

## **“This Is a Thing . . .”**

### **Reflections on a Technology Conference**

**Mary Ann Wallace**  
**Jan Broussard Robichaux**  
*McNeese State University*

*And their seductive technological excursions in the classroom once again reflect not so much the use of technology in the service of education as the usurpation of education in the service of technological enterprise.*  
(Noble, 1998, p. 267)

### **Introduction**

By now, it is taken for granted teachers are expected to effectively use technology to support student achievement. To that end, there are multiple avenues available to teachers, administrators, schools, and districts that provide training, professional development, ideas, and assistance in integrating various technologies into teaching and learning environments. The authors recently participated in one such venue, Louisiana Association of Computer Using Educators<sup>1</sup> (LACUE), a popular, well-attended State technology conference that supported all manner of technology-related needs particular to the work of teachers while promoting the latest technologies available on the market. Out of curiosity, an informal survey was conducted on the range of session offerings presented for LACUE attendees. The survey found there was a striking absence of tools and pedagogy needed to foster critical use of technology—a stunning omission. In fact, the authors presented the only conference session related to insight and support for emerging concerns about technology-induced anxiety and social disorders (King, 2013; Pierce, 2009; Valdesolo, 2015; Yildirim, 2014).

### **LACUE as a Reflecting Pool**

Approximately six weeks prior to the conference the authors collected information submitted for 298 accepted proposals, available via LACUEs 2016 website under their “topics already submitted” portal and organized them into an MS Excel worksheet in the following manner: presentation title, description, presenter’s name, and affiliation. Presenters included educators in P-12 schools, administrators, post-secondary educators, as well as technology-oriented vendors. We sought evidence indicating educators and attendees were asked to consider the psychological and social implications for wholesale implementation of technology into the educational process. Our initial, albeit informal review of proposals, indicated 33 percent of submissions were vendor-based, meaning presentations made by vendor representatives were inherently designed to promote vendor interests and products. The remaining 67 percent of presentations were conducted by non-vendors, such as teachers, administrators, and college faculty and included a wide variety of tools such as: Classroom Management (Class Dojo, SnapShot observations, MS OneNote, CMSJoomla, Moodle, VizZle); Google Applications (Chrome book applications, Google classroom, Google docs, Google forms, Google drive, online assessment pedagogy using Google tools); PowerPoint Pedagogy (Nearpod, Prezi, Office Mix/Sway, TED Talks, voice over); Coding Tools (Minecraft, robotics, coding, EV3 robot, Makerspace principles); 1:1 Computer Practices (BYOD class, 1:1 classroom pedagogy, locating funding, writing grants, computer assisted active learning environments); Flipped Classroom (Office Mix, Education puzzle, blended learning, flip pedagogy); and Training and Professional Development (School Way, Dropbox, test preparation, differentiated instruction professional development) to name a few.

Not surprisingly, our review of proposals for LACUE revealed technology use in schools is significant and in high demand. It also demonstrates the connection to corporate interests when clearly one-third of the presentations are represented by technology vendors. Relative to this review, the pronounced vendor presence is significant given the critical nature of this analysis. Also, and perhaps most importantly, this paper highlights an invisible presence, that is, a reality about emerging issues related to the social and psychological impact of technology use that is left unspoken or explicitly addressed within proposals. For the authors, this analysis generated an acute awareness captured by the phrase: *“This is a thing.”* Thus, for those conference attendees, a microcosm of educators across the country, the near absence of tools, pedagogy, and practices for addressing these issues is especially troubling.

Such omissions are not surprising given the ubiquitous and whole-

sale use of technology in schools situated within a neoliberal context. Indeed, technology-based tools and methods are too often integrated in schools in response to the demands of high-stakes reform in education. Furthermore, technology is harnessed as way to attend to the seemingly insatiable need for data to drive teacher performance, student achievement, and policy. Widening the need to further understand the implications of pervasive technological tools and practices are necessary as a way toward more humanizing pedagogies. This paper critically examines technology integration, its historical trends and applications in schools, its influence through emerging issues in psychology, and offers ways to ease potential negative aspects associated with technology using a holistic, relational framing of 'education' (Biesta, 2010a, 2012), and fitting brain/mind principles (Caine, Caine, McClintic, Klimek, 2016; MacClean, 1978; Small, 2009).

### **Technology for Whom and for What?**

According to the National Center of Educational Statistics (NCES, 2010), as of 2008, 100 percent of all public schools have instructional computers with Internet access with a 3:1 student-to-computer Internet access ratio. It is safe to say computer technology and applications have proliferated and continue to saturate public school classrooms. Furthermore, schools participate in a never-ending cycle of technology proliferation via requisite maintenance and upgrades, all but ensuring a culture of technology use so pronounced and normalized that we can scarcely remember a time when we did not have or use them. Furthermore, within this technology-rich landscape, many states have developed technology standards to support academics and improve student achievement. In short, schools are sites where technology has been fully woven into the fabric of what it means to teach and learn. It is reasonable to assert one would be out of step if unaware of our technology-driven world, and the universal nature of technology within our schools responds to that reality.

### ***Seductive Nature of Technology***

Before there was a computer within reach of every student in the U.S., scholars cautioned against the wholesale, uncritical application of technology in schools (Apple 1998; Noble 1998; Reinecke, 1984; Streible, 1998). There is historical grounding for justifying caution about the uncontrollable possibilities of computer technology (Reinecke, 1984). Since the 1960s, technology has been seen as a necessary mechanism for progressively improving education (Noble, 1998). Even so, in today's schools, teachers,

and administrators continue to be influenced by the continual ebb and flow of evolving technology innovations. As part of an ever-changing digital world, we have come to expect and rely on technological advancements as a tool for improving schools. Given the shelf life for many tech products can be relatively short due to the rapid evolution of technology, we have come to expect technological innovations and upgrades. The marketplace is rewarded for helping schools prepare students to work and live in a technologically rich future as institutions in the U.S. spent 6.6 billion dollars in 2015 on instructional technology (Center of Digital Education, 2015). “There’s the booming ed-tech industry, with corporate titans and small startups alike vying for a slice of an \$8 billion-plus yearly market for hardware and software” (Herold, 2016). Others report the dollar amount for classroom technology is much higher (Kardaras, 2016).

The limits and possibilities of technology integration in schools have been confronted in the literature for some time (Apple, 1998; Noble, 1998; Reinecke, 1984; Streibel, 1998). Noble (1998) urged caution toward the seductive nature of educational technology, stating, “technological excursions in the classroom [...] reflect not so much the use of technology in the service of education as the usurpation of education in the service of technological enterprise” (p. 267). Likewise, prudent and critical examination of wholesale technology integration in schools has been looked upon cautiously to ensure that dimensions of social and affective-laden processes necessary for personal growth, awareness, and consciousness were not compromised, but rather positioned prominently within students’ education (Streibel, 1998). To be succinct, the politics of technology has emerged along with the rapid rise of technology integration in schools, reminding educators to continue to ask pertinent questions relative to whom is the technology for and for what purpose (Apple, 1998).

### ***Opting Out: Discriminating Consumers of Technology***

What does it mean when many of the children from families known as *digerati*,<sup>2</sup> those who work as high-tech executives from Google, and entrepreneurs in Silicon Valley, attend private school where the requirement and instructional expectation are that little or no computer technology is to be used by students? It is telling, and an apparent contradiction, when children of *digerati* have schooling experiences largely devoid of the influences of technology while much of their parents’ work is to design, market, and sell technology tools to schools for other people’s children.

In what feels like eavesdropping, it is educative to hear to how *digerati* talk about why they opt out of technology use for their own children. For example, at the Waldorf School on the Peninsula, in Los Altos, California, one of 160 such private schools “in the middle of the

nation's hi-tech hotbed [that] relies on good old-fashioned pencils, pen and paper, painting and knitting needles to educate younger pupils" (Garner, 2011), Alan Eagle, a hi-tech Google executive states,

They're not synchronizing their mail boxes and Facebooks — they're synching their brains with their bodies" and "The idea that an app on an iPad can better teach my kids to read or do arithmetic, that's ridiculous [...] at Google and all these places; we make technology as brain-dead easy to use as possible. There's no reason why kids can't figure it out when they get older. (Garner, 2011)

Clearly, strengthening the human relationship and developing social attributes aligns with tech elites' expectations for their own children's education and these principles work to inform their decision to opt out of high-use technology (Garner, 2011; Richtel, 2011; Weller, 2017). "Engagement is about human contact, the contact with the teacher, the contact with their peers," says, Pierre Laurent, an employee of a high-tech start-up and former worker at Intel and Microsoft commenting about his decision to have his children attend the Waldorf School (Richtel, 2011, para. 23). One gets a strong sense of this engagement from information posted on the Waldorf of the Peninsula school website:

Waldorf graduates enter adulthood with the "21st century skills" of confidence and self-discipline, the ability to think independently and work with others, mastery of analytical and critical faculties, fluency with creative and artistic expression, and reverence for the beauty and wonder of life.<sup>3</sup>

### ***Teaching is a Human Experience***

Similarly, *digerati* preference for strengthening the human relationship and developing social attributes for their own children resonates with some academics in education. In an article from *The New York Times* titled "A Silicon Valley School That Doesn't Compute," Paul Thomas, a former teacher and professor of education at Furman University is quoted as saying, "Teaching is a human experience. Technology is a distraction when we need literacy, numeracy, and critical thinking" (Richtel, 2011, para. 21-22). Likewise, researchers in Finland studying ninth-grade youth participating in a technology-enriched project noted concerns similar to Silicon Valley *digerati*. In a cross-curricular themes study: "Human Being and Technology," in which researchers examined youths' knowledge about technology, their skills in using technology, and their attitudes toward technology, researchers found although most students understood the connection between technology and manual skills, they lacked connection between technology use and creativity and innovativeness (Järvinen & Rasinen, 2015).

The contradiction presented within the phenomenon of pervasive technology integration reveals unequal aspects of power. Neoliberal policies and practices are at work within reformed and monitored public school contexts. Consequently, schools are highly influenced by accountability and standardization and are unlikely to promote discriminating consumer practices. Instead, schools embrace neoliberal tools, evidenced by annual, multi-billion dollar instructional technology purchases (Herold, 2016). In doing so, public schools reinforce inequities, through indiscriminately embracing technology products and their integration. Inequity, driven by technology integration, comes into focus when we recognize neoliberal policies are apt to favor those who design, build, sell, and service technology products within schools; often affording them privilege to refuse technology integration for their own children attending private schools, instead allowing them to opt out and embrace the development of “human experiences” comprised of relationships and creativity.

### **Emerging Trends in Social Psychology**

#### ***Anxiety, Angst, and the Social Sphere***

There are emerging concerns related to social aspects of a high-use technology practices. Social anxiety has surfaced as a new field of study particular to anxiety induced by one’s inability to effectively interact with someone in a face-to-face social setting. It is defined as “a state of anxiety resulting from the process that or presence of interpersonal evaluation in real or imagined social settings” (Leary, 1983, p. 67). Maslow’s laws assert an individual’s innate need for sense of belonging; however, those with social anxiety can experience difficulty fulfilling this social need because of challenges with social interaction. Psychologists believe, that for some, online personality traits and social habits can be markedly different than physical, face-to-face interactions with people (Pierce, 2009). Social anxiety makes it difficult to negotiate a social setting effectively and appropriately. This includes being anxious about meeting people, experiencing discomfort when having a conversation, or uneasiness when looking someone in the eye. Inversely, individuals with social anxiety, or extreme shyness, can find social networking sites such as online social sites, chat rooms, text messaging, and instant messaging tools preferable ways of socializing (Pierce, 2009).

Teachers who attended our session at LACUE expressed strong opinions about their students lack of social skills. Also, it seems, young people can have an awareness of social anxiety and are able to self-identify. See for example, the excerpt below of a young female who describes difficulty interacting with others due to her lack of social skills (Crawshaw, 2015).

As a 16-year old girl, I have never lived in a world without social media. Although I do love my Facebook, Twitter, Instagram, Vine, Yik Yak, Snapchat, Tumblr, and I could go on, it is the reason why my generation does not know how to talk. I mean, yes, we do talk, a lot actually, but I mean, really talk. WE. DON'T. HAVE. SOCIAL SKILLS. I'll define social skills as this: being able to have intelligent (sometimes) conversations with one another, face-to-face, not behind a 4.7-inch display screen. (all caps emphasis in original, Crawshaw, 2015, p. 1)

To compound the issue, scientists can determine that “when it comes to the acquisition and retention of information, our brains treat our devices like relationship partners” (Valdesolo, 2015, p. 1). As mobile devices are increasingly seen as daily necessities, developing research in psychology points to an emerging mental condition related to our dependence on such devices called nomophobia. In an effort to measure one’s capacity for nomophobia, a mental condition that leads to anxiety or distress some people experience when they are separated from their mobile phones, a researcher recently develop a 20-item questionnaire to identify a person’s severity of nomophobia (Yildirim, 2014). Moreover, cognitive scientists argue the connection between technology-based stimuli and the executive function capacity of the brain, that is, the brain’s ability to focus attention, recall instructions and multi-task, can be a negative one (Ossola, 2014; Small, 2009). Therefore, to counter this negative effect, strategies and tools that foster social and empathic abilities are increasingly necessary in today’s high-use technological society (Small, 2009).

### ***Selfie—Culture***

Relatedly, the impact of omnipresent technology use as a cultural practice is located in tools as well as our lexicon. The realities of a “selfie” culture are mainstream, manifest in artifacts such as selfie sticks, selfie mirrors, and selfie promoting apps (Widder, 2017). Nevertheless, Giroux (2015) warns against what he calls a “selfie” culture in an age of pervasive technology use. For Giroux, the popular practice of promoting a tech-rendered snapshot of self is not unrelated to the reduction of community and a collapsing of the public into the private (2015). A distorted selfie-culture of individual achievement displaces relations necessary to foster public good (Giroux, 2015). To go further, “the culture of atomization and loneliness in neoliberal societies is intensified by offering the self as the only source of enjoyment, exchange and wonder [...] and the self becomes the only source of agency worth validating” (Giroux, 2015, p. 159). Understanding the negative impact of this practice is paramount for those who work with and serve youth as “the reality of being watched results in feelings of low esteem, depression and anxiety. Whether ob-

served by a supervisor at work or Facebook friends, people are inclined to conform and demonstrate less individuality and creativity” (Murphy, 2014, para. 8). Even this headline, “Brain-Dead Teen, Only Capable of Rolling Eyes and Texting, To Be Euthanized,” taken from a popular satire media site, *The Onion* (2012), communicates an acute awareness of social dysfunction associated with high-use technology. It is important to add, that real or imagined, such awareness can serve to foster negative impressions about youth (Stern & Burke Odland, 2017).

Such emerging trends in technology-induced social/anti-social behaviors have implications for how today’s high-use technology students interact in school as well as how well they perform academically. Undoubtedly, school policies and disciplinary practices are charged with and challenged by reducing the negative impact of technology (mis)use by students (Jones-Hodges, & Boucek, 2010). However, beyond disciplining the use of technology—teachers, educators, and administrators alike must be aware of the consequences of students’ use of and interaction with technology in order to support the development of each student as a whole human being.

### **The Language of Learning and Brain/Mind Principles**

It is a reality that most public schools are sites where high-tech products and applications are clearly embedded into the everyday fabric of teaching and learning. As a helpful way to reexamine the lived reality of prevalent and persistent technology integration in schools, we draw on Gert Biesta’s<sup>4</sup> notion of ‘learnification’ (2007; 2009; 2010a; 2010b; 2012), which is the discourse, or language of learning whereby the inclination of teaching is to focus primarily on the learner and learning. Such centering of the learner is appealing, and while on the surface significant, this approach is limited and hinders a more holistic purpose of ‘education’ (2010a). Anyone currently employed in public schools can see the evidence of ‘learnification’ through practices that seek to track, individualize and monitor students in hopes of gauging achievement. Uncritical, unchecked technology tools and their applications can aid and abet this work.

“Even while the focus on learning is, of course, not entirely problematic, ‘learning’ and ‘education’ are two radically different concepts that we shouldn’t conflate” (Moltó Egea, 2014, p. 278). These two ideas, ‘learning’ and ‘education,’ serve different purposes, require different resources and produce different material realities. Understood this way, ‘learning’ is positioned as individualistic and decontextualized from relationship and purpose while ‘education’ is grounded communally, deeply relational and connected to purpose (Biesta, 2010a).

“The major goal of ‘learnification’ is to cast education as pertaining to



individuals rather to represent a set of *relations and social dimensions* [emphasis added]” (Moltó Egea, 2014, p. 278). The importance of ‘education,’ as opposed to ‘learnification,’ surfaces as a useful tool to question, reflect on, and offer alternatives to normative technology-based teaching practices. Biesta points out,

The quickest way to express what is at stake here is to say that the point of education is never that children or students learn, but that they learn *something*, that they learn this for particular *purposes*, and that they learn this from *someone*. The problem with the language of learning and with the wider ‘learnification’ of educational discourse is that it makes it far more difficult, if not impossible, to ask the crucial educational questions about *content*, *purpose* and *relationships*. (italics in original, bolded emphasis added, p. 2012, p. 36)

There is an impoverishing aspect to learnification as it is reductive, relegating education in terms of learning and learners, and limiting with respect to building relationships between learner and content, learner and purpose, and learner and teacher (Boyle, 2013). Honing in on the relationship aspects of Biesta’s analysis, with the implied social components necessary for ‘education,’ we seek to bridge the importance of purpose and relationship to social and emotional brain/mind learning principles as explicated by Caine, et al. (2016). Given emerging concerns related to technology-induced social dysfunction discussed earlier, the need to resist ‘learnification’ within technology-enriched schools warrants examination.

### ***Leveraging Brain/Mind Principles***

It can be helpful to leverage particular tenets of brain science to promote aspects of Biesta’s notion of ‘education’ and call for purpose-oriented and relationship-driven teaching and learning experiences. Building further, we have long known that without appropriate social bonding, it is believed the human intellectual brain would be little more than a “heartless computer” (MacLean, 1978). More recently, according to Caine, et al. (2016), social interactions are capable of influencing the flow of brain chemicals, and broadly speaking implies learning is predicated on the brain’s capacity for social and emotional well-being. Although several brain/mind principles are at play in their synthesis (Caine, et al., 2016), we believe the following brain/mind principles offer insight that can support high-use technology learning contexts.

***Factors for learning inhibition.*** The brain is challenged by perceived threat, helplessness, or fatigue (Caine, et al., 2016, p. 33-53). For students who perceive or experience threat, fear is accompanied by a sense of helplessness. When this happens, higher-order functions are

sacrificed (p. 35). Teachers utilizing technology, effectively or otherwise, are not immune to challenges with complex learning being inhibited. LACUE participants who attended our session reported that technology itself can often be a source of stress for some as students are required to be proficient with its use.

***The brain/mind is social.*** Humans are naturally social, interacting with people, things and ideas, which influence the brain’s thinking, learning, and memory. Emotional and cognitive areas of the brain are stimulated by learning processes where students work cooperatively to examine, share, dialogue, and otherwise grapple with concepts (Caine, et al., 2016, p. 54-71). Understanding the social affinity of the brain/mind in this way squares with Biesta’s notion of ‘education,’ one that is inherently social—relational, that is, in relation to and with content, purpose, and relationships (2012).

***Emotions are critical to patterning.*** As discussed earlier, classrooms can face challenges related to technology-induced social/anti-social behaviors, which ultimately limit students in terms of building relationships—with ideas and with others. Working in tandem with the social attributes of the brain, and implicit within Biesta’s (2012) conceptualization of education, emotions are deeply connected to learning processes. Significant learning is enhanced when higher-order decision-making is coupled with and connected to emotional experiences (Caine, et al., 2016, p. 90-108).

### **Implications and Recommendations**

Clearly, educators experience varying degree of success and challenge with technology applications; however, it is necessary to foster a critical and discriminating practitioner stance to counter the overabundance and uncritical use of technology. Unlike the schools of discriminating *digerati* children, public schools may in fact, be more likely to see a “48 percent drop in empathetic concern for others” due to social networking and limited face-to-face interactions (Konrath, 2011 as cited in Price-Mitchell, 2015). Biesta’s (2010a) ethics of ‘education’ based on relationship-rich learning experiences are privileged practices and required tenets at *digerati* school sites. This paper not only sheds light on the cultural practice of technology proliferation, an invisible presence in today’s schools, but calls for more research about and attention to social and emotional aspects relative to these schooling contexts. Learning to teach in and support public schools requires leveraging research and coalescing across fields of study. Recommendations for research include an

integrated, multidisciplinary approach from fields in psychology, education, and cognitive science. This potentially deepens our understanding of and implications for technology use, while providing guidance about professional development necessary for teachers and administrators. Also, for those promoting and attending technology-themed conferences, there should be sessions related to this work and perspective, presented by scholars, researchers, educators, students, and teachers who provide insight, resources, and practices that ameliorate some of the challenges inherent in our high-use technology society.

### **Conclusion**

This article emerged as a result of attending a popular technology conference geared toward teaching and learning in today's schools. After an initial review of conference proposals, it became clear that technology corporate interests loomed large at the conference in terms of vendor representation and proposed technology tools and strategies aimed at integrating technology in an already tech-infused teaching landscape. Missing was attention to and strategies for ameliorating high-use technology practices as well as space to explore these challenges with teachers and students in this digital era. After revisiting historical concerns related to the wholesale technology integration in schools, we have recast them in light of emerging trends in social psychology as a way to negotiate technology applications effectively. Advocating for a more holistic approach to teaching and learning through Biesta's (2009) articulation of 'learnification' and 'education' provides a useful framework for rethinking decision-making and teaching practices, which are increasingly accepted without critique, and normalized through immersion and ubiquity. Such critical examination opens up space to ally with other fields of study, such as social psychology and cognitive science, as a way toward more humanistic, caring, and fully relational teaching. In closing, Wendell Berry's (2012) poem, "How to Be a Poet," provides a lasting word about the importance of being fully, poetically human within a world of distractions. Within the poem's excerpt:

Shun electric wire.  
Communicate slowly.  
Live a three-dimensional life;  
Stay away from screens.  
Stay away from anything that obscures the place it is in. (p. 354)

Berry reminds us to be vigilant about pursuing and protecting our most human of human characteristics. Given the context in which today's public schools exist, spaces where teachers, educators, administrators,

and students teach and learn together, this cogent reminder seems particularly timely.

### Notes

<sup>1</sup> LACUE website: <http://www.lacue.org/domain/36>

<sup>2</sup> The term *digerati* refers to anyone who has substantial influence within the digital technology community. In particular, it is used to describe people who work in the hi-tech digital industry situated in Silicon Valley, California. <https://en.wikipedia.org/wiki/Digerati>

<sup>3</sup> <http://waldorfpeninsula.org/curriculum>

<sup>4</sup> The following link provides an mp3 file of a lecture by Dr. Gert Biesta about the notion of ‘learnification,’ the significance of language of learning and the role of education. <http://www.externalrelations.stir.ac.uk/events/GertBiesta.mp3>

### References

- Apple, M. W. (1998). Teaching and technology: The hidden effects of computers on teachers and students. In L. E. Beyer & M. W. Apple (Eds.), *The curriculum: Problems, politics, and possibilities*, 2nd Edition (pp. 314-336). Albany, NY: State University of New York Press.
- Berry, W. (2012). *Wendell Berry: New collected poems*. Berkeley: CA. Counterpoint.
- Biesta, G. (2012). Giving teaching back to education: Responding to the disappearance of the teacher. *Phenomenology & Practice*, 6(2), 35-49.
- Biesta, G. (2010a). *Good education in an age of measurement: Ethics, politics, democracy*. Boulder, CO: Paradigm.
- Biesta, G. (March 2009). *Good education: What is it and why we need it?* Professorial Inaugural Lecture. The Stirling Institute of Education, University of Stirling, Scotland, UK. Retrieved from <http://www.externalrelations.stir.ac.uk/events/GertBiesta.mp3>
- Biesta, G. (2007). Why what works won’t work: Evidence-based practice and the democratic deficit in educational research. *Educational Theory*, 57(1), 1-22. doi: 10.1111/j.1741-5446.2006.00241.x
- Biesta, G. (2010b). Why ‘what works’ still won’t work: From evidence-based education to value-based education. *Studies in Philosophy and Education*, 29, 491-503. doi: 10.1007/s11217-010-9191-x
- Boyle, B. (2013, February 8). *Learnification part 1: Making bank off the banking concept*. [Web Log Post]. Retrieved from <https://educarenow.wordpress.com/2013/02/08/learnification-making-bank-off-the-banking-concept/>
- “Brain-dead teen, only capable of rolling eyes and texting, to be euthanized,” *The Onion*. (2012, January 31). Retrieved from <http://www.theonion.com/video/brain-dead-teen-only-capable-of-rolling-eyes-and-t-27225>
- Caine, R. N., Caine, G., McClintic, C., & Klimek, K. J. (2016). *12 Brain / mind learning principles in action: Teaching for the development of higher order executive function* (3rd ed.). Thousand Oaks, CA: Corwin.

- Crawshaw, H. (2015, January 17). *Why my generation has no social skills*. [Web Log Post]. Retrieved from <https://www.linkedin.com/pulse/why-my-generation-has-social-skills-harley-crawshaw>
- Digerati. (n.d.) *Wikipedia online encyclopedia*. Retrieved from <https://en.wikipedia.org/wiki/Digerati>
- Garner, D. (2011, October 24). The private school in Silicon Valley where tech honchos send their kids so they DON'T use computers. *Daily Mail*. Retrieved from <http://www.dailymail.co.uk/news/article-2052977/The-Silicon-Valley-school-tech-honchos-send-kids-DONT-use-computers.html>
- Giroux, H. A. (2015). Selfie culture in the age of corporate and state surveillance. *Third Text*, 29(3), 155-164. doi: 10.1080/09528822.2015.1082339
- Herold, B. (2016, February 5). *Technology in education: An overview*. Retrieved from <http://www.edweek.org/ew/issues/technology-in-education/>
- Järvinen, E. M., & Rasinen, A. (2015). Implementing technology education in Finnish general education schools: Studying the cross-curricular theme 'Human being and technology.' *International Journal Technol Des Education*, 25, 67-84. doi: 10.1007/s10798-014-9270-3
- Jones-Hodges, S. E., & Boucek, S. (2010). Sexting in schools: Handling student discipline in light of technology changes. *National School Boards Association*. Retrieved from <https://oakland.k12.mi.us/district-school-operations/government-relations-pupil-services/Office%20of%20Safe%20Schools%20Library/Sexting%20in%20Schools-%20%20Handling%20Student%20Discipline%20in%20Light%20of%20Technology%20Changes%20OCR.pdf>
- Leary, M. R. (1983). Social anxiousness: The construct and its measurement. *Journal of Personality Assessment*, 47(1), 66-75. doi: 10.1207/s15327752jpa4701\_8
- King, A. L. S. (2013). Nomophobia: Dependency on virtual environments or social phobia? *Computers in Human Behavior*, 29(1), 140-144. doi: 10.1016/j.chb.2012.07.025
- Kardaras N., (2016, August 31). Screens in schools are a \$60 billion hoax. *Time*. Retrieved from <http://time.com/4474496/screens-schools-hoax/>
- Konrath, S. H. (2011). Changes in dispositional empathy in American college students over time: A meta-analysis. *Personality and Social Psychology Review*, 15(2), 180-198. doi: 10.1177/1088868310377395
- MacLean, P. (1978). A mind of three minds: Educating the triune brain. In J. Chall & A. Mirsky (Eds.), *Education and the brain* (p. 308-342). Chicago, IL: University of Chicago Press.
- McCandless, J. (2015, May 22). U.S. education institutions spend \$6.6 billion on IT in 2015. *Center for Digital Education*. Retrieved from <http://www.centerdigitaled.com/higher-ed/US-Education-Institutions-Spend-66-Billion-on-IT-in-2015.html>
- Moltó Egea, O. (2014). Neoliberalism, education and the integration of ICT in schools: A critical reading. *Technology, Pedagogy and Education*, 23(2), 267-283. doi: 10.1080/1475939X.2013.810168
- Murphy, K. (2014, October 4). We want privacy but can't stop sharing. *The New York Times*. Retrieved from [http://www.nytimes.com/2014/10/05/sunday-review/we-want-privacy-but-cant-stop-sharing.html?\\_r=0](http://www.nytimes.com/2014/10/05/sunday-review/we-want-privacy-but-cant-stop-sharing.html?_r=0)
- National Center for Educational Statistics (April 2010). Educational technology

- in U.S. public schools: Fall 2008. *Institute of Education Sciences*. Retrieved from <https://nces.ed.gov/pubs2010/2010034.pdf>
- Noble, D. D. (1998). The regime of technology in education. In L. E. Beyer & M. W. Apple (Eds.), *The curriculum: Problems, politics, and possibilities*, 2nd Edition (pp. 267-283). Albany, NY: State University of New York Press.
- Ossola, A. (2014, December 10). Why kids won't quit technology. *The Atlantic*. Retrieved from <http://www.theatlantic.com/education/archive/2014/12/why-kids-wont-quit-tech/383575/>
- Pierce, T. (2009). Social anxiety and technology: Face-to-face communication versus technological communication among teens. *Computers in Human Behavior*, 25(6), 1367-1372. doi: 10.1016/j.chb.2009.06.003
- Price-Mitchell, M. (2015, September 11). *Empathy in action: How teachers prepare future citizens*. Retrieved from <http://www.edutopia.org/blog/8-pathways-empathy-in-action-marilyn-price-mitchell>
- Reinecke, I. (1984). *Electronic illusions: A skeptic's view of our high-tech future*. New York, NY: Penguin Books.
- Richtel, M. (2011, October 22). A Silicon Valley school that doesn't compute. *The New York Times*. Retrieved from <http://www.nytimes.com/2011/10/23/technology/at-waldorf-school-in-silicon-valley-technology-can-wait.html>
- Small, G. (2009). *iBrain: Surviving the technological alteration of the modern mind*. New York, NY: HarperCollins.
- Stern, S. R., & Burke Odland, S. (2017). Constructing dysfunction: News coverage of teenagers and social media. *Mass Communication & Society*, 20(4), 505-525. doi: 10.1080/15205436.2016.1274765
- Streibel, M. J. (1998). A critical analysis of three approaches to the use of computers in education. In L. E. Beyer & M. W. Apple (Eds.), *The curriculum: Problems, politics, and possibilities*, 2nd Edition (pp. 284-313). Albany, NY: State University of New York Press.
- Valdesolo, P. (2015, October 27). Scientists study nomophobia: Fear of being without a mobile phone. *Scientific American*. Retrieved from <http://www.scientificamerican.com/article/scientists-study-nomophobia-mdash-fear-of-being-without-a-mobile-phone/>
- Waldorf School of the Peninsula*. Retrieved from <http://waldorfpenninsula.org/curriculum/>
- Weller, C. (2017, October 24). *Bill Gates and Steve Jobs raised their kids tech-free—and it should've been a red flag*. Retrieved from <http://www.independent.co.uk/life-style/gadgets-and-tech/bill-gates-and-steve-jobs-raised-their-kids-tech-free-and-it-shouldve-been-a-red-flag-a8017136.html>
- Widder, B. (2017, May 22). Treat yo selfie with one of these 12 apps made to beautify your pics: 14 apps to help you set up your selfie. *Canon Digital Trends*. Retrieved from <https://www.digitaltrends.com/mobile/best-selfie-apps/>
- Yildirim, C. (2014). *Exploring the dimensions of nomophobia: Developing and validating a questionnaire using mixed methods research*. Unpublished thesis. Iowa State University. Paper 14005. Retrieved from <http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=5012&context=etd>