

Writing Research from A New Literacies Lens

Donald J. Leu, University of Connecticut

David Slomp, University of Lethbridge

Lisa Zawilinski, University of Hartford

Julie Corrigan, University of Ottawa

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The Internet is a profoundly disruptive force, altering many elements of society (Christensen, 1997), including the nature of writing. Writing is shifting from page to screen, where new tools continuously appear, requiring new literacies to fully exploit their potential (Kist, 2005). These new literacies are not just new today, they are new every day of our lives as new tools for writing are continuously distributed online, each containing new affordances and requiring additional social practices, skills, strategies, and dispositions.

How can we develop adequate theory when the object that we study rapidly changes? Our field has never faced a conundrum such as this; literacy has generally been static, permitting us, over time, to carefully study and understand it. Recently, a dual-level theory of New Literacies has been proposed to respond to this problem (Leu, Kinzer, Coiro, Castek, & Henry, 2013), conceptualizing theory on two levels: uppercase (New Literacies) and lowercase (new literacies).

New Literacies, as the broader concept, benefits from work taking place in the multiple, lowercase dimensions of *new literacies*, where rapid changes are more easily studied and identified. Lowercase new literacies research currently explores several phenomena in relation to online technologies: 1) the additional social practices and processes required as a result of the Internet such as online writing and communication (e.g. Greenhow, Robelia, & Hughes, 2009); 2) a developing disciplinary base, such as the semiotics of multimodality in online media (e.g., Jewitt & Kress, 2003) or gaming (e.g., Gee, 2003); or 3) a broader conceptual approach such as new literacy studies (e.g., Street, 2003). Common findings across multiple perspectives may then be integrated into a broader New Literacies theory that is likely to be more stable over time. The greater stability of New Literacies theory may provide theoretical direction to inform the multiple and rapidly changing contexts at lowercase levels.

New Literacies, the uppercase theory, includes the common principles that appear across most or all areas. These are likely to be more stable in a context in which the technologies of literacy rapidly change. Eight principles were recently identified to be generally common to multiple lowercase lines of research in new literacies:

1. The Internet is this generation's defining technology for literacy and learning within our global community.
2. The Internet and other technologies require New Literacies to fully access their potential.
3. New Literacies are deictic.
4. New social practices are a central element of New Literacies.
5. New Literacies are multiple, multimodal, and multifaceted, and, as a result, our understanding of them benefits from multiple points of view.
6. Critical literacies are central to New Literacies.
7. New forms of strategic knowledge are required with New Literacies.
8. Teachers become more important, though their role changes, in new literacy classrooms.

(Leu, et al., 2013. p. 1158)

New Literacies theory takes an open-source approach, inviting everyone who systematically studies the Internet's impact on literacy to contribute to theory development and to benefit from others' contributions. This approach permits everyone to fully explore their unique, lowercase perspective of new literacies, allowing scholars to maintain close focus on many different aspects of the rapidly shifting landscape of literacy during a period of rapid change. By assuming change in the model, everyone is open to an evolving definition of New Literacies. This definition evolves based on the most recent and consistently emerging data across multiple perspectives, disciplines, and research traditions.

The purpose of the chapter is to consider a developing perspective for how we might think about writing with a lowercase new literacies lens. We begin with a broad view to look at the changes in writing taking place as new technologies redefine what it means to be a writer. A range of new conceptions about writing are integrated around two ideas: 1) conceptual knowledge about the nature of writing and 2) metacognitive knowledge about the best ways to solve problems that emerge during writing. Next, we focus on the new literacies of writing at two developmental levels: adolescents and young children. Finally, we look across these areas to identify common themes that may be used to describe current work in the new literacies of online writing and communication.

A Broad View of Writing: New Technologies Redefine What It Means to Be a Writer

The mechanical age is being surpassed by a digital age, one that sees an intertwining of digitality and literacy (Stroupe, 2000). Increasing use of the Internet for communication purposes has raised the profile and importance of written communication and has provided us with an ever-shifting array of technologies and modalities for writing (Leu et al., 2013). These technological changes are causing a shift in what it means to be literate (Jewitt and Kress, 2003). The changes require writers to develop both new technological knowledge needed to compose multimodal texts, and it requires that they develop the knowledge needed to function effectively within the ethos that is born of these technological shifts (Lankshear and Knobel, 2007).

In concert with these technological changes, the global economy has moved increasingly away from a long-term stable career model toward a focus on hiring a largely contingent workforce that shifts between jobs as demand requires (Pennell, 2007). While writing knowledge is contextually bound, these trends demonstrate that the contexts in which and from

which people write are legion and shifting (Brandt & Clinton, 2002). The implications of these changes for writing instruction are clear: More than ever before, student writers need to learn not simply how to write specific texts and genres, but more significantly, how *to continually learn to write* across this ever-changing constellation of technologies, modalities and contexts.

This shift in thinking implies a new developmental foundation for today's writers, one focused on developing the capacity to *transfer* (Royer, Mestre, & Dufresne, 2005), *generalize* (Wardle, 2007), or *transform* (Brent, 2011) knowledge about writing learned in one context, so that it can be enacted in new contexts. This focus on *trans-literacy* (Alexander, 2009) repudiates Thorndike and Woodworth's (1901) assertion that knowledge is constructed incrementally instead compelling us to move "beyond a pyramid-like, sequential model of literacy development . . . [because we] expect complex thinking to develop alongside and with beginning skills" (Yancey, 2009, p. 6).

Different models (Smit, 2004; Beaufort, 2007; White, Elliot, & Peckham, in press) have been proposed for articulating this new definition of writing ability. The specific elements of these models can be combined around two broad categories of writing knowledge: "conceptual knowledge about the nature of writing" and "metacognitive knowledge about the best way of solving the problems of writing" (Davies & Birbili, 2000, p 441).

Conceptual Knowledge About Writing

Several frameworks define conceptual knowledge about writing and capture both the technical knowledge and knowledge about how to navigate the new ethos emerging from these new technologies.

Composition as design. The multiliteracies concept of design (New London Group, 1996) shifts our attention away from thinking about writing in terms of products and instead

focuses our attention on the act or process of production. It also highlights the multimodal nature of composition. Written composition has long been associated with visual design elements including font design, choice of margins and line spacing, and the use of headings (George, 2002). Each of these visual design choices is loaded with meaning. In a world of multimodal composition, this becomes especially important (Duncum, 2004, p. 259). *Composition as design* (George, 2002) then, recognizes that multimodal design choices are as important to the creation of text as are choices of diction, syntax, and structure. This concept of design also fits well with socio-cultural theories of transfer as writers repurpose available design material in their own redesign work. During this process, writers draw on collective practice “influenced by global flows of media [and situated] within local contexts” to create meaning (Black, 2009b, p 399). They also draw on intertextual knowledge, which involves “borrowing, appropriating, juxtaposing, blending, remixing, and recontextualizing” material into new texts (Lewison & Heffernan, 2008, p. 457).

Beaufort’s conceptual model of expertise in writing. Beaufort’s (2007) conceptual model describes the broad knowledge domains that writers draw on when engaging in this design work. While the model was developed with a more traditional view of composition in mind, it adequately describes the knowledge domains necessary for multimodal forms of writing as well.

Similar to notions of problem based learning (Savery & Duffy, 1995) composing can be understood as a problem solving exercise. For each writing task, writers are required to deconstruct the rhetorical context for which they are writing, and then create a text that responds to what was learned in the process of deconstruction. Beaufort’s model describes five knowledge domains writers use to solve the writing problems presented to them: Discourse community knowledge, rhetorical knowledge, genre knowledge, writing process knowledge, and

subject matter knowledge.

Discourse community knowledge. Discourse community knowledge involves a writer's ability to understand and respond to the values and expectations of the communities within which or for which one is writing. Failure to meet those expectations reduces a writer's ability to reach or integrate into that discourse community (Alexander, 2009). Within the framework of new literacies, this challenge becomes greater because the capacity to write online exposes writers to an increasingly diverse array of discourse communities. Social networking platforms such as Twitter, Facebook, Blogger and LinkedIn expose writers to multiple online discourse communities with a single posting.

Rhetorical knowledge. Rhetorical knowledge involves the capacity to deliver on the intention that motivates a writer's creation of text. Given its roots in oration, it is not difficult to see how the concept of rhetorical knowledge can be applied to the creation of multimodal text. The New London Group's (1996) concept of design defines rhetorical mechanics as a means to create, imagine, improvise and enact meaning in oral, print, and multimodal contexts (Rice, 2008). The expansion of communication forms available today greatly enhances the challenges involved in developing and applying rhetorical knowledge. Writers need to understand how to deliver on intentions through their choice and organization of words on a page, through the choice and design of images, sounds, and spaces (both virtual and concrete), and through the integration and juxtaposition of design choices across these available modalities.

Genre knowledge. Genres are context specific, complex, and recurring tools used to accomplish work central to a discourse community. They signal insider status, structure ideas in expected ways, establish interactional patterns within communities, and evolve in response to group needs and behaviors. Within the context of a new literacies framework, we understand the

challenge of developing genre knowledge not to be limited to acquiring the capacity to create text that meets the expectations of specific genres. More importantly, it involves developing the capacity to analyze discourse communities, understanding the range of genres employed within those communities, the purposes each of those genres serve, and of how specific features of those genres have been designed to meet the needs of those communities.

Writing process knowledge. Writing process knowledge involves developing an understanding of the skills and strategies involved in the design of text. The Internet has radically changed the way people collaborate on the creation of text. The new ethos that emerges around these collaborative platforms and within the communities that use them redefines writing process knowledge in terms of a participatory process model (Lankshear and Knobel, 2007). Today's writers, then, need to understand more than simply the range of strategies and process tools that will enable them to create texts, they also need to understand how to function effectively within the ethos of the communities within which they are writing (Alexander, 2009).

Subject matter knowledge. Developing subject matter knowledge involves gaining an understanding of both the content one is writing about, and of understanding how one's discourse community understands that subject matter. This is not to say that a text needs to pander to the perspective of the discourse community, but it does mean that regardless of whether or not it agrees with or challenges a community's perspective, such a text needs to at least emerge from a shared understanding of that content.

Metacognitive Knowledge

Both Beaufort's model and the New London Group's concept of design are focused on metacognition – the capacity of writers to make purposeful choices and to reflect upon and refine this decision making process. These models compel us to focus on the development of writing

ability with a view to metacognitive processes more than a view to products. The product, after all, is an imperfect illustration of the metacognitive design work the writer has engaged in: it masks both the gaps between what a writers knows and is able to do, and the gap between what a writer can do and the writer's understanding of why he or she does this.

More pointedly, Hacker, Keener, & Kircher (2009) define writing ability as applied metacognition. The theory of writing they propose emphasizes both the monitoring and control functions of metacognitive thought. Within this model, reading, re-reading, reflecting, editing, drafting, idea generation, word production, translation, diagnosing, and revision are used as either monitoring or control strategies that drive text creation (p. 161).

Current metacognitive theory recognizes that both socio-cultural and historical realities of literacy along with an individual's cognitive processes interact in the process of creating text (Hacker, Keener, & Kircher, 2009). Similarly, the concept of design is an attempt to explain how we make meaning through various communication technologies as situated individuals who both act and are acted upon the cultures in which we live (Sefton-Green, 2006).

Situated metacognition. Conceptualizing writing as situated metacognition carries with it implications for teaching, assessment, and research into how writing ability develops. When we study the development of writing ability, we need to understand how development occurs, both in terms of the contextual factors that support or hinder development and in terms of the intrapersonal factors that shape development. This ecological model of development acknowledges that individuals, their knowledge about writing, and the social contexts in which they write are all dynamic (Roozen, 2009; Beach, 1999; Tuomi-Gröhn & Engeström, 2003). Few studies using an ecological lens focus on the role that intrapersonal factors play in the development of writing ability (Slomp, 2012). Yet, evidence that intrapersonal factors in writing

development matter is clear. O’Byrne & McVerry (2009) for example, point out that an individual’s disposition toward technology is important to their online reading ability. Clearly, this would also impact their online writing ability as well. Rowsell & Pahl (2007) demonstrate that the texts children create “hold traces of literacy practices that tap into prior experiences and sediment layers of identities, social practices, and dispositions learned at home and school” (Wohlwend, 2009, p. 59). And, Pajares (2003) demonstrates that students’ self-beliefs can have either positive or negative impacts on their development as writers.

Driscoll and Wells (2012) and Slomp (2012) make the point that a new literacies conception of writing necessitates a more complex research agenda than earlier conceptions demanded. It requires examining the intrapersonal, institutional, and broader contextual factors that shape the demands that writers face, and it requires an examination of how writers acquire and repurpose knowledge about writing as they apply it across a range of contexts. In our current moments of transition within the field, it also demands that we pay attention to how new literacies are being taken up in schools, and to the contextual factors that either support or limit the adoption of these new literacies practices in schools.

Adolescents and Writing in an Age of New Literacies

Adolescents are often considered the innovators and trendsetters of our society (Tufte, Rasmussen, & Christensen, 2005), rapidly pushing the boundaries of writing and language, more generally. What does this mean for the secondary English classroom? This section examines this issue.

Adolescents’ Out-of-school Writing Practices

Outside the classroom, students are developing highly-skilled new literacy practices that extend far beyond traditional notions of writing. For the most part, however, these out-of-school

literacies go undervalued and the potential knowledge transfer unrecognized (Alvermann, 2011). A growing body of research on adolescents' out-of-school literacies shows teens developing skills, strategies, dispositions, and social practices across a range of communication technologies such as video games (Gee, 2003), digital storytelling (Hull & Katz, 2006), Instant Messaging (Lewis & Fabos, 2005), and online fan fiction (Black, 2009).

As Sanford and Madill (2007) noted in their study about understanding new literacies through video game play and design, the “unique richness of [adolescent boys'] literate lives is not being recognized in school” and “teachers do not understand or ignore many of their literacy practices” (p. 435). The researchers discovered that, despite participants' lack of success on traditional literacy assessments, the participants in the study demonstrated tremendous skill with reading and writing “non-linear, multi-layered, intertextual texts, as well as reading [and writing] images and other semiotic sign systems” (Sanford & Madill, 2007, p. 434). A growing number of researchers are recognizing the value of literacy and problem solving practices developed through video game play (Gee, 2003; Lankshear & Knobel, 2003).

Of course it is not only through video games that students are developing these highly skilled new literacies practices. In a multi-year digital storytelling project set in a community center, Hull and Katz (2006) document how two young adults became emerging authors while engendering in themselves a sense of agency, all the while developing highly technical multimedia skills. Yet another study looked at the functions of Instant Messaging among youth documenting how the teens used IMing to manipulate tone, voice, word choice, and subject matter; designed complex social relationships and statuses across contexts; circulated certain texts while combating unwanted ones, assumed alternative identities, and found ways around gatekeeping designed to keep their IMing restricted (Lewis & Fabos, 2005). Research is also

mounting regarding how English language learners use technology to extend other technological and language skills. For example, youth participating in online fan fiction communicated using multiple forms of language and multimodal representations, developed transnational social networks, and experimented with new genres and formats for composition (Black, 2009). Yet while adolescents increasingly experiment with notions of writing in and out of school settings, these new forms of literacies are not always recognized at school (Chandler-Olcott & Mahar, 2003).

Challenges with Integrating New Communication Practices in the Classroom

Research has uncovered a number of challenges with integrating new communication practices in the secondary classroom. An important disincentive to teaching new communication practices is that, by and large, these are not a part of the construct included in large-scale writing assessments (Slomp, Corrigan, & Sugimoto, 2014; Stagg Peterson, McClay, & Main, 2011). Indeed, it would seem that if it is tested, it will be taught. In assessment, this refers to the concept of washback, the extent to which a test influences what is, or is not, being taught in the classroom (Messick, 1996). Stagg Peterson et al. (2011) problematize the lack of large-scale assessments of new literacies by highlighting how removed these tests are from the “actual literacy practices of literate people” (p. 439) and warn about the growing irrelevance of such out-dated tests.

Out-dated standardized testing alone cannot be blamed for the deficit of digital writing. Various studies cite lack of proper infrastructure to be a factor in discouraging teachers from implementing new communication practices; for example, it is not uncommon for a computer to be shared among five or more students (Honan, 2008; Lowther, Ross, & Morrison, 2003). Another barrier to implementation is teachers’ lack of knowledge regarding new semiotic

systems associated with new literacies (Bruce, 2009). The words of a teacher participant in Honan's (2008) study of the barriers teachers face in implementing digital texts in the literacy classroom are telling: "you treat digital texts the way you would treat any other texts," (p. 42) said one teacher, a point with which the other teacher participants agreed. Many teachers are either afraid to lose their role of "sage on the stage" as teens bring an impressive array of expertise into the classroom; or, like the teacher in Honan's study, they remain unaware of the differences. Whatever the trajectory may be for new literacies in the classroom, one thing is certain: teachers will play a central role in determining what new communication practices, if any, will be implemented, as well as how they will be implemented (Edwards-Groves, 2011).

When secondary schools do implement new literacy practices, they face a variety of challenges. One challenge schools face is providing appropriate professional development so that teachers can focus on supporting the development of new social practices as well as the encoding and decoding of digital texts, rather than technical or operational skills such as keyboarding, word processing, and using various software (Honan, 2008). Teachers' over attention to technical skills stems from their failure to understand the new literacies that their students bring to the classroom, and how students might transpose skills gained from using new technologies into new contexts (Honan, 2008).

In addition, teachers often require training to incorporate additional instructional approaches into their classrooms that are consistent with the communication and problem-solving affordances that exist with digital technologies. Researchers cite the need for students to develop computer skills applicable to solving real-life problems; as such, "constructivist theoretical orientations encourage student uses of the computer-as-a-tool for active inquiry and problem solving" (Lowther et al., 2003, p. 24). This orientation runs contrary to what sometimes

happens in the classroom where technology is used in teacher-centered approaches as simply a presentation tool, a means of entertainment, and a way to have students practice skills (Lowther et al., 2003; Windschitl & Sahl, 2002). Even in schools with one-to-one laptop programs, teachers often maintained teacher-centered approaches reflective of their school's institutional practices and their beliefs about what constitutes good teaching—unless otherwise dissatisfied with these approaches (Windschitl & Sahl, 2002).

In terms of promising practices regarding the integration of new communication technologies, studies show how some innovative classrooms bridge learning between in-school and out-of-school literacy practices via a productive *third space* where “alternative and competing discourses and positionings transform conflict and difference into rich zones of collaboration and learning” (Gutiérrez, Baquedano-López, & Tejada, 1999, p. 286). In such a third space, teachers recognize the competing discourses that students bring to the classroom not from a deficit model (focusing on how students fail to appropriate standard English and academic discourse), but rather from the perspective of harnessing the diversity and complexity of a variety of literary practices, both digital and cultural, to enrich and extend communication. For example, in a study of students' blogging practices in an 11th-grade Advanced Placement American literature class, teacher/researcher Kathleen West (2008) noticed students using hybridized discursive patterns, as formal academic and informal digital languages competed for primacy. Students played with identities, at times assuming the identity of a Web-savvy communicator by appropriating conventions associated with texting and IMing such as an informal discourse style; the frequent use of abbreviations and acronyms; and a relaxed stance towards standard English. At other times, students assumed the role of the literary scholar by evaluating characters, defending theories, and developing complex argumentation. Assuming

different identities in a third space often allows students to take risks in the classroom while exploring challenging concepts (West, 2008).

While research is accruing regarding the role of third space (Lotherington, 2004; Smythe & Neufeld, 2010), other research also shows successful new communication practices in a more traditional, discipline-specific manner. Many disciplines now rely on multimodal representations to communicate knowledge and ideas. New literacies recognizes that literacy is about more than letteracy (Lankshear & Knobel, 2008), instead viewing literacies as multiple, multifaceted, and multimodal. Studies are accruing that show that benefits of multimodality for learning disciplinary practices for representing ideas, and also as a means of differentiating instruction and assessment. Gunel, Hand, and Gunduz (2006), for example, discovered that students who were required to represent their thinking using a greater range of modalities outperformed a control group. Studies also show that multimodal communication helps to differentiate instruction and assessment, although these studies concerned primary students (Smythe & Neufeld, 2010; Sylvester & Greenidge, 2009); further studies are needed concerning this topic for secondary students.

Young Children and Writing in an Age of New Literacies

Knowing about the early development of new literacies in writing can inform our ability to support student growth in this area at all ages (Marsh, 2011). As we review the research that exists with young children and writing, three patterns arise. First, a paucity of studies examine young children's writing and new literacies. Next, studies of young children tend to examine writing as the creation of a common genre product rather than written communication between the student and others. Finally, existing studies use a relatively narrow range of research methodologies.

A Paucity of Studies Examine Young Children's Writing and New Literacies

Despite the importance of this area, few studies are currently available that systematically study young children's writing and new literacies. Of the few studies that exist, some examine out-of-school contexts while others examine writing and new literacies work in the classroom through a multimodal lens. Relatively few studies, to date, examine writing in the classroom with Internet technologies.

Out of school contexts. Wollman-Bonilla (2003) studied one six-year-old's use of email at home before the school year began. A variety of differences between the child's handwritten messages and the email exchanges appeared. The email messages were abbreviated, informal, and lacked the use of more typical conventions as compared with handwritten products. In another study of a popular virtual world, children used online communication to develop identities and experience with online interactions. Marsh (2011) observed children, ages 5-11, interacting online in Club Penguin. In this study, online writing served to create and maintain a sense of social order and friendships. Children negotiated online interaction order as they participated in the virtual world. Knowledge of and skill with determining an effective interaction sequence seemed to be an important new literacies skill. While these studies provide an initial look at new literacies, writing, and young children, we need to understand much more about how embedding new literacies instruction in young children's classrooms influences their written communication skills, strategies, and dispositions.

Writing and new literacies work in the classroom through a multimodal lens. Edwards-Groves (2011), Ranker (2007), Schaenen (2013), and Vincent (2006) examined the role of technology and media in children's creation of multimodal products. These studies examined writing, through the lens of design, and considered the choices children made with available

media and technology, especially composing with multiple modes like text, image, etc. This research seems to suggest that teachers and researchers should reexamine what is considered “text”, to include multimodal elements. Findings demonstrate that expanding our definition of text in this way can scaffold children’s complex understandings, shed light on their identities as writers, and bring together in school the digital media conventions children experience outside of school. However, these studies of multimodality, while conducted in classroom contexts, did not examine writing and new literacies in online contexts.

Writing in the classroom using Internet technologies. A few studies of new literacies and writing in classroom contexts begin to do this. Handsfield, Dean & Cielocha (2009) examined the use of blogs in fourth grade classrooms and discovered that students increased attention to revision and editing because they were writing for their peers who would read their writing on the blog. Zawilinski (2012) found that, while communicating with one another on a blog, first and fifth graders developed new literacies specific to written communication. In addition, young students were quite willing to teach new literacies strategies to one another and their teachers. Pifarré and Li (2012) examined the use of a wiki to support collaborative learning in a primary classroom. Findings in this study suggest the importance of clearly defining the task, the role of the student and the role of the teacher. When these elements are considered, a wiki was found to enhance student collaboration and learning. Merchant (2009) examined the use of a 3D virtual world in primary classrooms. Findings suggest a disconnect between classroom routines around literacy and the new forms of literacy necessary when participating in digital and virtual contexts.

The studies reviewed suggest that the integration of Internet communication technologies within the classrooms of young children is rare, but can be beneficial. Young children can

develop new literacies. Also, collaborative learning can be enhanced when Internet technologies are included within classroom instruction. However, most of the current research on writing instruction seems to emphasize creating written products rather than ongoing communication using Internet technologies.

Writing as the Creation of a Traditional Genre Product Rather Than as Written Communication

Current research, examining in-school writing and new literacies, is often focused on traditional offline genres such as narrative and biographies using digital tools such as word processors. Work exploring young children's use of online tools to communicate through writing is limited. Lotherington (2005) examined the creation of digital, postmodern fairy tales. Ranker (2007) and Sylvester (2009) examined students' creation of digital stories. In a study of children's writing and multimodal communication, Schaenen (2013) examined young children's identity as writers through the composing of biography, and argument artifacts. Many studies focus on the genres associated with traditional, school writing, and prioritize text over other elements (images, video etc.) that communicate information and support understanding. Vincent (2006) noted that multimodal literacies are not necessarily valued in young children's curriculum suggesting that print-centric perceptions exist in writing classrooms with young children.

In a recent study, Hawkins and Razali (2012) examined primary documents from the last 100 years of elementary writing instruction and found that writing instruction has focused on penmanship, product, and process. They note that entire sections of recent curriculum guides focus on the creation of a variety of genre products (Hawkins & Razali, 2012). Cutler and Graham (2008) surveyed primary grade teachers about their writing instruction. Survey items included typical writing products (e.g. book reports, personal narrative and biographies) to the

exclusion of other types of written communication. The creation of traditional written products of specific genres, primarily narrative, seems to dominate recent studies of young children's writing in school.

With much of the focus on the construction of traditional genres, there has only been limited research into online written communication with young children. Missing in classroom research is writing instruction that emphasizes the audience's needs, an important aspect of written communication online. The audience for student writing in traditional genres is typically some distant, unknown other or the teacher and classmates. Thus, studies appear to emphasize some of Beaufort's (2007) concepts, namely genre knowledge and writing process knowledge, but largely exclude discourse community knowledge beyond the school or the classroom. This seems problematic, as understanding audience needs is important during online communication, a skill important to our students' future.

The Internet contexts that currently exist require the communicator or producer of the message to consider the reader, receiver, or audience. The failure to teach young children to think about an audience for written communication is an important issue. Perhaps more opportunities to communicate with others through safe Internet technologies would provide a necessary first step in developing broader discourse community knowledge. In addition, if considered from Bronfenbrenner and Morris's (2006) bioecological model of human development mentioned earlier, "proximal processes—socially constructed methods of interaction between individuals, objects, and symbols within a person's environment," could be developed earlier rather than later. Providing opportunities for young students to interact with others, through written communication online, might be a useful step in a developmental trajectory for supporting the acquisition of new literacies in writing.

Existing Studies Use a Relatively Narrow Range of Research Methodologies

A focus on qualitative designs and small sample sizes is not surprising given the sparse research corpora examining young children, writing, and new literacies. The majority of studies of young children's writing and new literacies have utilized a case study design (see Edwards-Groves, 2011; Ranker, 2007; Schaenen, 2013; and Vincent, 2006 for example.) In addition, many of the studies used either multimodal, semiotic, or discourse analytic methods of data analysis. These methods provide important information upon which other studies can build. However, the complexity of writing, new literacies, and communication call for increased attention to additional and multiple types of designs and methods of analysis. For example, design-based research (Barab & Squire, 2004) and formative experiment designs (Reinking & Bradley, 2008) might provide direction about how best to organize and integrate online written communication with other classrooms. These types of studies, examining the communication shared between students through both multimodal and new literacies lenses, might provide important information about the skills, strategies, and dispositions developed as children communicate through online writing. These approaches may help researchers and practitioners to better understand the developmental trajectory, beginning in early grades, necessary to help prepare students for the complex, participatory, society that awaits them.

Patterns in The New Literacies of Online Writing and Communication Research

The purpose of the chapter has been to develop an initial perspective for how we might think about writing within a lowercase new literacies lens. Our review has considered research from both a broad perspective as well as from two developmental levels: adolescents and young children. Several initial patterns have emerged.

It is clear the Internet is bringing about profound changes in the nature of writing,

especially as it increases the use of writing for online communication. It is also clear that we are only beginning to consider these changes in our research and in classrooms as we rethink the nature of writing in an online world. Much more will be required in both areas.

As youth are often innovators with respect to the adoption and use of technology, we need to ensure that the gap between their out of school writing practices are linked to their in school writing experiences. Perhaps, as Comber and Kamler (2005) suggest, we now require “turn-around” pedagogies for reconnecting youth with the academic literacies of school. Our review of research indicates an important need to engage to identify the factors and strategies affecting successful integration of new literacy practices with writing in school classrooms. We have far too little research from far too limited a set of methodologies to thoughtfully inform our way forward with developing online writing ability. The need is especially acute among our youngest students.

Studying writing within a new literacies framework also requires a focus on how writing ability develops from the earliest levels to the highest levels of proficiency as well as how transferable knowledge about writing is cultivated. This work needs to recognize the complete and complex nature of development. Without looking at the full picture -- person, context, and time -- in which writing tasks are completed it is difficult to understand when and how this transfer is or is not occurring (Slomp, 2012).

Related is the need to understand the challenges that teachers face as they work to implement changes in writing pedagogies. As with students, teacher development is best understood through a rich and complex lens. Person, context, and time all play a role in determining the extent to which change does or does not occur. Specifically, the research we reviewed points to challenges related to the following: intrapersonal factors such as teachers’

resistance to new technologies, decentered classrooms, and distribution of expertise within the classroom; contexts such as the constraints imposed by high stakes assessment and issues connected to accessing new technologies; and the speed with which technological change is occurring today. The latter poses special challenges for the reconceptualization of research, teaching, and assessment practices.

The more we learn about writing, the development of writing ability, and the teaching of writing, the more complex we realize this work to be. This complexity highlights the need for more integrated theories of writing, writing development, writing pedagogies, and writing assessment practices within new literacies practices. It also highlights the need for more integrated approaches to researching these issues, including the use of a greater variety of research methodologies. Clearly, we have much to discover together

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