyday ways of speaking and interacting publically highlighted as rich examples of intellectual activity. Escudé also felt that children began to participate in the whole group “circle time” discussions that began each day of the program with greater intentionality and with a stronger sense that their ideas, discoveries, and questions were valued and taken seriously.

Here, we offer an example that helps illustrate the ways students (over time) came to see the camera as a generative audience. During a culminating circle time discussion, Escudé led the group in a conversation about other children’s projects that they remembered and felt excited about throughout the semester. This question reflects the value this setting placed on drawing connections across participants’ ideas and encouraging a sense of collective support. One of the first comments came from Tania (8 years old), who admired the swimming dolphin featured in her friend Felix’s stop-motion animation film. A few moments later, Felix (10 years old) chimed in and shared that he also liked Tania’s stop-motion film “because she made a fast-moving one with bottle caps.” Following this moment of reciprocity, the group began discussing the light painting projects that had kicked off the semester. At this point, Tania got up to get her science notebook from across the room so that she could share the photograph of a particular light painting she had created. By the time Tania came back with the picture she wanted to share, Escudé was introducing the activity for the day and the group was focused on brainstorming ideas for their final projects. Tania stood (while everyone else was sitting in the circle), perhaps waiting for an opportunity to share her picture. After a few moments, Escudé drew the group’s attention to Tania and invited her to share. Tania said, “When me and [Stephanie] did light paintings, I remember we did this” (proudly holding up a picture of their light painting, which featured a shooting star). She then walked around the circle to show everyone the picture. Some began looking at the photograph while others continued talking about ideas and plans for the day. At this moment, Felix leaned over to Vossoughi, tapped the arm with which she was holding the video camera and whispered “zoom in, zoom in!” Vossoughi proceeded to zoom in on Tania’s picture. Felix then called Tania over so that he could look at her picture and encouraged Vossoughi to “zoom in” again. He looked closely at the photograph and said, “Ooh, shooting star! Nice.”

Similar to Stephanie’s comments in the opening vignette, Felix showed his sensitivity to the potential vulnerability Tania might have felt at this moment. Tania was sharing
something she had created with the larger group while some participants had moved on to talking about the day’s project. As a way to support his friend, Felix encouraged the researcher to “zoom in” with the video camera. This move suggests that he viewed the video camera as a generative audience—so much so that it had the power to shift the interaction from one of potential face threat to one of recognition. The tone he took in his comment “Ooh, shooting star! Nice” also suggests that Felix was taking on a more pedagogical role and using the camera (and Vossoughi’s gaze) in service of his own form of “worthy witnessing.” This moment supports our sense that students began to see the camera as imbued with positive meanings. Yet, Felix’s comments also confirm the power held by the camera and the researcher, a power that can also be used in ways that feel less generative.

Here, we share a moment of tension that shifted our approach to video documentation. In the opening vignette, Vossoughi shared with Stephanie that she had “learned to stay close to the camera.” The following set of interactions constituted a significant part of that learning. A few months prior to the aforementioned parent event, we were working with students to build “nature-bots,” small robots made of sticks, leaves, off-set motors, and batteries that take on different identities depending on how they move. This activity culminated in a music video where participants selected a song to which their nature-bot would dance. Escudé recorded these movements on her camera and compiled them into a collective nature-bot dance video. On this particular day, one of the staff members was a research assistant (RA) who had recently joined the program and was familiar with its goals and philosophies. Leveraging the possibilities made available by having a second researcher in the room, Vossoughi moved around the space with one video camera while she set a smaller camera (on a mini-tripod) next to the RA. This was a new practice, as Vossoughi had previously worked alone. She turned the camera on and placed it next to the RA, who had begun working with Shauna (7 years old and a regular participant in the program) on her project. The RA’s decision to work with students on this day likely emerged from explicit conversations with Vossoughi and Escudé about prioritizing assistance and relationships with the children over the exigencies of data collection, particularly as a new participant in the setting.

About three minutes into the video, Shauna began to express some frustration. She was having a hard time getting the motor to move without it falling off of her stick. Watching the video now, this appears to us as the kind of moment where we might subtly move the camera so that it does not exacerbate the frustration Shauna may have been feeling. However, in this moment Vossoughi was moving around the room with the other camera, and the tape kept rolling. For the next 15 minutes, Shauna and the RA continued to work together, both of them moving between signs of frustration and moments of breakthrough and deepened engagement. Tensions emerged, for example, when other children came by and expressed pride in their creations while Shauna was struggling with hers. It is possible that these students viewed the camera in a positive light and were therefore more likely to come by and share their projects. This speaks to our earlier assertion regarding the contingent and complex role of the camera. In this case, what felt like a generative audience to some participants may have felt like an occasion for comparison or “spotlighting” to others in the same scene.

A few times, the RA suggested that Shauna “test” her nature bot—either to see what kind of movement the motor would make when connected to the battery or to see if a hole they had made in a short piece of hot glue was deep enough to fit onto the tip of the motor. Such testing was a common practice in the setting and was encouraged as a way to get feedback from the materials and decide how to move forward. In this case, the RA’s focus on testing over other forms of assistance may have exacerbated some of the tension in the interaction, though she later confirmed that it was reflective of her efforts to respond based
on the pedagogical approaches valued in the setting. At times, Shauna responded by testing her nature-bot; in other moments, it seemed she was not ready to try it out quite yet. Similar tensions emerged towards the end of the day when some of the staff suggested that Shauna consider recording her bot moving to music. To one such suggestion, Shauna responded, “No, I don’t want to videotape it. I want to get it working first.” Although the video camera in question was across the room and dedicated to the making of the music videos, Shauna looked directly at the nearby research camera as she spoke these words. In hindsight, this was another moment when moving the camera would have been most respectful towards Shauna, and towards the RA who was helping her. While Shauna’s glance at the camera broke the “invisible wall” and likely communicated her desire not to be taped during a moment of frustration, she may not have felt comfortable moving the camera or turning it off. These events confirm our sense that students are generally aware of the camera and reflect an ongoing tension in the space: our efforts to value and document the process of creation in a context where students may feel more comfortable documenting the product. Indeed, approaching students to take pictures or record their artifacts in process was often met with the comment, “I’m not done yet!” Shauna did ultimately choose to record her nature-bot music video but not until she felt it was moving the way she wanted it to.

Following this day, the RA suggested that we watch the video from her work with Shauna in an upcoming research meeting as a way to make sense of how the interaction had unfolded. This meeting ended up surfacing some of the vulnerability the RA had felt in having a challenging pedagogical interaction recorded and discussed with the team. In a later memo, she posed some questions for shared reflection: “When does testing feel like a test?” “How does trust build and how can it be lost?” These questions and the interaction as a whole led us to pause and reflect on our practices of video documentation. First, while concerns over the potential face threat experienced by students in the setting were always present, this moment made us more aware of the need to keep those concerns in mind when recording educators, particularly those that may be new to the team. To borrow from Erickson, the “social gravity” experienced in this moment was exacerbated by the camera recording a new member of the research team working to support Shauna by drawing on the pedagogical moves she knew to be valued in the setting (such as the maxim: “test early, test often”). Pedagogically, this moment helped us understand that although testing may be overtly framed as an iterative tool central to the practices of science and engineering, it may also be experienced as the individual evaluation of students’ ideas and solutions.

Second, we learned not to assume that participants (adults and children) know they can move the camera or ask not to be filmed—or that they will feel comfortable doing so. Such rights must be made explicit and continuously revisited. In this case, the fact that the facilitator was a new research assistant may have contributed to her sense that the camera should be left recording. Finally, because our research is focused in part on small group and one-on-one interactions, having multiple cameras in the room may be ideal from a methodological standpoint. However, following this day, we decided to use one camera and made efforts to ensure that the researcher was privy to the interactions being recorded so that we could shift or turn off the camera if need be. We also made it a general practice to ask permission to record an interaction before doing so. Working to ensure that all participants know that they can refuse to be recorded at any given moment continues to be a practice in this setting, one that we imagine as ongoing.

At times, these lessons may come into tension with some of the substantive goals of research. For example, documenting challenging moments is important to building an honest and holistic narrative about the setting and to developing analyses that are useful to other educators. However, privileging the trust and dignity of participants involves
developing creative ways to document these moments that are least intrusive. This may include utilizing the resource of field notes or reflective memos (where researchers write about interactions after the fact) or using audio-recording devices where video may not be preferred. More broadly, while explicit efforts can be made at the start of a project to frame the research as nonevaluative, this intention does not become a reality until it is practiced and felt. The shifting and contingent nature of the meanings associated with the camera suggest the need for continuous attention to the conditions of power and vulnerability in the moment.

Agency over Documentation

There are a range of ways participants express their awareness of the camera and the researcher and exercise agency over the documentation of their learning experiences. Here, we share what we have learned from moments when students exercise agency by withholding permission, asking to be filmed, or taking on the role of the researcher. While IRB forms alone are not the only arena of consent, they do represent an important starting point. In this project, IRB consent was obtained from both parents and children. Consent forms were introduced to students when their parents were present and could support their decision-making process. In a few cases, we received IRB consent from parents but had not yet received signed forms from their children. In one such case, Elijah (8 years old) waited two months after his parents had signed the IRB form to approach Vossoughi, express his independent desire to participate in the study, and sign his own form. This shift coincided with what we perceived to be his growing sense of success in the setting as well as a positive interaction working on a project with the support of the researcher. These factors suggest that Elijah may have intentionally waited until he had a greater sense of trust with the adults in the setting and until he felt he had a handle on the kinds of activities in which we were engaged. Because we interpret these events as the exercise of agency over documentation, they have influenced how we introduce the research to new participants. In addition to making it clear that choosing not to participate in the study does not in any way impede students’ participation in the program, we emphasize that the students themselves are free to think about whether they want to be in the study and sign (or not sign) the forms at a later date. Overall, we approach IRB forms as an important occasion for talking with parents and children about the goals of the research.

The notion that children’s shifting relationship with the research may be tied to their trajectories of learning in the setting also carries over to moments when participants ask to be recorded or turn the camera on to themselves. As stated above, students were more inclined to document their finalized projects (or moments they identified as successful), particularly early on in their participation. During one marble machine-building project, for example, students frequently called Vossoughi over to record their machines once they had successfully tested them. Over time, we noticed that children began treating such moments of audiencing as a substantive component in the process of iteration. In these cases, an idea or solution would be recorded or shared with others before being taken apart to try another possibility. Here, the camera offered recognition of one idea’s realization before another was tried out and may have thereby allowed students to explore a wider range of possible solutions. Students also began saving and sharing the drafts that led up to their final projects, a practice encouraged by the staff.

During one circle-time discussion, Escudé shared examples of students’ light paintings as a source of inspiration for other participants. She then asked Felix if he would be willing to share the draft he had made in his notebook for his light painting—a pencil-drawn picture of a face with a big smile and braces. Felix expressed that he did not want to share
the drawing, and Escudé respected his choice. A few moments later, Felix opened up his notebook and quietly held up the draft in front of the camera, which Vossoughi was using to record the discussion. While sharing the drawing in the whole group may have felt overly vulnerable in this moment, the camera seemed to serve as a middle ground where Felix felt comfortable sharing his draft as part of the documented history of learning in the program. Felix’s decision complicates the assumption that the camera represents the highest form of visibility in a setting. In this case, the camera served as a “low-stakes” audience as compared to sharing with the whole group. Such examples also provide caution against responding to the risks of face threat by simply avoiding the recording of students’ drafts or turning off the camera during challenging moments. Instead, we have found that establishing open communication and remaining sensitive to the conditions of vulnerability in the moment may allow for both a wider range of recordings and a greater potential for student agency. As in Felix’s case, students’ decisions to record drafts or moments in their creative process may also offer a window into accompanying shifts in the way they view the process of learning.

We have found that gaining a better understanding of these shifts involves noticing when students pick up the camera, what they choose to record, and the kinds of questions they ask when recording. Felix often expressed interest in using the video camera to record his own or others’ activities. The first time this happened, he had organized an impromptu lesson to teach two of the girls in the program how to embroider. After setting up both of his friends with their embroidery looms, he walked over to Vossoughi and asked her if he could use the camera to record his lesson. In this case, we found it significant that Felix recognized this as an important moment to document, particularly in light of our research focus on shifting expert/novice roles. On another occasion, students had finished one round of light painting and were writing in their notebooks about plans for the next week. Felix picked up the camera, walked around the room and asked both adults and children, “What do you think you wanna do next time when we come back?” This question created an occasion for participants to brainstorm and plan their designs for the following week. A few weeks later, Felix was recording as students looked through photographs Escudé had printed out of their light paintings. He then walked over to Aeden (10 years old) and asked, “[Aeden], is it ok if I record you?” Aeden nodded and Felix asked, “What photo do you like the most?” Aeden looked through his photos while Felix waited patiently. He then held one up to the camera. After talking with Aeden about why he liked the photo, Felix said, “Good job!”

In these instances, Felix simultaneously occupied the role of a researcher and an educator, a hybrid role that reflects the ways Vossoughi often engaged in the setting. The kinds of questions he asked also embody the sensibilities we had been working to develop with students: “What are you planning for next time?” and “Why is it your favorite?” are common ways teachers engaged students in conversations about their work. Finally, Felix chose to interview both adults and students about their light-painting plans. This move may reflect his sense of the intellectual ethos Escudé worked to build—one of artists and scientists of all ages working together on their projects rather than adults simply teaching kids. Similarly, mid-way through Vossoughi’s interview with Felix, he picked up the audio recorder and asked her some of the questions she had asked him thus far: “When did you start tinkering?” “How has it been for you?” Felix’s questions served to reorganize the tenor of the interview, creating a bidirectional conversation about the after-school program rather than a one-sided examination of his experiences. Recognizing and developing opportunities for students to participate in the process of documentation and using the insights gained therein to continuously revise research practices may therefore open up new possibilities for collaborative research.
Conclusion

These examples have made us sensitive to the explicit and implicit ways students respond to the presence of the camera and exercise agency over the documentation of their learning experiences. We found that if we only pay attention to the overt ways participants grant or withhold permission (signing IRB forms, asking not to be recorded) we may miss the range of ways students voice their concerns and/or interests in the process of documentation and the ways their relationships with the research may intersect with their learning trajectories within the setting. These considerations are also critical to surfacing issues of face threat and evaluation as they emerge in real-time interaction. In the context of test-centric educational policies, it is particularly important to consider the ways students may experience the camera as a form of evaluation. As we have argued throughout, alternative relationships with the camera and the researchers’ gaze require pedagogical, political, and relational work.

In a graduate course on qualitative data analysis, Frederick Erickson encouraged students to write about the front-stage story and the back-stage story, the conceptual and methodological tensions and turning points that constitute research as a form of inquiry. We hope that in sharing pieces of our “back-stage story” we may contribute to ongoing dialogues on ethical and humanizing forms of social inquiry and encourage others to voice the tensions and possibilities that emerge around video research in educational settings. Rather than seeing these moments as extraneous to the substantive dimensions of research, we have found that they reveal important insights about the meanings educational experiences hold for participants. In other words, the shift from research as surveillance to research as relationship is both an ethical imperative and a substantive approach to deepening ethnographic inquiry. This shift requires moving beyond the commodification of human experience as data, and toward a co-authored process of asking, learning, and knowing.

Shirin Vossoughi is an assistant professor in the School of Education & Social Policy at Northwestern University (shirin.vossoughi@northwestern.edu).
Meg Escudé is the director of the Tinkering After-School Program (meg@escude.net).

Notes

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1. All student names are pseudonyms (when possible, selected by participants).

2. As Erickson et al. write: “To try to learn something new with a teacher is to display one’s self to the teacher as incompletely competent . . . Taking the risk of face threat, then, is necessary if one is to attempt a new skill. And depending on what Dewey (1938:45) called the ‘total social setup of the classroom,’ student attempts to learn can be more or less risky in terms of face threat” (2007:11–12).

3. Based on our readings of research on equity, science education, and indigenous epistemologies (by Megan Bang, Doug Medin, and Ananda Marin), this activity has shifted over time to include explicit attention to students’ relationships with the natural environment and a walking activity that invites participants to both reflect on human-nature relations and select natural materials that have already fallen from trees or plants.

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