

Digital Literacy as Collaborative, Transdisciplinary, and Applied

by

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Abstract

In this paper, we share a vision of digital literacy that has evolved through our collaborative and applied work with K-12 educators, college faculty and librarians who share our interests in the intersection of education, information, communication and media studies. When we first began working together, we conceptualized our work as reciprocal, focusing on literacy as reading and writing practices, with attention to how digital media and technologies were reshaping the nature of these practices. Now, in our fifth year together as co-directors of the URI Summer Institute in Digital Literacy, we have woven our definitions of digital literacy into a common framework that situates literacy competencies connected to reading and authorship in a classroom culture of teaching practices that value, model, scaffold, and facilitate aspects of inquiry, analysis, collaboration, creation, reflection, and social action. In turn, we have found these practices offer substantial opportunities for increased voice and choice for teachers and learners.

Young or old, we all learn from experience. When it comes to learning about digital literacy, for us, the experiences we have shared have been particularly collaborative, transdisciplinary and applied. For the past four years, we have worked with K-12 educators, college faculty and librarians who share our interests in the intersection of education, information, communication and media studies. As a result of sustained exposure to more than 500 adult learners who have participated in an intensive professional development program, the URI Summer Institute in Digital Literacy, we have collaboratively built a joint understanding of digital literacy that resonates across elementary, secondary and higher education; spanning the disciplines of literacy education, communication and media studies with relevance to those in formal and informal education settings like libraries, museums, and nonprofit organizations. We are particularly committed to building bridges between scholars, educators and librarians (Valenza and Hobbs, 2016), where in the past, siloed approaches to the academic disciplines have limited mutual learning.

Our approach to digital literacy draws from a rich multidisciplinary theoretical lineage in education, communication, social sciences, and the humanities. Our current work aims to identify how teachers develop the skills, competencies and habits of mind that enable them and their students to use digital media texts, tools, and technologies for inquiry learning. Unlike traditional approaches to scholarly collaboration, where ideas are leisurely discussed around the seminar table, our work is located in pragmatic action. Through designing, implementing, and assessing a professional development program, we conceptualize digital literacy in relation to the needs of experienced, mid-career practitioners whose motives for wanting to incorporate digital texts, tools and technologies into the curriculum vary widely (Hobbs & Coiro, 2016; Hobbs & Tuzel, 2017).

Theoretically, our work builds upon decades of scholarship in education, media studies and cultural studies, which conceptualizes learning as a process of inquiry and discovery (Bruner 1960; Dewey, 1976) where meaning-making is an active process (Ogden & Richards, 1923; Hall, 1980) that involves examining not only the form and content of messages but also the affordances and limitations of the technologies used to create them (McLuhan, 1964). We see literacy practices as situated, contextual cultural practices (Vygotsky, 1978) that use multimodality (Kress, 2010) to activate multiple modes of knowing (Gardner, 1983). We further recognize that media and technology constitute a cultural environment and serve as the culture's primary storyteller (Gerbner, 2009). Digital participation promotes personal and social reflection, personal autonomy and collaboration (Hobbs, 2010; Jenkins et al, 2006). These outcomes support the practice of literacy by reshaping relationships between teacher and learners and between learners and their culture (Freire, 1970).

Digital media offers transformative implications for pedagogical practices that put learners and teachers at the center of an increasingly networked social world (Aspen Institute, 2015). Digital media make it easy for learners to have choice and voice in ways that make student-directed learning a reality for every learner (Tuzel & Hobbs, 2017). Thus, digital literacy embodies Dewey's dream of learning as focused on real-world problem-solving that awakens students to their democratic social responsibilities; learning for which knowledge and

deliberative dialogue are used to understand and address problems we find in our neighborhoods, our communities and in our world, helping to create a more just and equitable world.

We have begun to investigate the complex nature of the professional development learning experience using empirical evidence to examine the ways in which teachers' exploration of digital skills contributes to an increase in digital skills from pre-test to post-test and an similar jump in increased confidence in using digital pedagogies. In self-assessments of confidence in implementing digital literacy in the workplace, participants showed increases on four measures of confidence in implementing digital literacy projects with their own students (Hobbs, Coiro, Friesem and Viens, 2015). In addition, participants identified the program's lectures, discussions, workshops and informal conversations as all contributing to participants' awareness of effective curriculum design. When we asked participants, "What key factors should be considered when designing a lesson that integrates digital texts, tools and technologies into learning?" responses demonstrated a good understanding of the concept of *authentic learning*, a clear sense of *purpose*, *student-centered focus*, and *not just using digital tools for the sake of using the tools*. One participant's response offered this explanation: "Purpose. Purpose. Purpose. Media is a tool to help us to further understand the world around us. Too often they become the focal point of the lesson and the purpose becomes compromised or convoluted. I've also tried to think more about my learners and want to create a dialogue about the tools we can use to see what is interesting and relevant to them. It is their education and we teachers can lose sight of that idea." (Hobbs, Coiro, Friesem & Viens, 2015, p. 5 – 6).

Our current research aims to identify how teachers develop the habits of mind that enable them to use digital media texts, tools and technologies for inquiry learning. In this paper, we describe what we've learned from previous theoretical conceptualizations and literacies and how we sought and found connections between our individual ideas, research agendas, and teaching practices. After identifying some common principles that underlie our joint understanding, we explain some ways that we are individually and collectively turning our knowledge about digital literacy into action.

Defining Digital Literacy in Relation to Teacher Motivation

When we first started using the term *digital literacy* to refer to our collaborative work in professional development with librarians, K-12 and college educators, we began by asking participants to define the term for themselves, asking, "What does digital literacy mean to you?" We understood that digital literacy was an umbrella concept and, as a result, that people define and articulate digital literacy in different ways, depending on their disciplinary background, identity and experience. Rather than define digital literacy in terms of media formats, skills, processes or habits of mind, we recognized that the motivations for embracing the term "digital literacy" may be a more important metric for appreciating how educators understood the value of the term.

We are interested in the concept of motivation because it situates human action in relation to lived experience and social context (Ryan & Stiller, 1991). Teachers' motivations for digital learning have a strong influence on their actual use of digital media and technology for learning in schools because teachers decide whether, what and how technology gets used in classrooms

(Conway & Zhao, 2001). When teachers are motivated, they make greater use of digital tools and technologies in their classrooms (Karsenti, Villeneuve & Goyer, 2006).

But this work, valuable as it is, omits consideration of the complex love-hate relationship that educators have in responding to digital media and culture (Hobbs, 2011). Some elementary teachers may see digital media as interfering with early childhood development and some high school teachers may see cell phones as a significant distraction from learning: these teachers are concerned about the negative potential of digital media and technology and can be understood as having a protectionist orientation. Some elementary teachers see digital media as advantageous to student cognitive and emotional development and some high school teachers embrace the use of remix practices that allow students to use popular culture alongside academic content. These teachers are aligned with an empowerment perspective on digital media for learning.

Teacher motivations for digital literacy can be measured. Hobbs and Moore (2013) developed a survey instrument to assess teacher motivations for digital learning identified twelve motivations which were developed from theories of empowerment and protection in relation to six key theoretical frames, including attitudes toward technology tools; genres and formats; message content and quality; community connectedness; texts and audiences; media systems; and learner-centered focus. The survey is available online in English and Turkish (Media Education Lab 2015). Survey research with a large sample of Turkish educators validated a 48-item Likert scale instrument that examined teachers' motivations for digital learning, revealing that digital learning motivation profiles reveal distinctive identity positions of social science, language arts and information and communication technology (ICT) teachers in Turkey. Statistically significant associations were found between teachers' subject-area specialization and their digital learning motivation profiles (Hobbs and Tuzel, 2017).

It is important for us to note that we recognized differences in teachers' motivation because we recognized differences in each other's motivation. Among the 12 teacher motivations for digital literacy, co-author Julie might be identified as a "Spirit Guide" because her interest in digital learning is rooted in a focus on student learning with sensitivity to student-teacher relationships and the socio-emotional dimensions of student engagement. She might be identified as a "Professor" because of her intentional strategy of using digital texts in ways that align lessons with a clear connection to academic standards and outcomes. Co-author Renee might be identified as a "Demystifier" because, when it comes to digital learning, she focused on helping learners generate and address "how" and "why" questions that examine the constructed nature of media messages. Renee might also be identified as an "Activist" because of her enduring passion for fostering democratic participation through social action and interest in student voice as a catalyst for improving their communities and in the world. By learning about and respecting the existing motivations of teachers, we can approach professional development in a more open-hearted way. At the URI Summer Institute in Digital Literacy, we created professional development learning experiences in digital literacy by first assessing teachers' digital learning motivation profiles and then building learning experiences that expand upon the strengths of teachers' beliefs and the conceptual themes of most importance to them. Respect for diverse teacher motivations is key.

Exploring the Connections Between Online Reading and Media Literacy Education

When we first began working together, we conceptualized our work as reciprocal, focusing on literacy as reading and writing practices, with attention to how digital media and technologies were reshaping the nature of these practices. Now we come to see these practices as fundamentally linked together in a tighter and more organic synthesis. Figure 1 depicts how our two different perspectives drove our collaborative interests in digital literacy to ultimately connect as “two sides of the same coin.”

Julie specializes in the “reading” side of the digital literacy coin while Renee cares deeply about the “writing” side of the coin. Julie’s practice of digital literacy (see Leu, Kinzer, Coiro, Castek, & Henry, 2013) emphasizes the skills, strategies, dispositions, and practices that are associated with online reading comprehension (e.g., using the Internet to ask questions, locate relevant information, evaluate the validity of the information and reliability of sources, synthesize multiple modes, and communicate answers/solutions). Julie’s work focuses primarily on the texts of the classroom as part of “doing school and learning,” linked to practices of information access and consumption. Julie values the competencies of questioning, comprehending, synthesizing and communicating information.

Renee’s approach is built upon the theoretical concepts of media literacy that emphasize an examination of the political, cultural and economic context in which messages circulate in culture (Hobbs, 1998). Renee’s work focuses on the texts of the culture as part of “doing life and citizenship,” placing particular attention on the relationship between analysis and production. She is interested in entertaining and persuasive texts in addition to informative ones, and recognizes how in the context of social media culture, individuals engage in creative and collaborative authorship practices that are now part of everyday life. For her, digital authorship includes blogging, podcasting, photography and video production as a means of learning. Renee emphasizes the examination of digital media texts through exploring interpretations and creating media using dialogue and collaboration.

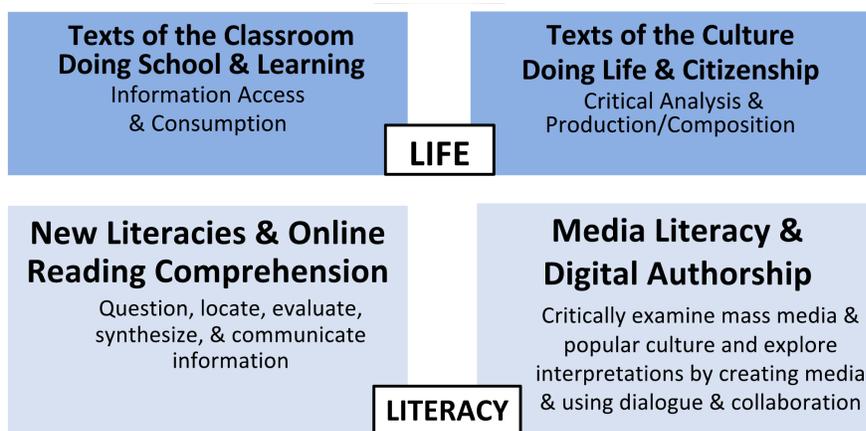


Figure 1: Two Perspectives on Digital Literacy

Digital Literacy in Context

Digital literacy education practices must be integrated within existing structures of school and culture. Unlike many in the digital media and learning community who consider digital literacy to be largely activated in out-of-school, informal, interest-driven experiences (Ito et al, 2013), we situate our vision of digital literacy in the pragmatic context of formal education, where the uses of media and technology are inevitably situated in relation to the structures of school (with its mandate for grades, curriculum, and standards). We see the use of inquiry learning with online media texts as a fundamental literacy practice (Coiro, Castek & Quinn, 2016). As we introduce teachers to digital literacy through professional development, we work within the real and challenging constraints of how school structures shape learning, teaching, and social relationships.

We also are sensitive to the political and economic context in which digital literacy has value in the marketplace. At this historical moment, the rise of the concept of digital literacy must be understood in relation to those many venture capitalists that have invested more than \$2.3 billion in edtech companies since 2010, with over \$1 billion raised in 2016 alone (Wan, 2016). The concept of digital literacy has been supported by educational technology experts, venture capitalists, and this momentum is fueled by a furious infusion of one-to-one laptop implementation in school districts along with the increasing ubiquity of digital devices at home, work and school.

Although we are highly supportive of digital innovation in the ed tech sector, we position our work as in opposition to efforts that de-professionalize teachers through blended learning programs where learning practices are embedded in software algorithms. We believe that teachers are best suited to offer adaptive learning to students; we are concerned about the amount of hype and the lack of research in the many claims made about personalized learning through technology and software tools.

Digital literacy education practices must be integrated into existing structures of school. While we have learned much about digital literacy competencies that may be activated out of school, as part of informal interest-driving learning (Ito et al, 2014), we situate our vision of digital literacy in the context of formal education. Digital media offers important, transformative implications for pedagogical practices that put learners and teachers at the center of an increasingly networked social world (Aspen Institute, 2015). For these reasons, we must respect the real and challenging constraints of school rather than focus on the presumed superiority of out-of-school learning (as charitable foundations like the John D. and Catherine T. MacArthur Foundation have done).

We recognize, as Larry Cuban (1986) has suggested, that whatever kind of innovation we design in terms of media and technology will tend to be implemented in relation to the existing structures of school, with its focus on grades, curriculum, standards and testing. We can help teachers see that, despite these oppressive institutional structures, they still have choice and voice. Teachers find that explicit modeling of digital literacy inquiry pedagogies enable them to choose to “lay off direct instruction” and allow for student directed learning.

Digital Literacy Practices Cultivate Inquiry Learning Environments

While the pedagogy of digital literacy is inevitably situated within the structure and context of institutional, organizational, economic and political realities that offer certain affordances and constraints to individual and social action, we choose to emphasize the role of teachers in their capacity to design learning environments that meet student needs. Digital literacy competencies are advanced through inquiry learning. Digital literacy involves a set of literacy competencies connected to reading and authorship situated in a classroom culture of teaching practices that value, model, scaffold, and facilitate aspects of inquiry, analysis, collaboration, creation, reflection, and social action.

Now, in our fifth year together, we are seeing our separate but related lines of work being influenced by each other's thinking and writing and scholarly communities; and we are exploring the overlaps between our work and how we might weave our definitions of digital literacy into a common framework that values and connects a set of digital literacy competencies (Hobbs, 2010) and classroom inquiry practices (Coiro, Castek & Quinn, 2016) to facilitate learning and engagement.

We are expanding literacy beyond the simple ingredients of reading + writing to include strategies of teaching and learning with a wider range of texts, tools, and new ways for learners to express ideas. As we continue to work together, we've realized that all text types are important. Rather than continue to position texts in relation to a print-or-digital dichotomy, we emphasize rhetorical concepts of audience, purpose, point of view, tone, structure to help us articulate the specific digital literacy competencies needed to access, understand, use, and create and compose informational, persuasive, and entertaining texts that reach a variety of audiences through different digital distribution devices.

Lately, in other scholarly work, we have been focused on the examination of informational (Julie) and persuasive texts (Renee), but increasingly, we are also coming to realize the essential role of literature and narrative texts in fostering empathy and appreciation of differences and the use of narrative storytelling to help students express their learning by situating their emerging ideas in personal stories.

In developing our thinking about Personal Digital Inquiry for Digital and Media Literacy (PDI-DML), we have layered Renee's work in defining digital and media literacy pedagogy (Hobbs, 2010) and Julie's approach to personal digital inquiry (Coiro, Castek & Quinn, 2016) to bring both pedagogical models together. The PDI-DML model (see Figure 2) amplifies the core practices of personal digital inquiry learning as the engine that enables digital and media literacy to become truly transformative pedagogical practices.



Figure 2
Personal Digital Inquiry for Digital and Media Literacy (PDI-DML)

Agency, Voice and Choice in Learning

In the process of reflecting on our work with teachers, librarians and college faculty through the development of the Summer Institute in Digital Literacy, we recognized that the personal digital inquiry model of digital and media literacy (PDI-DML) offers substantial opportunities for increased voice and choice for both teachers and learners.

Teachers can encounter digital literacy pedagogies in ways that advance their own sense of agency through voice and choice. These are inherently empowering practices that build confidence in the use of digital media. For example, digital texts, tools, and technologies offer teachers more opportunities for freedom/autonomy/exploration as learners themselves. This emphasis on teachers as learners reflects the growth mindset that we recognize in working with teachers who learn in different ways. Digital media also gives teachers more voice through collaborating with others in curriculum design; with appropriate leadership skills in place, teachers can have more voice in taking a leadership role in how digital literacy instructional practices become normative within a school building.

Students also increase agency through voice and choice when they get more opportunities to ask their own questions while choosing their own tools or selecting from a wider range of topics and texts. Students advance agency with more time to talk through their interpretations and share meanings together. By choosing their tools to creatively express ideas and explore different ways of taking social action, students consider their identities as citizens who can improve their communities and society.

At the Summer Institute in Digital Literacy, we say repeatedly, “Everyone learns from everyone.” Collaborative peer-to-peer learning is baked into the program design (Hobbs & Coiro, 2016). As we learned to collaborate, we increased our focus on collaborative learning as a means

to advance professional development learning experiences. Over the years, we learned that the old hierarchies of expert and novice no longer reflect the complexity of digital literacy learning in professional development programs. As a result, we developed a faculty team that includes people from across the spectrum of professional roles and identities, including teachers, librarians, information technology specialists, senior faculty, practitioners, researchers and students – all as members of the faculty team. When everyone has the potential to teach everyone, a genuine sense of empowerment results.

We reject an oversimplified view of digital literacy that emphasizes the mere use of digital tools for learning. Too many schools are embracing a “device-oriented” approach to technology integration. Our concerns about this has led us towards a distinct stance in relation to “personalized learning,” a term now used to describe technology-enabled learning with varying degrees of tailoring or customization of a learning experience through platform software or apps. The customization occurs through the use of big data, which captures student keystroke data and uses programming algorithms to propose new tasks. At the present time, little independent research has been conducted to demonstrate the value of technology-driven personalization for learners as separate from effective teaching practices.

Rather than de-skilling teachers so that their role is primarily as monitors of students moving through a series of digital playlists, we want to foster teacher agency so that they are confident in designing their own lesson plans and instructional units for inquiry-based digital learning. We see teachers as the most capable of supporting and scaffolding student learning through inquiry. Within the constraints of school-based learning spaces, we want to be direct and explicit that “personalized learning” defined as “station rotation” using apps to learn skills may serve some educational needs but will very likely lead to the de-skilling of teaching. As Bulger (2016) points out, there are no established standards for describing or evaluating the extent to which a learning experience is personalized, and often “the difference between responsiveness and adaptiveness is not accounted for in product descriptions” (p. 4).

For these reasons, we are focused on teacher agency and professional development so teachers can intentionally design their own structures for inquiry-based digital learning in their classroom communities. We believe:

“Even without the use of new data-driven learning technologies, it is important to realize that every teaching environment is in some way personalized: everyday interpersonal interactions involve a degree of personalization as people respond to each other’s shifting moods.... interpersonal cues...subject matter expertise, knowledge of how people learn, and knowledge of each student...” (Bulger, 2016, p. 4).

Approach to Professional Development: Turning Knowledge into Action

We continue to grapple with the scope of needs for innovation in teacher education and particularly for faculty in higher education, where resistance to digital literacy learning pedagogies are more pervasive and traditional models of professional development have not been as effective. We hosted a Winter Symposium on Digital Literacy in Higher Education in January 2017 to bring together 60 higher education faculty from the fields of teacher education,

communication/media studies, arts and design, library and information studies, and the humanities to discover how faculty define the core competencies of digital literacy; the motivational issues underlying the use of new pedagogies for teaching and learning; the digital identity of the college professor; and the role of online social networking as a means to create a professional learning community for faculty in higher education. By creating authentic learning and problem solving experiences as part of professional development, we generate new research questions for our own ongoing inquiry processes (Hobbs, et al. 2017).

In responding to the needs of elementary and secondary educators, college faculty, school, public and academic librarians, and youth media professionals, we wanted to create a learning community for digital literacy that reflected our vision and pedagogy. In order to reach a wide range of participants, we decided to develop a blended learning program which included both face-to-face and fully online components. The graduate certificate program emerged as a strategy only after the success of the first year enabled us recognized how many educators were seeking a postgraduate program that would help them develop the competencies of leadership in the area of digital literacy.

We have also developed (and continue to refine) the University of Rhode Island’s Graduate Certificate in Digital Literacy, which launched in 2015. It includes the courses shown in Table 1. Elements of what we value and where teachers should focus their efforts are woven into each course across the program, including practices that support freedom/exploration; creativity and expression; collaboration; curriculum design; and leadership.

Table 1
Coursework Required for the URI Graduate Certificate in Digital Literacy

	Format	Content
Summer Institute Tier 1 (EDC 531)	Intensive, 42-hour, face-to-face, week-long	How digital tools, texts and technologies require competencies of critical analysis and creative production and the role of inquiry, voice and choice in creating learning environments
Seminar in Digital Literacy (EDC 532)	Fully online, no learning management system	Approaches to literacy with focus on online reading comprehension
Seminar in Digital Authorship (EDC 534)	Fully online, no learning management system	Purpose, audience and implications of digital authorship in multimodal context
Summer Institute Tier 2 (EDC 535)	Intensive, 42-hour, face-to-face, week-long	Leading to inspire others & manage the change process

Graduate students (like all learners) learn best by creating. For example, in the Seminar in Digital Literacy (EDC 532), Julie asks students to engage in a series of Leaps, including tasks which ask them to compose a descriptive review of work conducted by a current digital literacy scholar, craft a personal vision statement around offline and online literacy practices, design a web-based instructional activity that integrates aspects of critical literacy, and publish a screencast that models effective practices for locating and evaluating the quality of online texts. In Digital Authorship (EDC 534), Renee asks students to reflect and compose a memoir on their personal identity as a creative media maker and author, create a video screencast summarizing a key idea from the readings, collaborate in a dialogue with a peer and document it using some

form of digital media, and participate in an online creative community where they create, remix and share original works of photography, poetry, animation and other work. In both courses, students develop a final project where they have significant voice and choice over the content and the format of the work.

We are discovering that complete freedom can be paralyzing, even to graduate students, because they don't always have the ability to handle full intellectual freedom. Often, this is a result of having limited exposure with genuine inquiry learning in their educational experiences. As a result, we are experimenting with forms of inquiry and apprenticeship that use elements of experiential learning. When it comes to mastering the many dimensions of digital literacy, a constrained interesting problem with porous boundaries may help adult learners stay motivated, build confidence, and carry their new knowledge with them beyond our classrooms and into their work contexts.

Definitions of digital literacy are a moving target for all in teacher education. We want current and future educators to have a deep understanding of the concept of *access* as they *wonder and discover* information, using digital tools to find, locate or comprehend information and ideas. More than ever, it is essential to engage in *analysis and reflection* as both a critical reader and as a creator of media. As students *create*, the practices of *collaboration and discussion* become critical to developing ideas using language, images and sound. Further work is needed to deepen our understanding of the many complex dimensions of this work we call collaboration. As the concept of digital literacy changes, we hope that its roots in literacy remain strong, for we believe that the sharing of meaning through symbolic expression is a fundamentally human way of learning for a lifetime.

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