

Leading Together through Co-digitizing: The Creative Practices of Young People and their Teachers

Juan Carlos Castro, Concordia University

juancarlos.castro@concordia.ca

Kit Grauer, University of British Columbia

kit.grauer@ubc.ca

Moniques Richard, Université du Québec à Montréal

richard.moniques@uqam.ca

Ching-Chiu Lin, Simon Fraser University

ching-chiu_lin@sfu.ca

Michael Emme, University of Victoria

memme@uvic.ca

Joanna Black, University of Manitoba

Joanna.Black@umanitoba.ca

Abstract: Recently, educational policymakers have responded to young people's digital media practices through increasingly restrictive bans and controls. Drawing on over forty years of collective research, we argue that art educators are positioned to lead through this moment of moral panic by co-digitizing, that is, participating with young people and their digital practices. We share how art educators have cultivated learning networks where knowledge is assembled through relations among people, tools, and contexts. As a result, we call for pedagogical leadership that reconnects schooling with young people's digital lives.

Keywords: Art education leadership; Youth digital practices; Participation and pedagogy; Mobile media in education; Sociomaterial learning; Visual culture education; Co-digitizing; Artificial intelligence (AI) in education

Over the past two years, policymakers in Canada and abroad have intensified restrictions on young people's digital media practices, privileging prohibition over education. In British Columbia, the Ministry requires school boards to restrict students' personal digital devices in their codes of conduct (Government of British Columbia, 2025). In Quebec, a cellphone ban applies to personal devices throughout the school day (Gentile, 2025). At the federal level, the government tabled Bill C-34, the *Safe Social Media Act*, in June 2026, which would bar those under 16 from holding social media accounts unless platforms demonstrate adequate safeguards (Parliament of Canada, 2026). Beyond Canada, Australia now enforces a national prohibition on social media accounts for those under 16, shifting responsibility to platforms through compliance requirements and penalties (Kaye & Jose, 2025). These measures

reflect a broader impulse to manage social practices through prohibition, one in which childhood is seen as something to be protected or rescued, while the realities children and teens face outside of school and into adulthood go unaddressed.

Bernadette Baker (1998) described childhood-as-rescue as a historically produced discourse in which the child is positioned as dependent and morally vulnerable. She adapted the term from Rudolph Schnell (1977) to name the redemptive themes that rework the child-adult division into a relation of rescuing and being rescued. Within this framing, children become legible as needing protection from responsibility and risk, authorizing intensified governance. Baker (1998) argued that public schooling developed alongside this rescue logic. Rescue rationales can legitimate segregation, institutionalization, and surveillance in the name of protection, shaping which childhoods are treated as acceptable and for whom. In relation to digital media, childhood-as-rescue explains why bans are framed as care, even when they reduce young people's opportunities to learn to navigate an increasingly digital world.

Marilyn Campbell and her colleagues (2024) echoed the problematics of rescue, finding that mobile phone bans, though justified by claims of distraction, cyberbullying, and mental health, are enacted without strong evidence and against schools' obligations to teach responsible technology use. Media-amplified concerns produce the moral panic that makes such bans politically attractive. If prohibition is an inadequate educational response to post-digital life, the next question is: what forms of leadership can sustain engagement, critical literacy, and ethical participation, and how is art education positioned to model that work?

Art education can model collaborative educational leadership that treats young people's cultural practices as pedagogical sites for critical judgment, responsibility, and creativity rather than as risks to be banned from school. Leadership like this requires attending to the practices students already live with, including digital visual culture, and designing curricula and enacting pedagogies that support participation, reflection, and ethical decision-making. It also requires a willingness to act when policy narrows what counts as legitimate learning. In this sense, leadership is curriculum work that makes contemporary cultural practices available for study and critique (Freedman, 2011). Schools need leadership capable of educating with, rather than banning, the social and cultural worlds young people inhabit.

In this paper, we argue that art educators are well placed to lead a different response, co-digitizing with young people by collectively thinking, being, and creating through and with the digital. By co-digitizing, we mean a relation of shared authority in which educators participate in young people's digital practices, grounded in attentiveness to what young people are already making, critical judgment about the tools they use, and support for their creative agency. Each section that follows takes up one or more of these commitments.

Historical or Hysterical: Art Educators and Digital Media: Kit Grauer

The year I graduated from Stanford University, the Apple computer was just being released, not more than a mile away. The digital revolution had begun not only for adults but for anyone born after that time. My research interest was in how the arts influenced children, and especially in how images could both support and capture the nuances of our understanding. My work at Stanford had included courses on photography, visual culture, and visual anthropology, and I took John Collier's work on photo elicitation to heart. Photo elicitation produces a different kind of information; it evokes feelings and memories that are due to the photograph's particular form of representation. Images influence how we understand phenomena and how we support

participants in remembering and making sense of them. Little did I know how digital photography and digital media would influence me, my research practice, and what I would research for almost 40 years.

My first large research project at UBC in the late 1990s was part of a grant examining a program that had artists working with teachers in elementary schools (Grauer et al., 2001). We decided to use digital cameras in our image-based research. We chose Sony Mavica cameras, which used floppy disks, had a large screen on the back, and could take still images or short videos. I took one of the cameras to practice beforehand, so I could explain to the teachers what to do. My son, six at the time, felt he should get a chance to play with it. In the hour and a half he spent taking pictures, I witnessed a change in the way he made images. He went from no real conception of what he was recording to composing within the frame. He would go on to use it as a stop-motion animation device with almost no instructions.

I realized that adults often do not give kids enough credit for their ability to learn through media. I understood this through art making, but had not realized digital making could be as important. We gave the cameras to teachers but encouraged students to also take images. Participants were not only responding to our images but actively involved, taking pictures and talking about what they experienced. The follow-up article, *Images for Understanding: Snapshots of Learning through the Arts™*, won the AERA Best Article in an electronic journal the year it was published. As one teacher said, "When I saw the digital pictures, I realized how engaged the kids had been, even kids that I hadn't recognized at the time, and what a difference that work in the arts made to their learning and motivation" (Grauer et al., 2001, ¶ 2). We were co-digitizing before we had a name for it. By attending to what children chose to photograph and following their authority over what counted as important, the inquiry became shared, and the children's engagement stemmed from their ownership of what they made.

That research changed how I conducted research and led to several grants focused on digital media and youth. Working in teams with graduate students, postdoctoral fellows, and colleagues, we explored best practices in digital media education in community art centres across Canada (Grauer et al., 2012). In a follow-up grant, we found that youth encouraged to use simple digital media (smartphones, hashtags, Instagram, Twitter, and Facebook) during museum visits were more actively involved and engaged with the site (Cunningham et al., 2014). This understanding led us to imagine how programs developed with these youth and their technologies might help them address issues that matter in their communities (Ryoo et al., 2014).

Whether in community settings or classrooms, integrating digital media tools and supporting shared learning and peer feedback enhanced student engagement, creativity, and collaboration. Experience with digital media is less frightening than adults are willing to admit, especially if they let youth into the picture. Recognizing young creators as both independent learners and seeking mentorship, integrating digital practices into art teaching makes the best sense (Lin et al., 2011). Although social media and digital tools have exponentially expanded the possibilities, our research suggests that when students and teachers work together, they co-construct dynamic learning environments where creative risks, critical thinking, and meaningful inquiry flourish (Grauer & Castro, 2025).

Crossing Spirals in Art, Education, and Digital Curiosities in Québec: Moniques Richard

For almost 40 years, a spiraling conception of time and place has shaped my thinking about education grounded in bodies, technologies, and mixed identities, and fueled by curiosity. Present in nature and in research, the spiral links past, present, and future while connecting self, others, and the more-than-human world. Introduced in pedagogy by Bruner (1960), it symbolizes a cyclical process through which one revisits previous practices, integrates new knowledge, and progresses toward more complex goals. In technology development, Boehm (1988, 2000) uses a spiral to model software. This form is relevant for digital education, which requires constant updating of skills and practices (Conseil supérieur de l'éducation, 2020). For Overstreet et al. (2023), a multimodal spiral combining text, image, sound, gesture, or design is essential for teaching 21st-century skills through recurrent “topics and themes” (p. 6). In this section, I examine how my work intermingles youth’s cultural interests with creative, multimodal, and co-digitizing skills.

I start at the center of the spiral, in the unknown realm of the unborn, anchoring the body and identity. During pregnancies, I experienced Veldman’s (1991) haptonomy through bodily contact, and progressively learned to extend my affective and sensorial boundaries toward others, tools, and technologies, co-learning with my unborn offspring. With children and preschoolers, I later explored womb-like spaces, self-portraits in utero, multimodal performances, and digital cosmic worlds for the *In Utero* project (2001-2003). While participating with children and listening to their stories of birth, I gained some understanding of our evolving identity across time and scale (Richard, 2006). Building safe spaces with children to explore art and technologies became a recurrent motif in other projects.

Figures 1 & 2

1st grader transforming her in utero self-portrait into a cosmic world



Note. Digital cosmic world prints exhibited in a hospital maternity ward. Photo credit: M. Richard.

As this identity spiral extended to youth's cultural practices, I watched young people engage with avatars in video games and manga, in a primary school where such things were not banned. This led me to explore shifting identities. In the *Permutable Identity and Youth Culture* project (1998-2005), I accompanied youth as they drew and exchanged paper avatars online, while experimenting with this theme with collaborators in a hybrid exhibition and publication (Richard, 2005a). I later investigated some youths' informal practices with the Interlacing research group (2014-2020) using surveys and interviews. We noticed how they expressed hybrid cultures, languages, and identities, challenging our definition of what is art. Our concept of cultural jockeying allowed us to approach their mixing of practices, genres, and genders as continuums between dualities (Richard & Lacelle, 2020), transforming our understanding of teaching as a reciprocal mediation where students are agents of learning and partners in research. Questionnaires on personal interests and skills became a recurrent tool to co-digitize future projects.

Figures 3 & 4

Visitor searching the Permutable Identity website



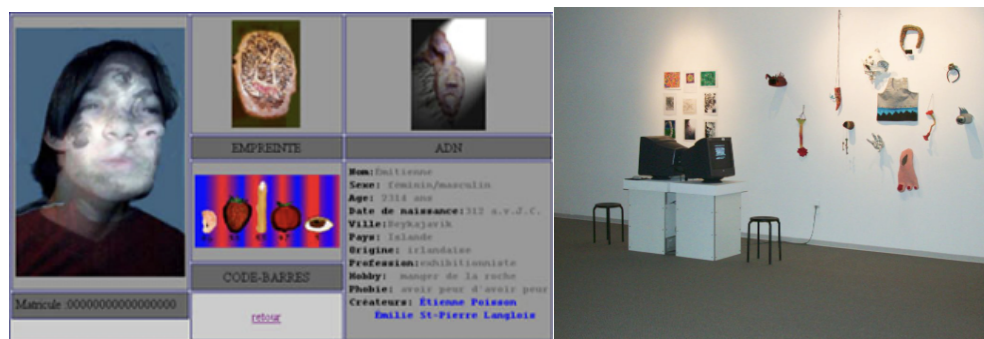
Note. Website page of paper avatars from Denmark. Photo credit: M. Richard.

Initiating a technological spiral in my work, I wondered how youth could prepare to enter adulthood with a more critical view of their digital environment. In the *Body + Machine* project cycles (2000-2010), artists, teachers, and pupils co-imagined possible futures through technological fictions such as extending the body with prostheses or digitally modifying identity. Katherine Hayles' (1999) posthuman perspective of the body as socially constructed across bodies and technologies informed my own concept of the pedagogical body, where bodies, tools, technologies, and contexts interact in learning (Richard, 2010). Today some of these fictions have become realities. My recent participation with LAB 1P1, directed by Martin Lalonde and colleagues, allows me to discover extended realities (XR) across disciplines, cultures, histories, languages, generations, etc. In this new cycle, I take time to explore the future in the present so that we can learn and move together toward novel skills and pedagogical innovation. Our latest

exploration implies co-creating an online dress up game, crossing the mixed identity spiral for a future project.

Figures 5 & 6

A digital identification card made by a teenager



Note. A view of the Body + Machine exhibit with youth's technological prosthesis. Photo credit: Denis Farley.

In 2008, I started a spiral called AmalGAME on the hybridization of artistic and media genres, where preservice teachers created artistic/pedagogical projects in a university workshop, attentive to youth's culture and their own (Richard, 2015). While investigating digital literacy in 2021 with an art teacher and adolescents in a high school, *Cabinets of curiosities* became a common topic and an hybrid space for creating digital portfolios on a personally chosen theme for the year. It also turned into a dialog zone for future teachers working on AmalGAME and for high schoolers, treating both as experts on their objects of curiosities, digital skills, and creative process.

Figures 7 & 8

Adolescent working on his cabinet of curiosities with Genial.ly



Note. Preservice teacher presenting a collective cabinet to a high school class. Photo credit: M. Richard.

Scholarship on adultism warns that well-intentioned programs frequently equate youth voice with participation structures that adults design, control, and evaluate (Bertrand et al., 2023), subordinating young people within the very institutions intended to serve them. Following, then, can become another mode of surveillance dressed as solidarity.

My research traced how young people navigate learning across platforms, tools, and relationships extending beyond formal educational structures (Black et al., 2015; Grauer et al., 2012; Lin et al., 2011; Lin, 2024). At the time, I theorized these practices through distributed authorship, transversal learning, and youth agency. What has shifted is how I understand the conditions that made them possible. These dynamics did not emerge from participatory structures or digital affordances. They emerged through co-digitizing, a relational orientation enacted by facilitators, a readiness to reshape expertise, a willingness to question their own power, and the creation of spaces where youth could introduce and share knowledge that adults could not have anticipated. The language of youth empowerment that once seemed adequate, now appears vulnerable to the logics of containment that Kwon (2013) describes as the nonproftization of social movements, where radical possibilities are contained within funder-friendly frameworks controlled by adults. The programs I once celebrated as co-creative were also, inevitably, structured by adult-designed boundaries and metrics of success. Pedagogical leadership is therefore located within relational conditions and the ongoing negotiation of power.

The post-digital turn intensifies rather than resolves this issue. When Cramer (2015) argued that post-digital signifies a consciousness where technology ceases to define what makes practice distinctive, he recognized that the interesting pedagogical questions were never primarily about technology. Yet institutional responses remain fixated on devices, and banning phones, restricting platforms, and controlling access address only the surface issue. Young people moving across screens and streets do not experience technology as a discrete domain. They experience institutional distrust of their judgment, surveillance of their bodies, and exclusion from decisions that shape their environments. Phone bans are less about technology than authority, about who decides how young people spend their time and the presumption that adults already hold the right answer.

Challenging distrust requires more than following youth practice with attention. It requires the contact zones of youth participatory research (Bettencourt, 2020), spaces of productive friction where adult and youth perspectives genuinely conflict. These encounters show co-digitizing because learning dynamic stays negotiable. In the programming I have studied, generative moments rarely occurred when educators successfully implemented their designs. They emerged when youth pushed back, redirected activities, or revealed assumptions that adults had not examined. Youth agency is not an inherent trait or program outcome but a relational emergence, supported by facilitation that holds expertise with openness, welcomes uncertainty, and invites unexpected knowledge. This is not an argument against structure. Instead, it suggests that effective media arts pedagogy requires adult and youth perspectives to meet, sometimes in friction, with outcomes that remain open.

Thompson's (2022) concept of care aesthetics offers language for what makes such relational spaces generative. His distinction between careful art, meaning creative practices that attend to care, and artful care, meaning aesthetic orientations brought to practices like nursing and social work, provides a framework for community art education. Programs that foster trust, mutual support, and collective risk-taking exemplify careful art, making care a core pedagogical purpose, not a by-product of creative practice. Yet care discourse carries risks. Feminist critiques

have long noted that care can mask paternalism, positioning the carer as benevolent expert and obscuring the agency of those receiving care (Tronto, 1993). In youth-serving contexts, care often justifies restriction, as when adults ban phones because we care, limiting autonomy for their own good. Care so deployed suggests protection, the childhood-as-rescue logic Baker (1998) identified as organizing modern schooling. Thompson's work is valuable because it insists on care as relational practice, not as unilateral protection.

Following youth cannot be reduced to a method to be replicated, scaled, or assessed. It is an ongoing negotiation of power. Serriere and Riley (2024) describe this work as solidarity: supporting youth without usurping their voices. This orientation aligns with co-digitizing, where learning is shared rather than predetermined. For art educators, this means creating space for youth direction while remaining accountable for participation conditions, treating uncertainty as a necessary condition, not a failure, for learning, and understanding care as a relational practice that supports agency.

Pedagogical leadership in a post-digital moment does not involve directing young people toward predetermined outcomes or appreciating their practices from a safe critical distance. It means entering a shared inquiry into what education is for and who decides. Fawns (2022) suggests that technology and pedagogy are entangled, and that learning outcomes are contingent on relations among teachers, students, and context. What requires attention, then, is how authority is distributed, whose knowledge is treated as legitimate, and whether the conditions of participation remain open to youth direction. In the programs I have documented, shared leadership became visible not from the platforms used, but through co-digitizing practices that shifted authority to youth, who directed creative decisions and held each other accountable across cycles of making. Art educators can model this leadership because our discipline has long understood that making involves negotiation with materials, histories, and other people whose responses cannot be fully anticipated. The question now is how to extend that understanding to our relationships with youth, treating them not as beneficiaries of our programming but as collaborators in shaping what it should be.

Toward Co-Digitizing the Studio Classroom Take-Apart Tables and Polysemiotics: Michael J. Emme

A great feature of Canadian art educator Aaron Sennitt's (2013) kindergarten classroom is the take-apart table. For Aaron, the station (and classroom) was partially inspired by the German avant-garde artist Kurt Schwitters. Aaron's take-apart station is full of small tools and old technology (junk?). In the spirit of Schwitters' home-as-installation-art known as 'Merzbau' (Thomas, 2012), young students can take the techno-junk apart and use their hands, experience, and imaginations to analyze, recognize, question, and play with the constructedness of things using imaginative play to build new worlds (Kirova, 2010).

Villem Flüsser (2000) called the camera and emerging digital media 'black boxes' (Tratnik, 2025, p.3) designed to gather and distribute information as "technical images" (p. 1). guided by programs and purposes invisible to users. Citing uncritical trust in images ("Idolatry") and text ("Textolatry"), he warned about technical images and their distribution (Emme, 2007, p.7). Flüsser's cautioned that blind faith in black boxes can lead us to serving the technology and its designers, "becom[ing] a functionar[ies]—not...creator[s] or decision-maker[s] in any traditional sense, but operator[s] whose actions are structured by the apparatus's internal program" (Tratnik, 2025, p.3).

The following three examples of collaborative works from my studio teaching and research practice offer a personal chronology and reflections on the wonder and doubt (Emme 2007) captured so well by Sennitt and Flüßer.

Figure 12

Lesley



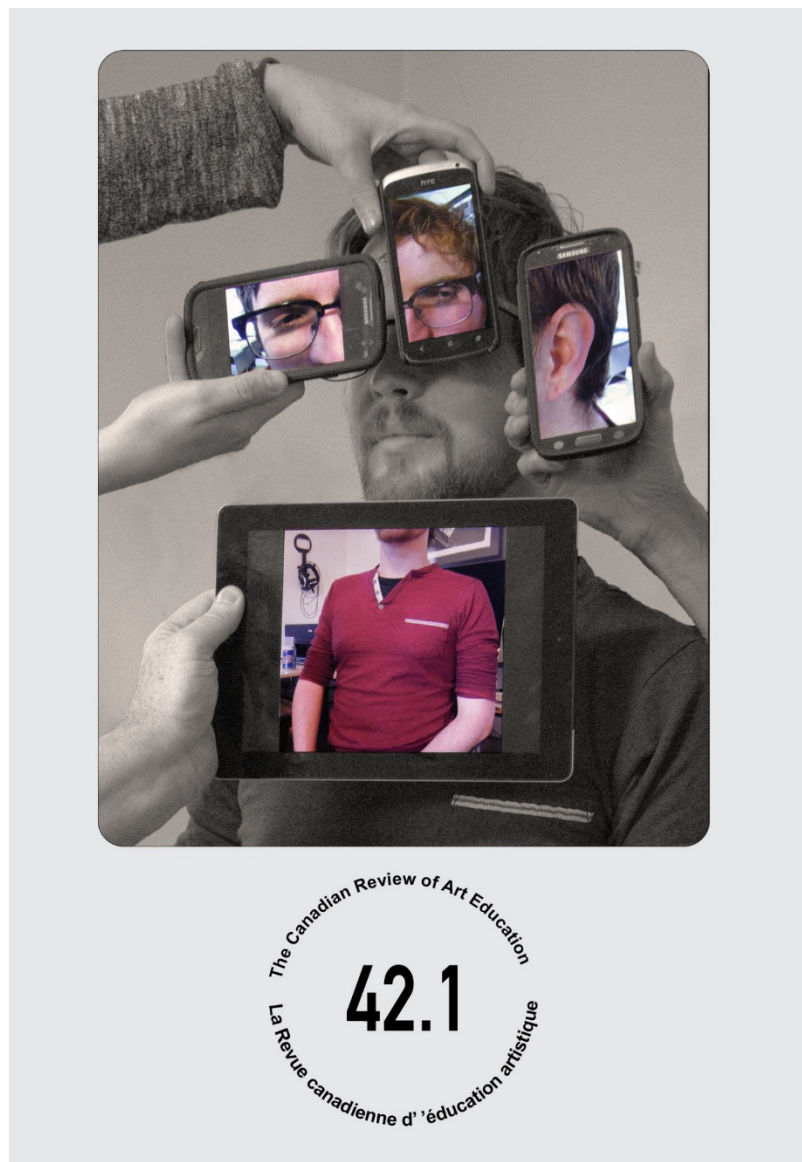
Note. Photo credit: Michael Emme, 1988.

Taking Apart the Black Box – Lens Meaning

As an emerging teacher, artist, and researcher, my early studio explorations involved both photography and comic books. Figure 12 shows a portrait shot during my Ph.D. studies. Technically, it is ‘just’ a series of images shot on a single roll of film. You can perceive it as a single image, a series of 12 discrete images, or as a very short movie (a film strip?) reflecting 4 minutes and 39 seconds of ‘running’ time. This playful questioning of the lens as a tool demonstrated the idea that ‘simultaneity’ is part of the “rhythm” (Lupinacci, 2022, p.4078) of media experience.

Figure 13

Remediated Frames



Note. Cover art for CRAE, 42(1), 2015.

Taking Apart the Flat Box – Lens Media and Co-digital Studio Learning

Digital technology and lens media (Emme, 1988) liberated from film and chemicals, allows the roles of subject, camera operator, designer, and audience to become simultaneous. Digital instant photography opened up the possibility of collaborative creativity as a “postmodern practice” (Chappel, 2011, p.30) with more team-oriented studio assignments where production involves a variety of skills and forms of expression in collective work. The classroom studio is moving toward relational aesthetic practices mediated by digital tools and a “new

photographic body language” (Emme, 2015, p.5) Each of us can be the subject, photographer, and audience simultaneously. The classroom studio is moving toward relational aesthetic practices mediated by digital tools and a “new photographic body language” (Emme, 2015, p.5) Each of us can be the subject, photographer, and audience simultaneously. The portrait featured on the cover of issue 42(1) of CRAE in 2015 (figure 13) was created and can be read as a singular work, or the convergence of 6 unique intentionalities across several lens media.

Unboxing • co-creating • co-researching, Co-digitizing the studio classroom

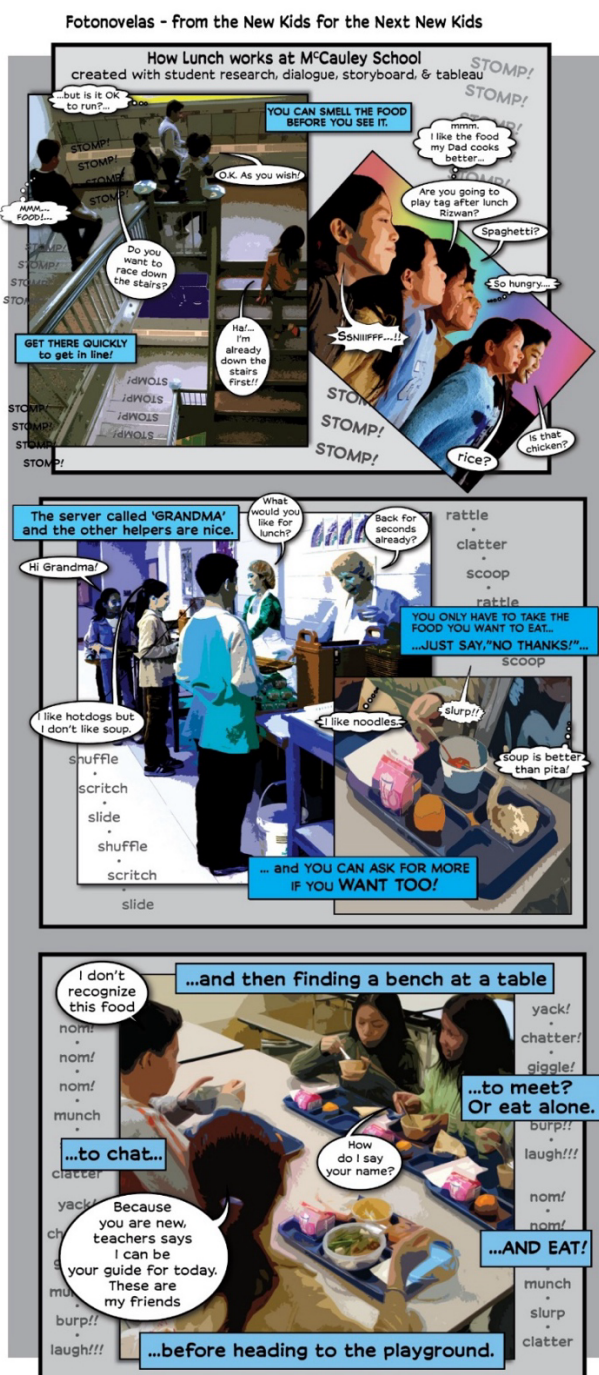
Co-digital studio practice in current art education might echo the multiverse depicted in the recent movie, *Everything Everywhere All at Once* (Scheinert & Kwan, 2022). Teaching and learning with, in, and about digital media demand dancing between the analogue and digital as well as across the arts and social sciences. Understanding art as a communication ecology (de Bernard et.al., 2022), Canadian art educator, Martin Lalonde describes the many dimensions of Multi Modal Literacy (MML) involved when students designed a poster to advertise a web series they created.

[The Poster] enabled them to play with viewers’ expectations by featuring clips from the web series. In creating this installation, the young people used cognitive skills (extracting key information about the characters), pragmatic skills (thinking about the viewer’s experience), semiotic skills (splitting the narrative into segments), modal skills (creating a poster using visual codes), and multimodal skills (creating a multimodal package of a fictional story that is broadcast on several media) in a whole new way, because they were experimenting for the first time with a format made possible by a new technology. (Lacelle & Lalonde, 2023, p.175)

As a precursor to the MML journey, consider Figure 14, three frames from a photo-based comic book – called a fotonovela (Kirova & Emme, 2008). 8- and 9-year-old students, many of whom were newcomers in Canada (seven languages spoken at home), used digital cameras to investigate the hazards and *insider knowledge* of school life. merging community research, analog and digital image-making, tableau performance, and collective storyboarding. Their series of comics accessed the “polysemiotic” layers (Samokhina et al., 2022) of text, image, sequence, and body language (as comics do), touching many of the learnings (MML) articulated by Lacelle and Lalonde (2023).

If we follow Sennitt’s kindergarteners, our contemporary classroom studios becomes an analog and digital take-apart table. Co-digitizing a polysemiotic, critically creative curriculum equipped with the tools, stories and community access that embraces students’ curricular contributions and creative play will encouraging students to tear apart and reassemble today’s digital and analog materials and ideas for fun and critical learning (Emme & Bergland, 2010). The classroom studio multiverse can be an online collage or a fotonovela, that starts with trusting students to embrace their simultaneity as creators, researchers, and curriculum developers.

Figure 14
Lunchtime at McCauley



Note. Gr. 4 photo club, 2006.

Art Education and Artificial Intelligence: Joanna Black

Over the past 40 years, I have witnessed as educator/teacher/artist two major technological revolutions, the Digital and, more recently, the Generative Artificial Intelligence (Black, 2023). Artificial intelligence (AI) is affecting our society and education (Black & Chaput, 2024). In this section, I draw lines between my earlier research with older technologies and the AI research I have conducted recently. When I was teaching and researching older technologies, I found students had absolute agency; however, currently, AI technologies have agency themselves, influencing learners' thoughts, art processes and creative output (Black & Chaput, 2024). In society's responses to AI, I perceive three approaches: the fear-based approach, driven by alarm and leading to bans, surveillance, and protections; the all-embracing approach, characterized by uncritical acceptance without regard for potential harms; and the critical-analytical approach, which involves cautious, well-considered usage.

Age of Digital Technologies

As digital technologies emerged, I consistently advised against both uncritical acceptance and the moral panics of banning and censorship in my postsecondary research/teachings at the high school and university levels. I found youth in art education were plainly motivated to learn, develop skills, and use these technologies creatively (Black, 2002; Castro & Black, 2025). Teaching technology is a partnership that runs counter to the traditional teacher-student power structure (Black, 2002, 2014). Learners and educators analyzed positives and negatives of technology together, in a shared co-learning relationship, to forge positive paths forward (Black, 2002, 2006, 2014, 2022). As Foucault (1972) argued, discourses are regulated, created, consolidated, and censored. Control operates through principles of exclusion, prohibition, and what he termed "the will to truth", in which society imposes perspectives and restricts knowledge by deeming certain truths and falsehoods (Foucault, 1972, pp. 218-219). When working with new technologies, however, I have consistently found students and teachers work within a less restrictive co-digitizing relationship. I define co-digitizing as a power dynamic between teachers and students who forge new relations together in co-learning/teaching situations. Collectively, they work within discourses/practices in researching, art/text making, and communicating using digital AI. These collaborations run counter to the traditional dynamic of all-knowing teacher and passive learners. Thus, Foucault's observations of traditional, restricting, and confining past conventions manifested in will to power are not apparent in a co-digitizing pupil/educator relationship.

Generative Artificial Intelligence (GAI)

AI boundaries are new and in constant flux, and debate continues about its usage in education. I advocate the same approach for art classrooms: the critical-analytical one, as advocated by figures such as Stephen Hawking (Cellan-Jones, 2014) and Geoffrey Hinton (Black, 2023). Never before have we confronted a technology with agency, where content is formed not by humans but by machines in a posthuman world (Barad, 2007; Leonard, 2020). AI now does what only humans did in the past, scraping massive amounts of Internet data to produce increasingly sophisticated texts, images, sounds, videos, and code. At present, however, AI cannot create original texts (Crabapple, 2026). In my research on adolescent and university students' AI usage, I found most art students did not use AI to create works until 2023, after ChatGPT and other systems became available to the

layperson (Chaput & Black, 2025). Since then, students and teachers have used GAI for everything from art reports and history essays to literature reviews and theses. Their approaches vary: some accept GAI texts unquestioningly, sometimes leaving them unread; others proceed with caution, critiquing and altering the work; and others reject AI altogether (Black & Chaput, 2024). Importantly, some students want to retain and develop their own abilities to shape knowledge rather than rely on GAI (Black, 2023).

I was first alerted to the deleterious effects of AI in art education in 2020, while teaching research courses at the University of Manitoba. In research, we increasingly encounter disinformation, deep fakes, filter bubbles, echo chambers, weaponization, and computational propaganda. Hate, bias, racism, sexism, misogyny, and outright lies also appear in GAI texts (Black & Chaput, 2024), and GAI sometimes fabricates entirely false data, such as fake references (Edwards, 2025). To address these problems, my co-author and I outlined ways to teach proper research approaches, concluding that media and information literacy skills are critical to preparing global citizens able to obtain key information (Black & Fullerton, 2020, 2022). Media literacy in the age of AI is therefore a core responsibility of art educators, not an optional add-on (Black, 2023; Black & Chaput, 2024).

GAI is here to stay, and neither a fear-based nor an all-embracing approach is adequate for vibrant learning. I advise educators to teach AI as facilitators, co-learning with students in shared co-digitizing relationships, and supporting honesty, openness, and criticality through media literacy (Black, 2023; Black & Chaput, 2024). Since media literacy is so intertwined with visual arts, it is critical for youth to understand this field (Black & Fullerton, 2020). Art education is well suited to teaching the difference between human agency and machine agency, ensuring our students and educators do not lose the ability to shape our own knowledge while using this technology. By taking a critical-analytical approach, art educators can model pedagogical leadership, develop critical research skills alongside our students, cultivate moral reflection, and promote ethical participation in an increasingly complex AI world.

Mobile Media, Social Media, and the Creative Practices of Young People: Juan Carlos Castro

My earlier research (Castro et al., 2016) on mobile media emerged from a recognition that young people were already making images with their smartphones and sharing them through their social networks well before policymakers began legislating bans in schools. Through our mobile media curriculum, MonCoin (Castro, 2019), our team examined how young people could use image-making on their phones and circulate those images on social media to explore identity, place, and civic engagement. The curriculum worked with young people's everyday digital cultural practices. For participants, mobile image-making was not peripheral. It was integrated into how they made sense of themselves, their communities, and their social relationships.

When MonCoin entered formal art education contexts, it was initially met with hesitation. Phones were framed as distractions, despite their central role in students' creative processes. Over the course of the project, these assumptions shifted. Students' images demonstrated sustained engagement, critical reflection, and meaningful connections between artmaking, place, and civic concerns, and the project's value became evident to teachers and school communities. This disjuncture revealed less about the technologies themselves than about institutional discomfort with cultural practices that exceed traditional curricular boundaries. Our research challenged the assumption that learning must be tightly managed or organized around established

canons of knowledge to be legitimate. This shift is what we mean by co-digitizing. Teachers moved from regulating phones to making images alongside students, and in doing so they came to exercise critical judgment about the platforms their students were already using.

Our subsequent research on Digital Visual Learning Networks (Castro & Black, 2025) extended this work by examining how young creators organized learning across digital platforms, tools, peers, and online communities beyond formal schooling, assembling feedback-oriented, iterative, and self-directed forms of art learning. Learning in these contexts emerged through ongoing interaction, where young people developed technical skills, aesthetic judgment, and social awareness by sharing work-in-progress and responding to others. These practices often operated alongside school-based learning and, in some cases, played an equally significant role in shaping young people's identities as artists. What became visible was not an absence of structure or guidance, but a different organization of learning that relied on a decentralized network of mutual support.

From a sociomaterial perspective (Fenwick et al., 2011), these networks distribute agency in learning among human and nonhuman actors, including young people, educators, software, algorithms, images, and interfaces. Young people are neither passive users of technology nor simply consumers of content. They actively shape learning environments by navigating varying media affordances, negotiating norms of participation, and making decisions about visibility, authorship, and ethics, as MonCoin participants did when they chose how to frame, share, and situate their images. Across both projects, young people were already leading their own learning, and art educators can participate with them in these spaces, offering support rather than total control. Teachers who initially framed phones as distractions came to recognize and support students' creative and civic engagement through participation rather than prohibition. My experience demonstrates the leadership potential of art education to build bridges between young people's lives and formal schooling, through sustained attention to material and digital practice, responsiveness to changing contexts, and trust in young people's capacity to learn within their everyday lives (Castro, 2025).

Leading Together

Across this paper, we have converged around an understanding of learning as participatory, relational, and situated within young people's cultural practices, both digital and material. Drawing on our collective research, we have shared how young people learn through ongoing relations with peers, materials, images, tools, and technologies. Over the past forty years, we have repeatedly articulated that meaningful learning is assembled through interaction, feedback, and shared inquiry, not delivered through hierarchical instruction. We position young people as active agents whose creative practices already involve sophisticated competencies such as artistic judgment, collaboration, and civic participation, and we frame educational leadership as the design of conditions that support art learning, reflection, responsibility, and care through digital media. In this sense, we are reconfiguring how childhood and adolescence are understood in and outside the classroom as a relational process of being with, learning with, and making art together.

Our orientation toward leadership is a practice of co-digitizing: learning and creating together across digital and material forms. The term describes the communal artmaking that emerges when educators and young people teach each other, investigate together, and share responsibility on- and offline. Co-digitizing mirrors digital culture by resisting hierarchical

models that position the teacher as sole authority and students as recipients of knowledge, and by framing classrooms as collaborative spaces where digital tools and traditional materials coexist. Power is negotiated rather than absent, as educators lead by creating conditions for trust, risk-taking, and sustained inquiry. We advocate for how digital technology can be reoriented toward co-digitizing rather than bans. What would it mean for schools to recognize young people as contributors to curricular and pedagogical design around smartphones and social media? How might we support learning across image, text, sound, gesture, and design, while attending to embodiment, sensorial perception, and ethical responsibility across digital, virtual, and material spaces? How can art educators and students negotiate power, authorship, and care within learning environments shaped by networked technologies and now AI? At a moment when policy relies increasingly on prohibition, our work argues for a different orientation: one that treats participation as an educational responsibility and leadership as the practice of learning together.

References

- Baker, B. (1998). "Childhood" in the emergence and spread of U.S. public schools. In T. S. Popkewitz & M. Brennan (Eds.), *Foucault's challenge: Discourse, knowledge, and power in education* (pp. 117-143). Teachers College Press.
- Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Duke University Press.
- Bertrand, M., Brooks, M. D., & Domínguez, A. D. (2023). Challenging adultism: Centering youth as educational decision makers. *Urban Education*, 58(10), 2570-2597. <https://doi.org/10.1177/0042085920959135>
- Bettencourt, G. M. (2020). Embracing problems, processes, and contact zones: Using youth participatory action research to challenge adultism. *Action Research*, 18(2), 153-170. <https://doi.org/10.1177/1476750318789475>
- Black, J. (1993, Spring/Summer). A special arts program for at-risk students. *The Artspaper*, 3(2), 3.
- Black, J. (2002). *Topsy-turvy teacher-student relationships: An examination of digital multimedia teaching and learning* [Doctoral dissertation, University of Toronto]. Dissertation Abstracts International, 63, 06.
- Black, J. (2006). Displacing student-teacher equilibrium in virtual learning environments. In J. Weiss, J. Nolan, & P. Trifonas (Eds.), *The international handbook of virtual learning environments: (Vol. 1)* (pp. 497-524). Kluwer Academic Publishers.
- Black, J. (2014). Overcoming problems integrating digital technologies in contemporary Art Education practice: Ten suggestions. *The International Journal of Arts Education*, 8(2), 1-14. <https://cgscholar.com/bookstore/works/overcoming-problems-integrating-digital-technologies-in-contemporary-art-education-practice>
- Black, J. (2022). *digiART*—Teaching and learning about human rights, trauma, and digital technologies in art education. *Canadian Art Teacher*, 18(2), 38-53. <https://csea-scea.ca/canadian-art-teacher-enseigner-les-arts-au-canada-vol-18-no-2-2022/>
- Black, J. (2023). Past, present and tackling the future of artificial intelligence (AI) in education: Maintaining agency and establishing AI laws. *Open Journal of Social Sciences*, 11(7), 442-464. <https://www.scirp.org/journal/paperinformation.aspx?paperid=1267>
- Black, J., Castro, J. C., & Lin, C.-C. (Eds.). (2015). *Youth practices in digital arts and new media: Learning in formal and informal settings*. Palgrave Macmillan.
- Black, J. & Chaput, T. (2024). A discussion of artificial intelligence in visual arts education. *Journal of Computer and Communications*, 12, 71-85. 10.4236/jcc.2024.125005. <https://www.scirp.org/journal/paperinformation?paperid=133307>
- Black, J. & Fullerton, C. (2020). Digital deceit: Fake news, Artificial intelligence, and censorship in educational research. *Open Journal of Social Sciences (JSS)*, 8 (7), DOI: 10.4236/jss.2020.87007. Accessed at <https://www.scirp.org/journal/paperinformation?paperid=101420>
- Black, J. & Fullerton, C. (2022). Navigating and combating "digital information minefields" in our era of digital deceit. *Advances in Social Sciences Research*, 9(10), 4-20. Retrieved from <https://journals.scholarpublishing.org/index.php/ASSRJ/article/view/13238>
- Blanchet, P.-A., Lavoie, C., Legault, A., Edward, K. & Lepage, J. (2024). Marcher vers l'humilité culturelle pédagogique à travers un cours sur les perspectives autochtones en

- éducation au Québec, Canada. *Revista Educación, Política Y Sociedad*, 9(2), 14–50.
<https://doi.org/10.15366/rep2024.9.2.001>
- Boehm, B. W. (1988). A spiral model of software development and enhancement. *Computer*, 21(5), 61–72.
- Boehm, B. W. (2000). *Spiral development: Experience, principles, and refinements* (Special Report CMU/SEI-2000-SR-008). Carnegie Mellon University.
<http://www.sei.cmu.edu/reports/00sr008.pdf>
- Bruner, J. S. (1960). *The Process of Education*. Harvard University Press.
- Campbell, M., Edwards, E. J., Pennell, D., Poed, S., Lister, V., Gillett-Swan, J., Kelly, A., Zec, D., & Nguyen, T.-A. (2024). Evidence for and against banning mobile phones in schools: A scoping review. *Journal of Psychologists and Counsellors in Schools*, 34(3), 242–265.
<https://doi.org/10.1177/20556365241270394>
- Castro, J. C., & Black, J. (Eds.). (2025). *Navigating the online networks of young creators: An investigation of digital visual learning*. Springer Nature Switzerland.
<https://doi.org/10.1007/978-3-031-83541-4>
- Castro, J. C. (2025). How Young Creators Learn Online: Assembling and Utilizing Digital Visual Networks. In J. C. Castro & J. Black (Eds.), *Navigating the Online Networks of Young Creators* (pp. 23–42). Springer Nature.
- Castro, J. C. (Ed.). (2019). *Mobile media in and outside of the art classroom: Attending to identity, spatiality, and materiality*. Palgrave Macmillan.
- Castro, J. C., Lalonde, M., & Pariser, D. (2016). Understanding the (im)mobilities of engaging at-risk youth through art and mobile media. *Studies in Art Education*, 57(3), 238–251.
- Cellan-Jones, R. (2014, December 2). Stephen Hawking warns artificial intelligence could end mankind. BBC News. <https://www.bbc.com/news/technology-30290540>
- Chappel, L. (2011). Collaborations in Modern and Postmodern Visual Art: An Overview. *COLLOQUY text theory critique*. 22, 30-33. Monash University.
- Chaput, T., & Black, J. (2025). Artificial intelligence regarding art students' visual online social media usage. In J. C. Castro & J. Black (Eds.), *Navigating the online networks of young creators: An investigation of digital visual learning* (pp. 157-180). Palgrave Macmillan.
- Conseil supérieur de l'éducation (2020). *Éduquer au numérique. Rapport sur l'état et les besoins de l'éducation 2018-2020*. Québec, Le Conseil.
- Crabapple, M. (2026). Vampire Slop. *Critical AI*, 4(1). <https://doi.org/10.1215/2834703X-12347627>
- Cramer, F. (2015). What is 'post-digital'? In D. M. Berry & M. Dieter (Eds.), *Postdigital aesthetics: Art, computation and design* (pp. 12-26). Palgrave Macmillan.
- Cunningham, F., Lin, C., & Grauer, K. (2014). Who I (really) am: An exploration of urban Aboriginal identity through short films. *Canadian Art Teacher*, 12(2), 29-38.
- de Bernard, M., Comunian, R., & Gross, J. (2022). Cultural and creative ecosystems: a review of theories and methods, towards a new research agenda. *Cultural Trends*, 31(4), 332–353.
<https://doi.org/10.1080/09548963.2021.2004073>
- Edwards, B. (2025, September 12). Education report calling for ethical AI use contains over 15 fake sources. *Arts Technica*. <https://arstechnica.com/ai/2025/09/education-report-calling-for-ethical-ai-use-contains-over-15-fake-sources/>
- Emme, M. (1988). The meaning(s) of 'Lens meaning.' *The Journal of Social Theory in Art Education*. (9), 10-18.

- Emme, M. (2007). Art-based research/research-based art: On wonder and rigour. *Canadian Review of Art Education*, 34(1) 1-7.
- Emme, M. (2015). Feeling beyond the frame: Photography as an empathetic performance. *Canadian Review of Art Education Research and Issues*, 42(1), 198-207.
- Emme, M., & Bergland, D. (2010) Unfinished: Internet aesthetics, interactive digital environments and your art classroom. In C. Mullen and J. Rahn (Eds.) *View Finding: Perspectives on New Media Curriculum in the Arts*. New York: Peter Lang
- Fawns, T. (2022). An entangled pedagogy: Looking beyond the pedagogy—Technology dichotomy. *Postdigital Science and Education*, 4(3), 711–728.
<https://doi.org/10.1007/s42438-022-00302-7>
- Fenwick, T., Edwards, R., & Sawchuck, P. (2011). *Emerging approaches to educational research: Tracing the sociomaterial*. Routledge.
- Flüsser, V. (2000). *Towards a philosophy of photography*. Reaktion.
- Foucault, Michel. (1972). *The archaeology of knowledge and the discourse on language*. Pantheon Books pp. 215-238.
- Freedman, K. (2011). Leadership in Art Education: Taking Action in Schools and Communities. *Art Education*, 64(2), 40–45. <https://doi.org/10.1080/00043125.2011.11519119>
- Gentile, A. (2025, August 24). *Phones away as Quebec schools start new year with full ban*. CityNews Montreal. <https://montreal.citynews.ca/2025/08/24/cellphones-ban-quebec-school/>
- Government of British Columbia. (2025, December 18). *Personal digital device (cell phone) restrictions in schools*. Province of British Columbia.
<https://www2.gov.bc.ca/gov/content/education-training/k-12/administration/legislation-policy/public-schools/personal-digital-device-restrictions-in-schools>
- Grauer, K., & Castro, J. C. (2025). Teaching as Participating in the Digital Visual Networks of Young Creators. In J. C. Castro & J. Black (Eds.), *Navigating the Online Networks of Young Creators: An Investigation of Digital Visual Learning* (pp. 43–56). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-83541-4_3
- Grauer, K., Castro, J., & Lin, C. (2012). Encounters with difference: Community-based new media programs and practices. *Studies in Art Education*, 52(2), 139-152.
- Grauer, K., R. Irwin, A. de Cosson, & S. Wilson. (2001). 'Images for Understanding: Snapshots of Learning through the Arts'. *International Journal of Education & the Arts*, 2(9).
- Hayles, K. (1999). *How we became posthuman. Virtual bodies in cybernetics, literature, and informatics*. The University of Chicago Press.
- Kaye, B., & Jose, R. (2025, December 10). *Australia begins enforcing world-first teen social media ban*. Reuters. <https://www.reuters.com/legal/litigation/australia-social-media-ban-takes-effect-world-first-2025-12-09/>
- Kirova, A. (2010). Children's representations of cultural scripts in play: Facilitating transition from home to preschool in an intercultural early learning program for refugee children. *Diaspora, Indigenous, and Minority Education*, 4(2), 74–91.
<https://doi.org/10.1080/15595691003635765>

- Kirova, A. & Emme, M. (2008). Fotonovela as a Research Tool in Image-Based Participatory Research with Immigrant Children. *International Journal for Qualitative Methodologies*, 7(2), 35-57.
- Kwon, S. A. (2013). *Uncivil youth: Race, activism, and affirmative governmentality*. Duke University Press.
- Lacelle, N., & Lalonde, M. (2023). Design-based research into the co-creation of teaching activities for the theoretical refinement of a multimodal media literacy competency model. In P. Fastrez & N. Landry (Eds.) *Media Literacy and Media Education Research Methods*. (pp.168-180) Routledge <https://doi.org/10.4324/9781003045366>
- Leonard, N. (2020). Entanglement Art Education: Factoring ARTificial Intelligence and nonhumans into future art curricula. *Art Education*, 73(4), 22-28.
- Lin, C., Grauer, K. & Castro, J. C. (2011). “There is nothing else to do but make films”: Urban youth participation at a film and television school. *International Journal of Education & the Arts*, 12(SI 1.8). <http://www.ijea.org/v12si1/>
- Lin, C. (2024). Artful community inquiry: Envisioning democracy through youth media art practice. *Schools: Studies in Education*, 21(1), 70-90. <https://doi.org/10.1086/729547>
- Lupinacci, L. (2022). Phenomenal algorithms: The sensorial orchestration of “real-time” in the social media manifold. *New Media & Society*, 26(7), 4078-4098. <https://doi.org/10.1177/14614448221109952>
- Overstreet, M., Carbonel, C. & Akhmedjanova, D. (2023). The “multimodal spiral”: Rethinking the communication curriculum at an English as a medium of instruction institution. *Journal of Technical Writing and Communication*, 54(2). <https://doi.org/10.1177/00472816231187358>
- Parliament of Canada. (2026). *Bill C-34: An Act to enact the Digital Safety Act and the Digital Safety Commission of Canada Act and to make consequential amendments to other Acts* (First reading). House of Commons of Canada. <https://www.parl.ca/DocumentViewer/en/45-1/bill/C-34/first-reading>
- Priest, E. (2018). Earworms, daydreams, and cognitive capitalism. *Theory, Culture & Society*, 35(1), 141–162. <https://doi.org/10.1177/0263276416667200>
- Richard, M. (2005a). *La culture populaire chez les jeunes. Entre projets artistiques et projets pédagogiques*. Presses de l’Université du Québec.
- Richard, M. (2010). Body and technological fictions. For a renewed art pedagogy through new media narratives. In C. Mullen & J. Rahn (Eds.). *View finding: Curriculum perspectives and practices for teaching art and new media*. Peter Lang, p. 183-203.
- Richard, M. (2015). Le projet AmalGAME et son dispositif multimodal. Création et transposition de pratiques par de futurs enseignants en arts plastiques. *Revue de recherches en littérature médiatique multimodale*, 1. <https://doi.org/10.7202/1047802ar>
- Richard, M. & N. Lacelle (Eds.). (2020). *Croiser littérature, art et culture des jeunes. Impacts sur l’enseignement des arts et des langues*. Presses de l’Université du Québec.
- Richard, M. & Lalonde, M. (Eds.). (2025). Amalgame(s) de genres, modes et pratiques de la création et de la recherche en art et en éducation. *Multimodalité(s). Revue de recherches en littérature médiatique multimodale*, 21. <https://doi.org/10.7202/1120089ar>
- Ryoo, A., Lin, C., & Grauer, K. (2014). “Don’t judge me. What would you do?” Dialogue through a youth-made film. *Journal of Cultural Research in Art Education*, 31(1), 128-134.

- Samokhina, V., Kuznietsova, O., & Pasynok, V. (2022). Polycode essence of postmodern comic literary text. *Theory and Practice in Language Studies*, 12(9), 1711–1717.
- Scheinert, D., & Kwan, D. (2022). Everything everywhere all at once [Film]. A24.
- Schnell, R. (1977). "The most ordered of rescues": A reinterpretation of childhood history and the common school. Paper presented at the Annual Meeting of the Midwest History of Education Society, Chicago.
- Sennitt, A. (2013). Kindergarten Merzbau. *The Canadian Art Teacher*, 13(1), 6-11.
- Serriere, S. C., & Riley, T. (2024). Heavy on the solidarity, light on the adultism: Adult supports for youth activism. *Democracy & Education*, 32(1), Article 3.
<https://doi.org/10.65214/2164-7992.1624>
- Veldman, F. (1991). *Haptonomie. Science de l'affectivité*. Presses Universitaires de France.
- Thompson, J. (2022). *Care aesthetics: For artful care and careful art*. Routledge.
- Thomas, E. (posted 2012). In search of lost art: Kurt Schwitters's Merzbau. Retrieved from: https://www.moma.org/explore/inside_out/author/ethomas/ January 13, 2026.
- Tratnik, P. (2025). Flügger on artificial intelligence Flügger Studies 40
<https://www.flusserstudies.net/current-issue>
- Tronto, J. C. (1993). *Moral boundaries: A political argument for an ethic of care*. Routledge.

Endnotes

^[1] This is an idea by BAnQ, produced by its teams in collaboration with Ottomata and Accolade studios, with the participation of PXP and Robocut. We thank all the teams involved, as well as the ministère de la Culture et des Communications du Québec for its financial support.