Karen E. Wohlwend

A Is for Avatar: Young Children in Literacy 2.0 Worlds and Literacy 1.0 Schools

*"*I see you. *But it's not just, 'I see you in front of me.' It's, 'I* ***see*** *you. I see into you. I understand you.'"*

—Norm, linguistic anthropologist in James Cameron's 2009 film, *Avatar,* teaching the hero how to communicate through an avatar

"Do you see me? You don't see me? I'm right there!"

—Jenna, 7-year-old Webkinz player, pointing to her on-screen avatar

In the blockbuster fantasy film *Avatar,* the hero, Jake Sully, learns to talk, walk, and run as a blue 10-foot-tall avatar in order to pull off an identity as a native Na'vi, the people of a breathtakingly beautiful distant planet. As a new member of the anthropological team, Jake possesses an innocence and a receptivity that allow him to easily take up the ways of the Na'vi culture in problematic ways that echo Hollywood clichés of Native Americans as noble savages, as naïve and redemptive children of nature, etc.

I draw upon this fictional portrayal of avatars as a metaphor to show how young children are positioned in similar ways in relation to technology and nature. We talk about children as digital natives (Prensky, 2001) growing up in brave new virtual worlds, but also as vulnerable innocents who are especially attuned to—and in need of—nature. We are amazed and worried by toddlers who sweep chubby fingers across the touchpads of iPhones before they can even talk, or preschoolers who browse YouTube to launch and watch their favorite nursery rhyme videos. We wonder: Shouldn't these children be engaged in hands-on explorations rather than glued to computer screens? Or making mud pies and building with wooden blocks rather than clicking, clicking, clicking to move an avatar from place to place in a virtual world? But do we really ***see*** these children? Do we understand them as emergent users of new literacies and new technologies? If so, how might early literacy education change to prepare children to read, write, be, and act as full participants in digital worlds and unknowable futures?

Ironically, in a time of massive global technological innovation in which new literacies are popping up almost daily, US schools are clamping down rather than ramping up. Governmental policy in the form of federal grants and state standards drive teacher accountability programs aimed at raising student achievement, as measured through standardized tests. Faced with high-stakes testing in which low student scores result in school closings and job loss, teachers opt for the safest, most defensible approaches and focus on discrete skills instruction that closely matches test content (Ravitch, 2010; Stipek, 2006). Preschools and kindergartens, no longer safe havens from the pressures of teaching to the test, now have little time for play and exploration (Adler, 2008; Brandon, 2002; Daniel, 2007; Holbrook, 2006; Magee, 2003; Stewart, 2005; Stipek, 2005). In classrooms where computers are available, they are more likely to be used for letter- and word-recognition tasks than for playing games and animating avatars (Labbo, 2006).

This article examines tensions across literacy, play, and technologies in early childhood classrooms in order to understand how the meaning-making possibilities we offer children are shaped by the ways we see them. How might new ways of seeing open our eyes to "new basics" (Dyson, 2006) in early education and help us reshape in-school literacies to more closely match children's lived worlds?

Literacies at Home

Access to and Use of Technology

A US survey of over 1000 parents of infants, toddlers, and preschoolers found that most of these children watched television or videos independently, and a large number operated computers or played video games on a daily basis.

Given the omnipresence of media in [0- to 6-year-old] children's lives, it is not surprising that in a typical day, about eight in ten use screen media (83%)—about the same proportion who read (79%) or listen to music (79%). But many of these toddlers and preschoolers are not just passively consuming media chosen by other members of their homes—they are actively asking for and helping themselves to what they want. They are turning on the TV by themselves (77%), asking for particular shows (67%), using the remote to change channels (62%), asking for their favorite videos or DVDs (71%), putting in their own music tapes or CDs (36%), hopping up to the computer by themselves (33%), loading their own CD-ROMs (23%), and for some, even asking for specific websites while surfing the Net (12%). (Rideout, Vandewater, & Wartella, 2003)

Increasingly, young children engage screens via mobile technologies, such as cell phones. "More than half of the world's population now owns a cell phone and children under 12 constitute one of the fastest growing segments of mobile technology users in the U.S." (Shuler, 2009, p. 3). The prevalence of portable handheld devices like cell phones, MP3 players, and iPads makes technology even more accessible to young children. Today's preschoolers are growing up in a world where the dominant way of making meaning has shifted from print on the page to image on the screen (Jewitt & Kress, 2003).

Early Technoliteracies

Children use keypads and touchscreens on a broad range of technological devices to browse, view, interpret, navigate, interact, and produce original texts (Labbo, 2006; Marsh, 2004). Reading online texts requires a knowledge of concepts specific to screen-based text (e.g., keyboard use, the mouse–cursor relationship, screen navigation) (Merchant, 2005) and new understandings about the organization of space and image on screens that extend Clay's (1993) concepts about print. Ways of reading and interacting with screens require concepts for reading screens (Merchant, 2005) and new understandings about the organization of space and image that extend Clay's (1993) concepts about print. Burke and Rowsell (2007) looked closely at children's engagement with another virtual world, Webkinz, identifying complex literacy practices in a young child's readings of screen designs and discursive structures. Marsh (2010) examined children's social networking and online play in the virtual world of Club Penguin, suggesting that children use avatars to carry out significant identity work in the complicated mesh of play, consumer practices, and corporate agendas.

Families provide children with scaffolded experiences in "technoliteracies" (Marsh, 2004), helping them learn to manipulate screens on computers, cell phones (Gillen, Gamanossi, & Cameron, 2005), and game consoles (Pahl, 2005) as they engage in shared literacy practices with email (Wollman-Bonilla, 2003), text messaging, and computer games. In this way, families provide children with demonstrations of important literacy practices that allow them to explore how these literacies work with and approximate digital texts. Children pretend their way into literacies by "playing at" using computers, iPads, or cell phones as they try on technologically savvy user identities.

Literacies at School

Technology Challenges

But when young children come to school, they often have to check their technoliteracies at the classroom door:

It is as if the developments in young children's lives outside of nursery and school are occurring within a self-contained, virtual bubble that has little to do with the stuff of the first years of schooling, which generally continues to focus on phonics, print-based literacy texts and canonical narratives. In contrast, . . . family spaces are complex spaces in which globalised narratives are localized on a micro-level, public and private boundaries blur and there are no hard-and-fast rules about "real" and "virtual." This is the techno-territory of family life in the twenty-first century and unless early years educators acknowledge the rapid changes which are taking place, the curriculum offered to many of these "toddler-netizens" (Luke, 1999) will continue to offer outmoded and irrelevant reflections of their lived realities, rooted as they are in ever-changing mediascapes. (Marsh, 2006b, p. 23)

Not all children enjoy easy access to high-speed Internet technology at home—divides that break along lines of class, gender, and race. This

continues to make school an important site for ensuring equitable access for all children. While most preschool and kindergarten children have access to computers in school (Labbo, 2006), children's meaningful use of technologies is limited when there are too few computers for the number of children or when hardware is outdated and/or equipped with minimally interactive software.

Of course, some classrooms have adequate resources, and some early childhood teachers readily integrate new technologies to provide relevant literacy experiences. However, many teachers report that although they have the necessary equipment, they feel unprepared and too inexperienced to successfully use technology in their teaching (Labbo et al., 2002). In one study, over 50% of kindergarten and primary teachers self-identified as technology novices (Chen & Chang, 2006).

In other classrooms, technology activities are seen as developmentally inappropriate, with no place in an experiential learner-centered "hands on" curriculum. In one study, when teachers talked about the importance of providing children with "real" materials for exploration, they usually meant plants, insects and small animals, books, or handmade artifacts, rather than multimedia or technologies (Wohlwend, 2009c). The belief that early education should be closely linked to natural materials is not a recent invention of developmentally appropriate discourse. The dream of the "natural child" is an enduring ideal, found in literature from *Emile* (Rousseau, 1762/1979) to *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Louv, 2008). However, when this ideal becomes a policy or curricular stance, it further distances our youngest learners from access to digital technologies that make up modern literacies.

Literacy 1.0 and "the Basics"

Whatever the reason, whether new technologies are outdated, locked away, or in the corner gathering dust, young children in many early childhood classrooms are missing opportunities to explore contemporary literacy resources that offer rich potential for making meaning with visual and embodied literacies. In such classrooms, technology is a "benign addition" (Cuban, 2001, p. 67), an accessory for entertainment or supplemental activities, while the official curriculum is delivered through traditional paper–and-pencil activities. Curricula that feature computer-as-typewriter (print-oriented) uses of technology typify a Literacy 1.0 mindset (Knobel & Wilbur, 2009) through "old literacy" practices (Sefton-Green, 1998), such as:

> *. . . letter recognition, skill sharpening, and enhanced fluency with reading and writing conventional linear texts via use of word processing software, drill and skill software, electronic early reader books, audio software functions for matching sounds to letters, authoring software and so on.* (Lankshear & Knobel, 2003)

Literacy 1.0 practices are analog ways of writing that "schools traditionally have valued [such as] a single author laboriously working alone to create a unique text" (Knobel & Wilbur, 2009). Literacy 1.0 dominates in early childhood classrooms where

> *. . . the overwhelming emphasis is on using [digital] resources to promote abilities to handle conventional alphabetic print texts rather than to* generate *multi-modal texts and to understand principles of making multi-modal meanings. This skew is understandable given current literacy policy directions that continue to insist on the predominance of alphabetic text and, moreover, to approach literacy education with an assumption that high proportions of learners will actually have to* struggle *to become encoders and decoders. From our perspective, this trend is most unfortunate. Apart from anything else, it entails an absurd "under-realization" of the potential of new technologies to orient children toward literacy futures that will be very different from the past.* (Knobel & Lankshear, 2003, p. 77)

A widespread focus on "the basics" equates early literacy with isolated skills, such as letter or word recognition.

> *In the current politics of accountability in the U.S., writing is a collection of skills, particularly in financially strapped urban schools . . . . Traditional "basics" (e.g., writing conventions) loom large at least in part because they are easily tested by grade level benchmark assessments and by school-wide achievement tests required by federally supported reading programs. In this basic-skills approach, children are invisible, indexed only by their achievement test scores.* (Dyson, 2007, p. 115)

Early childhood programs are coming under increasing scrutiny as policymakers turn their attention to preschools and kindergartens in their attempts to jumpstart achievement and prepare for high-stakes tests in later grades.

The Head Start Bureau has created a test, the National Reporting System (NRS), to assess literacy and math skills. The test, which is supposed to be given to nearly every 4- and 5-year-old enrolled in Head Start, has been highly criticized for its narrowness and inappropriateness for young children (Government Accountability Office, 2005). (Stipek, 2006)

The negative educational effects of narrow definitions of literacy in standardized tests are well documented:

Previous evidence from NCLB suggests that if the test used to assess early childhood programs focuses on isolated skills, children are likely to be taught isolated skills. For example, if vocabulary words are presented without any context, teachers are likely to teach vocabulary words out of context (e.g., word of the day). (Stipek, 2006)

This climate of high-stakes testing makes it seem risky to set aside the scripted basal, to make room for play, and to encourage children to explore technologies in school. However, these mandates are retrospective, relying on basics from a Literacy 1.0 paradigm.

Literacy 2.0 in a New Set of Basics

Anne Haas Dyson (2006) has called for a new set of basics, informed by children's lived experiences, their diverse cultural and linguistic resources, and their rapidly expanding repertoires of symbolic conventions. Literacy 2.0 (Knobel & Wilbur, 2009) represents a new way of thinking about technology that moves away from the model of an individual interacting with a print text, off- or on-screen. Instead, Literacy 2.0 integrates the principles of Web 2.0 online interaction: global participation, multiuser collaboration, and distributed resources and knowledge. Web 2.0 includes social networking sites like Facebook, fanfiction sites, wikis, massively multiplayer online games, and music- and video-sharing sites such as YouTube. Literacy 2.0 practices involve ways of participating in vast digital networks through posting, blogging, recording, remixing, uploading, and downloading. Children find ways to "play at" Literacy 2.0 practices that they see in daily use in the world around them; these are the literacy practices that have the most relevance for them. Even without access to real tools, children find these technoliteracies so compelling that they pretend digital devices into being by playing that a plastic carrot is a cell phone; by making an iPod from paper, yarn, tape, and pipecleaners; or as in the following example, by playing a video game with markers and paper (Wohlwend, 2009b).

Illustrating Literacy 2.0 with a Paper Video Game

In the following example excerpted from a three-year study of K–2 literacy play, two first-grade boys played an invented version of Digimon Rumble Arena, a two-player video game. In the process, the players invented various weather-related methods to attack, defend, redirect, and heal their characters in order to deplete the opposing character's "health" or ability to keep playing. The goal of their game was to be the last player who had a viable character (i.e., a positive level on the health gauge). The boys invented their own characters, "Mini-Marshmallow" and "Ravit," and monitored the effects of their attacks and defenses based upon the amount of coloring in their opponent's health bar. The moon shape in the corner designated the "Moon Arena" as the setting for their battle.

As is often the case with young children's designs, the end product of the boys' game (pictured in Figure 1) masked the complexity and the development of strategic moves that were only visible during the process.

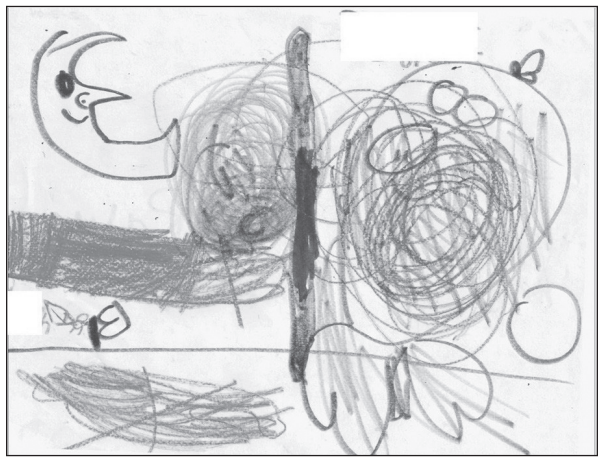

Figure 1. *The visual outcome of the boys' game masks the complex thinking that took place.*

KW: *So what're you guys doing?*

Ian: *Havin' a battle.*

Kirby: *My mini-guy has armor so that's mine . . .*

Ian: *I am the bird master.*

Kirby: *OK.*

Ian: *Master of the ravens.*

Kirby: *Fire Tornado!*

Ian: *shshshspshpshpsh*

Kirby: *You're, you're defected ((affected)) by fire?*

Ian: *Yeah.*

Kirby: *OK.*

Ian: *My turn. Wing attack whshwsh::::: Wing attack.*

Ian: *You gotta be kidding me; you're not, you're not that, you're not really that affected by wings?*

Ian: *OK, that's how much you got.*

Kirby: *But he still—he can do riff too. Riff. ((invented term for regenerating health))*

Ian: *The yellow stuff?*

Kirby: *Yeah. He's got new health now.*

Ian: *Yeah.*

Kirby: *He's got two pieces of health.*

Ian: *Moonlight!*

Kirby: *Whoever wants to face me, they're gonna face one with Rav.*

As I watched the game unfold, I realized that the boys were co-constructing and negotiating a collective meaning that was almost completely inaccessible to me. Their orchestrated participation involved a rapid succession of video-game conventions that I barely understood, but that required little clarification between the boys. In a linear, competitive, and individualistic interpretation, the boys should attempt to defeat each other quickly to resoundingly win the game; the quicker the defeat, the greater the victory. However, one of the players repeatedly attempted to strengthen his opponent's character, with an offer and demonstration of creating additional health bars and with verbal admiration that constructed Ravit as a formidable opponent, "Whoever wants to face me, they're gonna face one with Rav!" Both strategies were very effective in maintaining their collaboration by keeping one player from becoming discouraged. (For an in-depth analysis of the semiotic perspectives and literacy practices in this example, see Wohlwend, 2009b).

Attempting to understand this game from the Literacy 1.0 convention of narrative fiction shrinks the boys' divergent, rapidly changing messiness into a one-outcome progression (Ranker, 2006). Literacy 2.0 activities, such as video games, produce nonlinear and dynamic interactive texts, as opposed to the Literacy 1.0 linear and fixed narratives (beginning, middle, end) that are typically generated through story writing in an elementary school writing workshop. Video-game play merged the boys' individual play and design moves into a joint text that blurred the line between reading and writing as each interpreted the other's move and produced a counter-move. The pretended video game demonstrates that new texts require coordinated action.

In writing workshop, a single author produces a book with support from others who consult but do not produce the text; responsibility for production is alleviated but always individual. In video games—as in sociodramatic play in the housekeeping corner—the text is co-played, always under construction, and responsibility is shared as two or more people must participate to jointly produce the text-in-process. The features of new texts "—nonlinear narrative structure, quite distinctive spatial layouts, ongoing and cumulative challenge levels, multiple and interactive cueing systems"—require literacy users who take risks and experiment to sift through potential solutions (Carrington, 2005, p. 19).

Indeed, interacting with a game or other digital texts, from CD-ROMs to online World Wide Web sites, is qualitatively different from the relations between reader and writer in the domain of print literacy. Central to this area of concern, then, is the problem of defining interactivity . . . . *If a fixed relation between writer and reader is the hallmark of the old literacy then an interactive dynamic is at the heart of the new literacies.* (Sefton-Green, 1998, p. 10)

In this example of a video game played on paper, boys straddled old and new literacies as they drew with traditional media of paper, markers, and crayons to collaborate on an interactive

Table 1. *Comparing Literacy 1.0 and Literacy 2.0 paradigms*

Literacy 1.0	Literacy 2.0
single reader/writer working	multiple designers playing
with an original text or artifact	with a shared activity
using print to craft a personal narrative	using actions to communicate as much information as images; print is almost absent
writing mediated by peers and teachers	playing to sustain a fluid and reactive text
within a supportive writing workshop	within a participatory environment with interactive media
individual production	sustained collaboration
personal creativity	collective cohesion

text with digital conventions. Table 1 highlights key differences between the two paradigms.

Seeing Children and Understanding Our Worlds

In this article, children's explorations with new technologies highlight the paradigm shift from Literacy 1.0 individualistic product-oriented craft to Literacy 2.0 participatory practices that distribute meanings among players and are collaboratively maintained.

Seeing Play as a New Basic

Children have long used play to appropriate cultural tools and to make sense of the social world around them (Göncü, Tuermer, Jain, & Johnson, 1999). However, Literacy 2.0 provides a way to understand play as a "new basic": as a multimodal way of making texts, accessing remote resources, and importing distant identities. The technologies played into being in this article demonstrate how young children use play as an embodied literacy to enact video-game player identities, to design a digital text using available analog resources, and to create an imaginary space for engaging technology in school space, compressed between "back to basics" fundamentalism and developmentally appropriate romanticism.

Seeing Children's Lived Literacies

By valuing children's knowledge and skill with video games, teachers can create bridges from out-of-school literacies and family "funds of knowledge" (Gonzalez, Moll, & Amanti, 2005) to schooled forms of writing. However, this strategy misses the point. New literacies should not be used to simply enrich existing in-school literacies (Knobel & Lankshear, 2007). For example, trying to transform this video-game play episode into a piece of writing for writing workshop exemplifies the "'new wine in old bottles' syndrome . . . fitting new technologies into classroom business as usual" (Lankshear & Bigum, 1999, p. 455) by attempting to constrain the boys' divergent, messy collaboration and fit it into the narrow, logical progression of a storyline.

Instead, we need to understand and learn from the new forms of literacy that children are already using, a necessity for curricula that supports "literacy of fusion" (Millard, 2003)—the bringing together of old and new literacies.

Seeing Is Disbelieving

Seeing the potential in children's Literacy 2.0 learning and the limitations in Literacy 1.0 teaching is a first step. Early childhood educators also need to question institutional discourses and their own beliefs about what should or should not be included in literacy curricula. Questioning the commonplace (just the way things are) and commonsensical (what we just know) allows us to see how our beliefs keep us compliant and complicit in maintaining the current ways of doing things in schools.

> *. . . electronic culture is already an integral part of early childhood experience for most youngsters. As we are all being pushed onto the on-ramps of the information superhighway, I think it is crucial for educators at all levels of schooling to take charge of reshaping curriculum and pedagogy in relation to [information technology].* (Luke, 1999)

Seeing Possibilities in Policies

What does Literacy 2.0 curricula look like in early childhood classrooms? The following possibilities for policy reforms are summarized from early literacy research in the U.S. (Knobel & Wilbur, 2009; Shuler, 2009), the U.K. (Marsh, et al., 2005), and Australia (Hill, 2009).

- Recenter play in the early literacy curriculum. New technologies use "playful pedagogies"

(Buckingham, 2003, p. 162) that merge children's desires and popular media passions with literacy learning. Children learn to project Literacy 2.0 identities through avatars as they play favorite video games and participate in virtual worlds (Marsh, 2010). Play is a familiar (albeit endangered) element in early childhood curricula, making this a good launching pad for Literacy 2.0 learning. In a study of 524 UK early years teachers, Marsh and colleagues found that "the majority of early childhood practitioners have used popular culture to promote learning in the communications, language, and literacy curriculum at least occasionally" (2005, p. 76). Filming videos as fanfiction (Marsh, 2006a; Wohlwend, 2009a) is a particularly effective way to connect literacy to children's play with their favorite media characters. Claymation with Photostory allows children to use digital photographs with toys or clay figures to produce simple animated films (Hill, 2009), while storyboarding and live action media allow children to plan, direct, and record their own plays.

- Implement early literacy curricula that enable children to participate in interactive and collaborative ways of producing widely distributed digital texts such as wikis, classroom blogs, and podcasts. Literacy curricula should include critical literacy inquiries with young children (Vasquez, 2004) that examine how digital technologies and multimedia affect who can participate in literacy networks and social spheres (Wohlwend & Lewis, in press).
- Incorporate mobile, multifunctional, handheld devices into classrooms. The widespread availability, portability, and functionality packaged into child-sized devices make smart phones (cell phones with operating systems) and iPods ideal for use in early childhood classrooms. Proponents do recognize that potential health concerns must be considered in relation to use by very young children, but also cite the economic and educational advantages of mobile technologies. "Because of their relatively low cost and accessibility in low-income communities, handheld devices can help advance digital equity, reaching and inspiring populations 'at the edges'" —children from economically disadvantaged communities and those from developing countries (Shuler, 2009, p. 4).
- Utilize the technologies as well as literacy resources that children are already using. We need to move away from a model in which schools provide educational hardware and move instead toward one that invites technologies into schools; we must segue from enforcing policies that ban cell phones and handheld video games to developing policies and applications that connect to children's emerging expertise with these tools. "For students from low-income households, we should press forward with expansion of needed infrastructure . . . to achieve digital equity" (Shuler, 2009, p. 4).

Envisioning School 2.0

This article has explored new ways of seeing young children, of seeing literacies, and of seeing possibilities for the use of changing technologies, all with the aim of learning from children's interactions with dynamic literacies in order to gain a better understanding of how we might prepare them for futures where constant change is one of the few predictable elements.

Seeing and appreciating what children already know and can do is just a first step. At a minimum, we need policies that remove institutional barriers and actively support a permeable literacy curriculum that encourages young children to bring their cultural resources to school, including digital technologies and popular media.

References

Adler, M. (2008, September 1). Why test NYC kindergartners? [Radio broadcast]. From *All things considered.* Retrieved June 1, 2010, from http://www.npr.org/templates/story/story.php?storyId=94176236.

Brandon, K. (2002, October 20). Kindergarten less playful as pressure to achieve grows. *Chicago Tribune,* p. A1.

Buckingham, D. (2003). *Media education: Literacy, learning, and contemporary culture.* Cambridge: Wiley-Blackwell.

Burke, A., & Rowsell, J. (2007). Assessing multimodal literacy practices. *e-learning, 4,* 329–342.

Carrington, V. (2005). New textual landscapes, information, and early literacy. In J. Marsh (Ed.), *Popular culture, new media, and digital literacy in early childhood* (pp. 13–27). New York: RoutledgeFalmer.

Chen, J. Q., & Chang, C. (2006). Using computers in early childhood classrooms: Teachers' attitudes, skills, and practices. *Journal of Early Childhood Research, 4,* 169–188.

Clay, M. (1993). *An observation survey of early literacy achievement.* Auckland, NZ: Heinemann.

Cuban, L. (2001). Oversold and underused: Computers in the classroom. Cambridge, MA: Harvard University Press.

Daniel, R. (2007, March 3). Playing to the test? *Iowa City Press Citizen,* p. A1.

Dyson, A. H. (2006). On saying it right (write): "Fix-its" in the foundations of learning to write. *Research in the Teaching of English, 41,* 8–42.

Dyson, A. H. (2007). School literacy and the development of a child culture: Written remnants of the "gusto of life." In D. Thiessen & A. Cook-Sather (Eds.), *International handbook of student experience in elementary and secondary school* (pp. 115–142). New York: Springer.

Gillen, J., Gamannossi, B. A., & Cameron, C. A. (2005). "Pronto, chi parla? (Hello, who is it?)": Telephones as artifacts and communication media in children's discourses. In J. Marsh (Ed.), *Popular culture, new media, and digital literacy in early childhood* (pp. 146–162). New York: RoutledgeFalmer.

Göncü, A., Tuermer, U., Jain, J., & Johnson, D. (1999). Children's play as cultural activity. In A. Göncü (Ed.), *Children's engagement in the world: Sociocultural perspectives* (pp. 148–172). Cambridge, UK: Cambridge University Press.

González, N., Moll, L. C., & Amanti, C. (Eds.). (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms.* Mahwah, NJ: Lawrence Erlbaum.

Government Accountability Office. (2005). Head Start: Further development could allow results of new test to be used for decision making [Online]. Available: http://www.gao.gov/newitems/d05343.pdf.

Hill, S. (2009). *Multiliteracies and the early years: Evaluation of mapping multiliteracies: A professional learning resource.* Adelaide: University of South Australia.

Holbrook, T. (2006, July 30). Wired to the future: First year's not just for playtime anymore. *The Courier-Journal,* p. W5.

Jewitt, C., & Kress, G. (Eds.). (2003). *Multimodal literacy.* New York: Peter Lang.

Knobel, M., & Lankshear, C. (Eds.). (2007). *The new literacies sampler.* New York: Peter Lang.

Knobel, M., & Wilbur, D. (2009). Let's talk 2.0. *Educational Leadership, 66*(6), 20–24.

Labbo, L. (2006). Understanding the role of classroom computers in the literacy development of young children: A semiotic perspective. *Journal of Reading Education, 31*(3), 37–41.

Labbo, L., Leu, D. J., Kinzer, C. K., Teale, W. H., Cammack, D., Kara-Soteriou, J., et al. (2002). Teacher-wisdom stories: Cautions and recommendations for using computer-related technologies for literacy instruction. *The Reading Teacher, 57,* 300–304.

Lankshear, C., & Bigum, C. (1999). Literacies and new technologies in school settings. *Pedagogy, Culture, & Society, 7,* 445–465.

Lankshear, C., & Knobel, M. (2003). New technologies in early childhood literacy research: A review of research. *Journal of Early Childhood Literacy, 3,* 59.

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder.* Chapel Hill, NC: Algonquin Books of Chapel Hill.

Luke, C. (1999). What next? Toddler Netizens, Playstation thumb, techno-literacies. *Contemporary Issues in Early Childhood, 1,* 95–99.

Magee, M. (2003, July 21). An elementary evolution: Kindergarten literacy push has some teachers worried. *Union-Tribune,* p. A1.

Marsh, J. (2004). *BBC child of our time: Young children's use of popular culture, media and new technologies.* Sheffield: University of Sheffield.

Marsh, J. (2004). The techno-literacy practices of young children. *Journal of Early Childhood Research, 2,* 51–66.

Marsh, J. (2006a). Emergent media literacy: Digital animation in early childhood. *Language and Education, 20,* 493–506.

Marsh, J. (2006b, April). *Global, local/ public, private: Young children's engagement in digital literacy practices in the home.* Paper presented at the American Educational Research Association, San Francisco.

Marsh, J. (2010). Young children's play in online virtual worlds. *Journal of Early Childhood Research, 8,* 23–29.

Merchant, G. (2005). Barbie meets Bob the Builder at the workstation: Learning to write on screen. In J. Marsh (Ed.), *Popular culture, new media, and digital literacy in early childhood* (pp. 183–200). New York: RoutledgeFalmer.

Millard, E. (2003). Towards a literacy of fusion: New times, new teaching and learning? *Reading, Literacy, and Language, 37*(1), 3–8.

Pahl, K. (2005). Narrative spaces and multiple identities: Children's textual explorations of console games in home settings. In J. Marsh (Ed.), *Popular culture, new media, and digital literacy in early childhood* (pp. 126–145). New York: RoutledgeFalmer.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1–2.

Ranker, J. (2006). "There's fire magic, electric magic, ice magic, or poison magic": The world of video games and Adrian's compositions about Gauntlet Legends. *Language Arts, 84,* 21–33.

Ravitch, D. (2010). *The death and life of the great American school system.* New York: Basic Books.

Rideout, V. J., Vandewater, E. A., & Wartella, E. A. (2003). *Zero to six: Electronic media in the lives of infants, toddlers, and preschoolers.* Report from the Henry J. Kaiser Family Foundation. Retrieved July 1, 2010, from http://www.kff.org/entmedia/3378.cfm.

Rousseau, J.-J. (1762/1979). *Emile, or on education* (A. Bloom, Trans.). New York: Basic Books.

Sefton-Green, J. (Ed.). (1998). *Digital diversions: Youth culture in the age of multimedia.* London: UCL Press.

Shuler, C. (2009). *Pockets of potential: Using mobile technologies to promote children's learning.* New York: The Joan Ganz Cooney Center at Sesame Workshop.

Stewart, T. L. (2005, November 4). For kindergartners, playtime is over: Full-day schedules, emphasis on learning create "new 1st grade." *Dallas Morning News,* p. 6B.

Stipek, D. (2005). Early childhood education at a crossroads. *Harvard Educational Letter, 21*(4) [Electronic journal]. Retrieved June 2, 2010, from http://www.hepg.org/hel/article/288

Stipek, D. (2006). No Child Left Behind comes to preschool. *Elementary School Journal, 106,* 455–465.

Vasquez, V. M. (2004). *Negotiating critical literacies with young children.* Mahwah, NJ: Lawrence Erlbaum.

Wilson, D. M. (May/June 2009). Developmentally appropriate practice in the age of testing. *Harvard Education Letter, 25*(3) [Electronic journal]. Retrieved June 2, 2010 from http://www.hepg.org/hel/article/158.

Wohlwend, K. E. (2009a). Damsels in discourse: Girls consuming and producing gendered identity texts through Disney princess play. *Reading Research Quarterly, 44,* 57–83.

Wohlwend, K. E. (2009b). Early adopters: Playing new literacies and pretending new technologies in print-centric classrooms. *Journal of Early Childhood Literacy, 9,* 119–143.

Wohlwend, K. E. (2009c). Squeezed, stretched, and stuck: Teachers, play-based learning, and no-nonsense times. In G. M. Boldt, P. M. Salvio, & P. Taubman (Eds.), *Classroom life in the age of accountability: Bank Street College Occasional Papers Series* (*Vol. 22,* pp. 8–16). New York: Bank Street College. Available at http://eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED505851.

Wohlwend, K. E., & Lewis, C. (in press). Critical literacy, critical engagement, and digital technology: Convergence and embodiment in global spheres. In D. Lapp & D. Fisher (Eds.), *Handbook of research on teaching English language arts* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.

Wollman-Bonilla, J. E. (2003). E-mail as genre: A beginning writer learns the conventions. *Language Arts, 81,* 126–134.

Karen E. Wohlwend is an assistant professor in Literacy, Culture, and Language Education at Indiana University, Bloomington.

2011 David H. Russell Award Call for Nominations

The National Council of Teachers of English is now accepting nominations for the David H. Russell Award for Distinguished Research in the Teaching of English. This award recognizes published research in language, literature, rhetoric, teaching procedures, or cognitive processes that may sharpen the teaching or the content of English at any level. Nominations of publications to be considered should be postmarked no later than **March 1, 2011.** Any work or works of scholarship or research in language, literature, rhetoric, or pedagogy and learning published during the past five years (i.e., between January 2006 and December 2010) are eligible. Works nominated for the David H. Russell Award should be exemplary instances of the genre, address broad research questions, contain material that is accessibly reported, and reflect a project that stands the test of time. Normally, anthologies are not considered. Reports of doctoral studies, while not precluded from consideration for the Russell Award, are typically considered as part of NCTE's separate "Promising Researcher" program. Works nominated for the award must be available in the English language.

To nominate a study for consideration, please email the following information to college@ncte.org: your name, your phone, your e-mail; author, title, publisher, and date of publication for the work nominated; and one paragraph indicating your reasons for nominating the work. Please include four copies of the publication for distribution to the Selection Committee, or give full bibliographic information so that the Selection Committee will encounter no difficulty in locating the publication you nominate. **Send nominations and materials by March 1, 2011, to:** David H. Russell Award, NCTE, 1111 W. Kenyon Road, Urbana, IL 61801-1096, Attn: Felisa Mann. Final selections will be announced in mid-August 2011.