

Ecology

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Keyword Essay

Within community literacy scholarship, ecological perspectives are used to characterize the literacy and language practices of various groups. Director of the Lancaster Literacy Research Centre, David Barton draws from biology to theorize ecology as the study of “the interrelationship of an area of human activity and its environment. It is concerned with how the activity—literacy in this case—is part of the environment and at the same time influences and is influenced by the environment” (29). The reciprocal nature of ecologies, and the way they account for the distribution, influence, and movement of organisms within and between environments makes ecology an ideal term for characterizing the relationships among groups, technologies, and cultures that influence the ways individuals learn, communicate, and interact with one another. In this keyword essay, I will highlight the appropriateness of ecology for describing networked communication and literacy practices, as well as offer an overview of how compositionists and community literacy practitioners have used ecological approaches in the work they do.

It is necessary here to distinguish an ecological approach from one that is exclusively environmental. In 1989, environmentalist David Orr defined ecological literacy as “the demanding capacity to distinguish between health and disease in natural systems and to understand their relation to health and disease in human ones; knowledge of this sort is best acquired out of doors” (334). Ecological literacy in this respect is concerned with reading the natural environment. Orr’s call for increased environmental awareness and attention to the ways humans impact environments remains increasingly urgent. However, this keyword essay focuses instead on how scholars and practitioners have adopted ecological metaphors to characterize literacy environments. The ecological approach I examine aligns more closely with that of ecocomposition theories than those of the ecological literacy Orr defines. In their *Natural Discourse: Toward Ecocomposition*, Sid Dobrin and Christian Weisser define ecocomposition as “the study of the relationships between environments (and by that we mean natural, constructed, and even imagined places) and discourse (seeking, writing, and thinking)” (6). Dobrin and Weisser’s approach does not exclude environmental concerns but instead makes the role of language and discourse central in making those concerns visible. As Rhonda Davis suggests in her discussion of ecocomposition and community literacy, “while ecological literacy and the pedagogical approaches that result do not focus exclusively on environmental concerns, they have the potential to expand participants’ awareness of such concerns” (80).

Literacy and Composing Ecologies

Before turning to ways that community literacy practitioners have used ecologies to explain the work they do, it is important to understand how ecologies have come to characterize writing environments and literacy practices. Margaret Syverson's *The Wealth of Reality: An Ecology of Composition* provides a theoretical framework for studying composing processes by situating them within ecological systems. Using biological and cognitive theories, Syverson explains how concepts of distribution, emergence, embodiment, and enaction appear in writing environments and complicate our understanding of how writers compose. Syverson's definition of writing ecologies extends beyond those of writers like Marilyn Cooper, whose approach to ecologies, according to Syverson, "is rather sketchy and limited to social interactions via ideas, purposes, interpersonal interactions, cultural norms, and textual forms" (24). Instead, Syverson's definition of composing ecologies is grounded in multidisciplinary theories of complex systems, which involve a "network of independent agents—people, atoms, neurons, or molecules, for instance—[who] act and interact in parallel with each other, simultaneously reacting to and co-constructing their own environment" (3). To ground this theory, Syverson draws from biology and physics, while also looking to cognitive science, communications, philosophy, and economics (2). Adopting Syverson's ecological approach requires theorists to "take into account the complex interrelationships in which the writing is embedded; the people and texts that form a larger conversation in which the writer, text, and reader participate and from which the 'ideas' emerge to take written shape" (6). This expanded understanding of the writing process goes beyond looking at the writer, text, and composing situation as discrete elements and requires a more integrated and networked view of writing.

Because Syverson's approach accounts for multiple components of a writing situation, including psychological, material, social, and cognitive dimensions of writing, her view of composition ecologies is useful for understanding the larger structures that surround writing environments. Syverson uses case studies of writers and readers to examine diverse sites of composing in her manuscript, looking to Charles Reznikoff's autobiographical poetry, a composition classroom, and a Gulf War computer forum made up of scientists. These varied examples are important to community literacy practitioners as they highlight how malleable Syverson's ecological theorizations are to numerous sites of analysis.

While Syverson outlines a multifaceted approach to understanding writing, other theorists have used ecological perspectives to characterize literacy development. For instance, Kirsten Kainz and Lynne Vernon-Feagans examine the sociocultural influences on reading development with a cohort of "economically disadvantaged children" (407); while Gutiérrez et al. study the polylingual learning ecologies of children's linguistic repertoires. David Barton's 1994 *Literacy: An Introduction to the Ecology of Written Language* uses an ecological metaphor to define and explain the multiple social and linguistic factors involved in literacy development. Seeing literacy as a set of "social practices associated with particular symbol systems and their related technologies," Barton draws on an ecological metaphor to develop his integrated view

of literacy learning (32). Barton suggests that “rather than isolating literacy activities from everything else in order to understand them, an ecological approach aims to understand how literacy is embedded in other human activity, its embeddedness in social life and in thought, and its position in history, language and learning” (32). Barton’s text is characterized as an introductory approach to the field of literacy and examines literacy acquisition beyond educational practices from both local and global perspectives, focusing on child and adult print literacy acquisition, language development, and multilingual literacy practices.

Ecological Approaches to Community Literacy

Recent community literacy scholarship has argued for the importance of practitioners to adopt an ecopedagogical stance. Rhonda Davis examines the connections between ecopedagogy and community literacy in her 2013 article “A Place for Ecopedagogy in Community Literacy,” demonstrating how “literacy as an ecological act delves into the ways compositionists and community literacy practitioners see themselves in relation to the world and the positive potential of holding such a view” (79). Davis’ ecopedagogy centers on local concerns and community building by “plac[ing] ecoliteracy at the center and oppos[ing] the globalization of ideologies such as neoliberalism and imperialism that may hinder local literacy efforts” (78). Such a framework requires local, expert, and societal knowledge in order to better assess and find solutions for particular community needs. Davis draws from critical pedagogy and ecoliteracy in order to “guide teachers and practitioners of all types not only to see the collective potential of human beings, but to develop an appreciation for it and foster social justice” (78). Her article applies ecopedagogy to Lorraine Higgins, Elenore Long, and Linda Flower’s rhetorical model of community literacy as a way to showcase its applicability for community literacy practitioners. Ultimately, Davis aims to showcase how “ecopedagogy is a unique and powerful pedagogical strategy in which to frame an approach to service learning programs and other activities engaged in the goals of community literacy” (83). Encouraging a reflective pedagogy that recognizes the impact of various relationships is echoed through the community literacy work focusing on ecologies.

While Davis argues for community literacy practitioners to adopt an ecological approach more broadly, much of the scholarship in community literacy uses ecological metaphors to account for the literacy practices of particular groups. For instance, Martin Paviour-Smith uses an ecological metaphor to examine the home-based language acquisition practices of a community in the Republic of Vanuatu. Using an ethnographic approach, Paviour-Smith traces the use of English, French, Bislama, and Aulua in different contexts to explore vernacular literacies and language dominance. In another article, Lynn Mario T. Menezes de Souza discusses multimodal writing practices of members of the Kashinawà community in Brazil. To avoid the privileging of alphabetic texts over the visual texts produced by community members, he proposes “the need for a reappraisal of the status of local indigenous knowledges and their

interaction with what are considered to be nonlocal (universal?) theories of literacy and writing on which policies of indigenous education may be unsuspectingly, and therefore, uncritically based” (262). Both Paviour-Smith and de Souza account for the larger material and sociocultural dimensions of the communities they examine in order to explore localized language use and visual writing practices that value indigenous forms of meaning making.

Further examples of community research present themselves in an ecological themed volume of *The Encyclopedia of Language and Education*. In the “Introduction to Volume 9: Ecology of Language,” Angela Creese and Peter Martin open this edited collection by focusing on how contributors explore the local and situated networks of the groups they study. An ecological perspective for Creese and Martin offers a framework for describing and deconstructing the relationships between speakers and the languages and literacies that make up their lives. They define language ecology as “the study of diversity within specific sociopolitical settings,” challenging hierarchies and hegemonies located in “perceived natural language orders” (xii-xiv). Thus, the study of language ecologies takes on an unruly tone, disrupting normalized structures and calling into question organizing hierarchies. While the focus of the larger volume is to examine theoretical debates within language ecologies in more detail, the sections of interest to community literacy practitioners are those that disrupt the relationships between individuals and literacy practices in particular situations. For example, Sandra Kipp examines multilingual history and language preservation in Australia; Angela Creese and Peter Martin explore Gujarati language practices in community schools in England; Angel M.Y. Lin analyses the hybrid writing practices of Cantonese speakers in Hong Kong; and Kate Pahl questions the social relationships present in various home, education, and community discourses.

Within Creese and Martin’s collection is Karin Tusting’s review essay, “Ecologies of New Literacies: Implications for Education,” which chronicles new literacy research beginning in the mid-1990s. Tusting’s aim in the article is to describe “an ecological perspective on new literacies, which studies how changing literacy practices are intimately associated with networks of changing social practices and technologies, from local to global levels” (317). The ecological view that Tusting forwards is one that sees a reciprocal relationship between the emergence of new literacies and their contexts of use. Within new literacy studies, Tusting examines how learning practices and environments change with the addition of multimodal technologies. Tusting reviews research looking at the influences of new literacies in a number of contexts including Richard Lanham’s and Nancy Kaplan’s research on the emergence of ‘e-literacies’ in the 1990s; Jackie Marsh’s research on young children’s exposure to popular culture, multimedia, and digital technologies in home environments; James Gee and Beth Cross’ work on video game learning and players; as well as Bill Cope and Mary Kalantzis’ global and multicultural analyses of multimodal teaching, to name a few of the texts she examines. Ultimately, Tusting suggests that further research into the role of insiders and outsiders in new literacy studies is needed, as we see shifting perspectives between young “technological ‘insiders’” and those of the generations before them (327).

Within new literacies, Syverson's ecological theorizations gain scholarly ground. In a 2008 *Literacy* article, she applies her ecological model of distribution, emergence, embodiment, and enaction to literacy learning more specifically, as this model "takes into account the complex ecosystems within which teachers and learners learn, adapt, interact, communicate, and connect" (109). Stating that a linear and sequential view of literacy learning is insufficient to account for the way individuals learn in increasingly technological environments, Syverson offers an ecological approach that goes beyond a focus on the individual to account for the complex systems of networks that are constantly in flux. Because literacy learning increasingly takes place in technological environments, which Syverson suggests are characterized by "randomness and spontaneity, not predictability; by diversity and plurality, not standardization; and by uncertainty, not certainty," this literacy learning landscape calls for an ecological approach that considers "connections, relationships, flows, and dynamics of change over time" (110). Syverson uses the Learning Record, which looks at a multitude of data from numerous contexts to determine how and what individuals are learning, as an alternative framework to better understand the complexities of literacy learning (112-14). While a model like the Learning Record has limitations which Syverson addresses, this framework is one that is more apt to account for the complexities involved in literacy learning in networked environments.

Ecological metaphors have played an important role allowing community literacy practitioners and theorists to more closely examine various environments where reading, writing, and language development take place. Ecological views take into account the individual, environmental, material, and sociocultural factors that influence learning outcomes in a number of situations and recognize the impact and disruptive potential of multiple variables in such environments. The research cited in this essay showcases a myriad of approaches to ecological metaphors that theorists and practitioners have adopted to account for the literacy practices in the environments they study.

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