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Socio-spatial Approaches to Literacy Studies

Rethinking the Social Constitution and Politics of Space SOCIO-SPATIAL APPROACHES TO LITERACY STUDIES

I have become convinced that the implicit assumptions we make about space are important, and that, maybe, it could be productive to think about space differently (Massey 2005: 1)

Introduction

Attention to space and the spatiality of literacy practice is increasingly inspiring new ways of analysing literacy research, and in particular, research that describes and traces flows, networks, and connections between literacy practices within and across specific social spaces, such as school and home (Bulfin and North 2007; Nespor 1997, 2008; Pahl 2001), the library (Nixon 2003), the mall (Moja 2004), after-school contexts (Brass 2008), prisons (Wilson 2004), and virtual environments (Valk 2008). The reassertion of space in literacy studies has been referred to as the "spatial turn", and can be seen as complementary and parallel to other shifts in literacy research, including the social (e.g. Gee 1992; Street 1995), the critical (e.g. Comber and Simpson 2001; Luke 1998), and the digital turn (Mills 2010b). The concept of "space" in this chapter is not simply a response to the "now-fashionable attachment" of theorists "to geographical facts and spatial metaphors" (Soja 2004: ix). Rather, the first principle of socio-spatial literacy studies is that language practices are distributed socio-geographically, appearing in distinct forms in certain social sites, having both similarities and distinctions to literacy practices in other social spaces. At the same time spaces such as classrooms are not considered as mere containers in which literacy practices occur. Rather, spatiality in literacy studies includes the socio-material effects and relations of space-time in relation to literacy practices, including the temporal dimension of flows or connections between literacy practices, textual artefacts, technologies for textual production, locations of literacy practices and texts, networks, social actors, and communities of practice.

A second key proposition of spatial approaches to literacy is the understanding that space and literacy practices are socially produced, as are the organisation and meaning of spaces. This view

of space applies the contributions of social and cultural geography by authors such as Henry Lefebvre (1991), Edward Soja (1996), and Massey (2005). More recently, educational researchers have begun to examine the spatial dimension of literacy practices in a way that foregrounds space, and that considers space as constitutive of human relations and practices (Gulson and Symes 2007a). Applied to literacy studies, spatial approaches to literacy often consider the social and spatial stratification of literacy practices, power, economy and literacy, and modes of ideology. Such approaches have addressed equity and the distribution of literacy practices, and spatial patterns of marginalisation and domination in relation to literacy practices and societal structures. For example, some social spaces, such as schools, libraries, and workplaces, provide homogenising contexts for certain literacy practices, permitting some practices and excluding others (e.g. Gutierrez and Larson 2007). To gain a sense of the scope of spatial theories in the social sciences throughout this century, consider the volume Key Thinkers on Space and Place by Hubbard et al. (2011). This work is devoted to explaining significant breakthroughs by over 60 prominent social scientists in the understanding of, and relations between, space and place, and the shaping of cultural, social, economic, and political life. Not surprisingly, it highlights the work of many interdisciplinary scholars – Bhaba, Bourdieu, Castells, Foucault, hooks, Said, Soja, Williams, and others – whose ideas about space have been productively applied to the analysis of many significant domains of social activity – including literacy studies. The authors of the collection acknowledge that in identifying what counts as "key thinkers" they have regrettably privileged the contributions of white male academics that have gained the most repute in this field. At the same time, they excluded over 100 other contributors to theorisation of social space, due to limitations of "space" in one volume. A good number of these theorists, both "key thinkers" as well those deemed as peripheral, have argued that the spaces in which we live, learn, and work – whether it be school or home, town or city, physical or virtual (e.g. online communities) - are socially constructed as spatial geographies that shape our lives in various ways. An example of this is Lefebvre's (1968) highly acclaimed work on urbanism and contested rights to the city. As Fenwick et al. (2011: 130) interprets Lefebvre (1996): "Space is too important to be left to social geographers." These approaches that give priority to spatial themes in social and cultural geography have led to new theorisations of space as it pertains to literacy studies. For example, literacy theorists have borrowed Soja's term "Thirdspace" to take on a new meaning for literacy studies (Gutierrez 2008; Lynch 2008; Moje et al. 2004),

These approaches that give priority to spatial themes in social and cultural geography have led to new theorisations of space as it pertains to literacy studies. For example, literacy theorists have borrowed Soja's term "Thirdspace" to take on a new meaning for literacy studies (Gutierrez 2008; Lynch 2008; Moje et al. 2004), "spatial theories" (Gulson and Symes 2007b), "spatialised literacy" (Leander and Sheehy 2004), and "geosemiotic" approaches to language and discourse that "study the social meaning of the material placement of signs...discourses and...actions in the material world" (Scollon and Scollon 2003: 2). There is an understanding that systems of signs are always located and exist relationally in the material or spatial world, and that literacy is more than a mental construct, which can never be detached from the space-time dimensions in which it is practiced. Indeed, Burnett emphasises literacy practices are as much about "the stuff which is physically present as we make meanings, such as bodies, screen, artefacts and texts" (see chapter X, p 520 of this volume).

Critical spatial perspectives: The politics of space

The recognition of the social production of space can be coupled with an acknowledgement of the politics of space. Theories of social power have influenced both spatial approaches to literacy research, and social theories of space more broadly. Power relations – economic, political, social, cultural, and gendered – influence the social stratification of space in society. Soja (2004) argues that it was largely the work of Lefebvre (1974, 1991) that initially moved the field from what had been primarily a time-centred or historical interpretation of critical

thought, towards a critical sociology that concerned itself with questions about space. More specifically, Lefebvre foregrounded a critical orientation that acknowledged that spatiality, and indeed, society, history, and geography were mutually constituted. Lefebvre argued convincingly that our perceived space of everyday lived experience is influenced by the geopolitics of capitalist nation-states, such as the way in which geographical space is distributed in lots, property is owned, and one must have rights to spaces – determined as public or private (Lefebvre 1991). Laws govern the accessibility and use of space, and resistance to these rules (e.g. illegal squatters) is enforced. Hence, he showed that the struggles over ownership of geographical spaces are politically contested and influenced by power relations.

The critical interplay of power and the use of social space was a central theme in work of other social theorists, of whom Foucault is one of the most widely cited. For example, the disciplinary power of institutional spaces on the body, and the production of human subjects, were important themes in Foucault's late 70's volume, *Discipline and Punish* (e.g. Foucault 1977). This work traced the increase of prisons and reformatories of nineteenth century Europe, theorising how the state subtly disciplined human subjects into docile minds and bodies, compliant with the functioning of capitalist accumulation and civic responsibility. Foucault argued that the end result is that human subjects find themselves reduced of capacity for truly independent action, and little opportunity to shift positions, whether within institutions or broader national territories. As Elden (2001) argues, Foucault's historical studies continued to be thoroughly spatial, leaving a legacy of work that deals with the intersections of space and power, and to historical mapping of power, both of the past, and the present.

The implications of the spatial turn on educational research did not begin to thrive until the late twentieth century, when theorists examined the potentials of social constructionist spatial theories for analysing schooling. Researchers became concerned with the ways in which spatial theories allow new understandings of educational problems, such as issues of educational inequality and how power is enacted spatially (Gulson and Symes 2007a). Applications of the work of Lefebvre, Massey and Soja have been influential in such analyses of educational inequality. Many of the chapters in the work of Gulson and Symes (2007a) address educational inequities through geospatial themes and populations, such as the "spatialization of urban inequality" and education (Lipman 2007), the "in/visible geographies of school exclusion" (Thomson 2007), and "space, equity and rural education" (Green and Letts 2007). Importantly for literacy studies this work emphasizes that "students and parents are not just traversing "empty space", they are actively engaged in constituting, and being constituted by, space and places" (Gulson 2007: 50). Indeed, spatial approaches to educational policy and practice demonstrate the non-neutrality of space in a similar way to which critical literacy theorists address the always political ideologies of language practices and their effects.

The implications of critical sociology to understanding the politics of space (see: Soja 2010) are no less central to literacy research. This is because the distribution of space and the control of human subjects within the institution of schooling are not exempt from the fundamental workings of power. Literate training, from the very beginning of compulsory schooling, can be seen as a form of moral and political discipline. One of the earliest scholarly theorisations of spatial and social control in classrooms was proposed in the early 1990's. Luke (1992) analysed lesson observations of a Year One classroom to demonstrate how literacy and the control of the "body literate" are material social practices in the institutional site of the classroom. For example, it is not incidental that part of learning to read involves the explicit rearrangement of the students' bodies to be seated attentively on the rug, and to display the correct reading habitus at the onset of a book-reading session. The teacher monitors the correct posture, movement, and the direction of students' gaze, both implicitly and overtly, and power is used

to maintain the social order. This work demonstrated and theorised how the material culture of classroom reading lessons involves bodily inscriptions, and the moral regulation of the literate subject within the social space. Literate practices in schools are realised spatially, materially, and are governed by diffuse forms of disciplinary power.

Space as dynamic and fluid: More than determinist accounts of space

The historical and dynamic nature of space has also taken centre stage in socio-spatial theory (Massey 2005). Spaces can be seen as contingent and negotiated, constituted by the multiplicity of trajectories that bring people together at a specific time and place. British social geographer, Doreen Massey, is considered a key contributor to a feminist framing of space, including a consciousness of the gendered ordering of space and the power-geometrics of the ordering of gender inequality (Fenwick et al. 2011: 131). In Massey's (1993: 155) view space and time cannot be separated: "Space is not static (i.e. timeless), nor time spaceless..." She argues that: "Conceptualising space as open, multiple and relational, unfinished and always becoming, is a prerequisite for history to be open, and thus a prerequisite, too, for the possibility of politics" (Massey 2005: 59), where space becomes an arena of possibility for creating something new. It is this productive potential of geographical metaphors for journeying and meeting that has recently attracted literacy researchers. These understandings of space as formed by a multiplicity of trajectories has lead to re-examining adolescent's reading histories in the work of Cliff-Hodges (2010). A class of 12-13 year-old students were invited to represent their reading histories in a collage entitled "Rivers of Reading". The analysis pointed to the ways in which young people's trajectories as readers are constructed in relation to other people and across time and places. Comber (2013) also considers the affordances of Massey's work for reimagining the classroom as a meeting-place – a site for collaborative meaning making – whereby students' placed histories and current engagements with the relational politics of everyday places become the objects of study.

Similarly, in a comprehensive review of research entitled "the changing social spaces of learning: mapping new mobilities", Leander and collegues (2010) argue that thinking about the classroom from a nexus-like perspective, where its permeability and connectedness is emphasised, rather than from the usual container-like perspective enable us to think differently about learning. Using Massey's (2005: 9) approach to a space as "the simultaneity of stories-so-far", they revisit Heath's (1983) seminal study, *Ways with Words*, to consider what might be missing from her "localist" portrayal of the Roadville and Trackton communities. While they do acknowledge some permeability and mobility in Heath's account they argue that her work may have come to stand for the idea of "containing culture in the local" and to have paved the way for other locally bounded studies of situated literacy learning. Their preference is for a more mobile, relational analysis. However as we discuss below it may be less what Heath portrayed and more a case of what scholars of the time were ready for that meant that the contrastive renditions of the linguistic practices of the three communities were rendered in more static ways than were ever intended by Heath herself. In addition, the spatial theories of that time did not have the explanatory power to account for the escalation of population mobility that was to come and which was to have impact on the local in profound ways as Heath's later work demonstrates (Heath 2012).

CRITICAL ISSUES: THE RELATIONSHIP BETWEEN SOCIO-SPATIAL AND SOCIO-CULTURAL VIEWPOINTS

One of the critical issues for spatial approaches to literacy research that has not been previously examined is the intersection between socio-cultural and socio-spatial approaches to literacy. Unlike socio-

cultural research, research of literacy practices that foreground the spatial and material dimensions of literacy practice have emerged without a uniform theoretical paradigm. For instance, sometimes literacy theorists examine spatial themes by drawing on socio-cultural frames of references, and at other times, without. For example, Gutierrez has proposed a paradigm shift for literacy learning for youth that blends "Collective Third Space" with a socio-critical approach (Gutierrez 2008). This is an approach that considers how practices travel across multiple and often contradictory spaces involving boundary-crossing, particularly for migrants, and how "people, ideas, and practices of different communities meet, collide, and merge" (Engestrom 2005). Paraphrasing Street (2005: 2), Gutierrez asks:

"What additional set of challenges do students from non-dominant groups address as they move across home, school, and other community settings and interact with family members, teachers, peers, and other adults who also bring 'sedimented' features of their life's activities and experiences to bear on their ways of interacting and participating?"

(2008:151)

While such an approach is theoretically grounded in a socio-cultural, also called a socio-critical approach, there is particular attention to Vygotskian influences in the notion of the Collective Third Space. It expands the basic notion of a student's zone of proximal development to negotiate different activity systems, not just the collaboration of individuals, to create what Tuomi-Gröhn and Engeström (2003) describe as interdependent zones of proximal development. The approach extends socio-critical or social-cultural approaches with an explicit focus on these spatial dimensions of border crossing and pedagogical dimensions of the Collective Third Space.

The precise relationship between spatial approaches to literacy and socio-cultural approaches is similarly described as a productive synergy of theoretical viewpoints in the work of Leander and Sheehy, who argue: "Educators and researchers of culture are increasingly turning to space to understand and explain socio-cultural practices and processes" (Leander and Sheehy 2004: 1). Throughout their book, *Spatialising Literacy Research and Practice*, there is an overt grounding in socio-cultural literacy research, but with a particular emphasis upon how discursive practices are produced in spaces. The authors in that volume aim to "recover the interpretive loss experiences when a context of literacy practice is considered to be background to the situated practices happening 'within it'" (p.3). Leander and Sheehy are referring here to classrooms, prison cells, bedrooms and suburban malls, which are material settings that can be realised as social spaces, intimately connected to literacy practices – institutional documents, graffiti, books, architectonic meanings of the physical space, conversations, and other material tools and dimensions of literacy. They argue convincingly that in separating literacy from its immediate material tools – pencils, computers, and so on – literacy spaces have been produced as metaphors without material substance.

In seeking to map the conceptual relationship between socio-cultural approaches to literacy and a spatialising approach to literacy, the two are understood as mutually constituted, though there is an explicit emphasis on the forgotten temporal, material or spatial dimensions of literacy as a social practice in socio-spatial approaches. As Burnett notes, this allows us to understand how "...times and locations are significant to how we make meaning in the here-and-now..." and to the meaning of past and future events, times and places (see chapter 34, p. 523 of this volume). Such an approach can be seen in part as a response to the spatial turn in broader social and cultural theory that has emerged since earlier socio-cultural literacy research (e.g. Barton et al.

2000; Gee 1992; Street 1993, 2001).

While grafting spatial principles to the socio-cultural is apparent within literacy studies, it should be noted that there are also analyses of literacy events that consider socio-spatial dimensions without explicitly positioning them within a socio-cultural approach (e.g. Green et al. 2008; Mills 2010a; Scollon and Scollon 2003; Somerville 2007). For example, an alternative framework is "geosemiotics", presented in the work of Scollon and Scollon (2003: x) who have paved the way for "the study of the meaning systems by which language is located in the material world". This shifts attention from different communities as central units for understanding the social organisation of literacy practices, to understanding the indexing of sign, meanings, and discourses by their material and geospatial contexts.

In the following section on historical perspectives, we revisit two key literacy studies to examine the role that the spatial dimensions of literacy practice may have played out either explicitly or implicitly in their anthropological accounts. We discuss the studies of Shirley Brice Heath and Brian Street, given that these scholars have provided the terms of reference for future generations of literacy researchers, Heath for her development of "literacy events and practices" and Street for his "ideological model of literacy". Our aim is to look for traces of the "spatial" in their explanations of literacy, which may continue to inform literacy educational researchers.

HISTORICAL PERSPECTIVES: REVISITING THE SPATIAL IN SEMINAL SOCIO-CULTURAL LITERACY STUDIES

Re-reading Heath's (1983) classic *Ways with words*, with the benefit of spatial theory, one can see evidence of what Leander and colleagues term as a "localist" rendering of the communities. It emphasises their boundedness, and we find strong confirmation of her prescience in addressing issues raised by social geographers with respect to education. In the 1983 prologue for example she writes about Roadville and Trackton residents in the following way: "The ways of living, eating, sleeping, worshipping, using space, and filling time which surrounded these language learners would have to be accounted for as part of the milieu in which the processes of language learning took place" (Heath 1983: 3). Such details begin to capture "the depth of information about a particular site of community" which Compton-Lilly argues, is crucial for longitudinal research (see chapter 14, p.218 of this volume).

Her introduction to the ten years of research in this community is replete with maps and accounts of neighbourhoods, environments, job settings, workplaces, seasonal activities in particular places, bus trips, walks to the creek, and the "natural flow of community and classroom life" (Heath 1983: 8). While Heath is focused on contexts for language learning, her accounts are geographically, materially, and historically situated, including an understanding of the people's economic circumstances. While Leander and colleagues would like to see a more relational, fluid and dynamic account of the social nature of space, the question remains whether the limits are in Heath's storytelling or indeed an artefact of the period and the place. In other words, is the boundedness a function of the researcher's conceptualisation or a phenomenon of the era? In either case, Heath goes on to explicitly address the differences in the three communities' space and time orderings, even indexing space-time functions, and the ways in which this is related to children's language learning practices; namely, where and when and in which circumstances young children learn to name their worlds and tell their stories before going to school. Indeed, Heath (1983: 344) argues that in comparison to the townspeople, the community for Roadville and Trackton children was "geographically based and spatially limited" until they went to school. Yet in the

conclusion of her research monograph, *Ways with Words*, Heath updates movements in and out of the communities, and notes that the next generation all plan to move to the cities in search of work.

Heath's (2012) more recent book, *Words at Work and Play*, which she describes as "a relay-race of thenand-now stories", portrays her revisits to the families of Trackton and Roadville. It includes maps depicting the relocations of the families during the eighties and the nineties – the families she first undertook her research with during the sixties and seventies. Indeed a key theme of this later work is movement – relocations related to the economy, work and so on. Mobility needs to be considered not only in terms of space, but across timescales which pertain to the researchers' ultimate goals and questions.

Social anthropologist Street (1975) studied the literacy practices in an Iranian village in the early seventies. He described the different kinds of schools, "maktabs, one teacher elementary schools run by the clergy" (Street 1975: 290), in contrast to the new education system being introduced at that time where the central government trained teachers and sent them to the villages with the explicit intention of modernization of rural areas in order to produce new kinds of workers for the contemporary world. Street's early analysis very much attended to the historical moment, the national political agenda at that time and interestingly to the ways in which broader discourses impacted on life, education and literacy practices in the rural community where he conducted his research. He explains that the centrally trained teachers were "not integrated into the community" (Street 1975: 292); "they were in the village but not of the village" (Street 1975: 299) and foreshadowing some much later insights from place-conscious pedagogical theorists, he observes:

[E]ducation was an urban matter and ...those village youths who wanted to continue would have to leave. ... Progress was outwards not upwards... (Street 1975: 300).

Street explained that even though there was a long tradition of literacy associated with commercial success in the Middle East, the new central approach to education was overtly political and concerned with progress of the nation, rather than the village. Taking the perspective of the youth selected to get education beyond the village, Street (1975: 296) points out that their new education credentials come with no guarantees and are "subject to extraneous forces as the world price of oil and the latest economic or educational theories". For our purposes here we simply note that the relational aspects of place, literacy, education and politics were clearly embedded in Street's early work. Street went on to distinguish between ideological and autonomous models of literacy an idea, which is foundational to work in critical literacy.

Our point in revisiting these seminal studies that came to shape literacy studies for the past four decades was simply to check for the presence of, and conceptualisation of spatial ways of knowing. Since that time the material realities of the relationships between places and populations, global and local practices and movements, along with the very nature of literate practices have changed extraordinarily, hence the need for theoretical development to explain these new phenomena.

CURRENT CONTRIBUTIONS: SPATIAL FLOWS, NETWORKS, AND DETERRIOTORALISATION OF LITERACY PRACTICE

Dynamic spatial concepts and metaphors of Deleuze and Guattari (1987), such as the concepts of "rhizomes", and "lines of flight," "smooth and striated spaces", "deterritorialisation" and "reterritorialisation", are increasingly being applied to language and literacy research in original and hybrid ways to show the fluidity of spaces, their borders, and the connections between spaces. An example is Gibb's and Krause's (2006)

application of rhizomes to hypertextual reading practices in the web 2.0 world. Rhizomes explain multiplicities that extend in diverse trajectories of nodes or meeting points that can form vast networks, such as found in the Internet or in neural pathways. Rhizomes cannot be contained within simple structures, such as a tree or root system, but can rupture at any point in diverse lines of unpredictable flight. Gibb's and Krause argue that in webbased textual practices, that there is a contemporary focus on the spatial and visual, which always occurs in the context of the temporal and verbal in our reading and viewing. Readers of the internet follow diverse hypertextual pathways or rhizomes, often generating unpredictable "lines of flight" in our reading, leading to "nodes or points of structuration", such as documents and web pages (Gibbs and Krause 2006: 154). These rhizomes can be traced using the "Go" function of Netscape or other similar functions that map the sequences of sites traversed on the web.

Influenced by post-structural theory, Hagood (2004) produced a rhizomatic cartography of two adolescents' constructions of their identities through interactions with popular texts, youth group events, school, peers, religious artefacts, and beliefs. Hagood applied the rhizomatic theory of Deleuze and Guattari (1987) in relation to principles of rhizomatic cartography. For example, rhizomes are maps with multiple entry points, are heterogeneous rather than dichotomous, and are composed of a multiplicity of lines that extend in all directions while connecting to something else, but have only surface features, rather than a deep structure. Rhizomatic cartography can be used to map pathways and connections between texts, artefacts, people and places relevant to the study focus, rather than simply coding and describing data. Hagood's analytic mapping work demonstrated how two adolescent girls used spiritual and religious paraphernalia to create subjectivities that coalesced with their use of popular culture and identities across social sites, such as school, home and youth group or church. The rhizomatic analysis enabled Hagood to trace how their adolescent identities were constructed across social and textual sites in morally conservative and value-oriented ways (Hagood 2004).

Related to these spatial metaphors is smooth and striated spaces, in which the sea is smooth space with its boundless continuity able to be traversed, and cities are largely striated spaces, with their economic structures, rules and architecture, which are regulated by state apparatus; though as Deleuze and Guattari (1987: 474) acknowledge: "the two spaces in fact only exist in mixture: smooth space is constantly being translated, traversed into a striated place; striated space is constantly being reversed, returned to a smooth space". Gibbs and Krause (2006) apply these metaphors to challenge the notion of web spaces as totally free from rules, arguing that hypertextual documents are composed according to explicit and implicit rules, including linguistic, digital, spatial, visual or audio conventions, though may be read in ways that give less attention to rule-governed or striated forms, yet still bounded by our histories, identities, previous readings, and social constraints.

Concepts of "deterritorialisation" and "reterritorialisation" can occur when lines of flight of the rhizomes interact with the structuring of institutions, including disciplines of knowledge (Deleuze and Guattari 1987). The concept of deterritorialisation is a useful heuristic to explain the gradual blurring of boundaries around what counts as literacy practices in the digital age, to embrace more than linguistic forms of representation. Similarly, reterritorialisation could be used to describe the reclaiming of decentred literacy practices of marginalised communities as no less purposeful, and valid than the literacy practices of the dominant white, middle class.

The territorialisation of consumer spaces for enabling and constraining different literacy practices and its associated youth identities is illustrated vividly by Moje (2011). As a participant observer, she would regularly spend time walking around the streets with four Latino Youth, sometimes in a pack, and at other times, accompanying one teen. Moje describes how the mainstream space of the mall provoked mainstream enactments

of identity, such as through clothing, available consumer goods, music, restaurants, and the way that onlookers regarded the group. Conversely, when they walked through familiar Virnot Street, this local community space "shaped the texts that they consumed and produced" (Kop 2011: 29). This was evident through the accessibility of material texts for purchase or worn, such as t-shirts with Mexican slogans and the DVD's of popular Latino music, and the Spanish that was spoken in the street. These practices converged with the ways the Latino youth chose to "identify and be identified". While the territorialisation of literacy practices was clear – city as Mexican/Latino, mall as mainstream commercial culture – there was evidence of some deterritorialisation of the mall as it becomes inclusive spaces to situate hybrid versions of Latina youth identity.

Moving beyond Deleuzian perspectives of space, a recent research project that illustrates the importance of examining networks of literacy practices across time and space, is provided by Nichols and colleagues (2012). This research examines networks and geographical connections between early literacy practices of participants observed in two nations and three local regions. An interesting feature of this work is that the reporting of a four-year study of literacy practices of young children and their caregivers is organised geospatially through four key sites of early learning. The places that emerged as significant in the lives of the participants included the mall, clinic, church and library, and their networked discursive fields. The authors demonstrate how these everyday institutions in the lives of children use social power to influence children and their caregivers, and how participants respond to texts produced by the agencies that operate in the sites. Applying actor-network theory and material semiotics, the authors map in both discursive and geospatial ways, such as through Google mapping, the pathways of parents as they search for resources, whether hypertextually via the Internet, or in the actors' daily time-space paths. Their analysis of early literacy practices traverses across "...places, texts, artifacts, and narratives..." to map the "discursive" topography of literacy practices in the early years of life (Nichols et al. 2012: 159). The socio-spatial organisation of the findings from this research is a distinguishing feature, generating knowledge about early literacy learning that could not be possible if relevant practices were only observed in independent sites.

The socio-spatial dimensions of literacy practice are in the midst of reawakening, with unexamined implications for classroom pedagogies that are being continually reshaped by transnational, globalised and technology-mediated networks, circulations and rhizomatic flights of textual practices. Debates about space-time compression, which concern the lessening of social constraints due to receding geographical and cultural distances, are increasingly apparent in people's experiences and thinking about the world, and about the way literacy is distributed and practiced globally and locally (Cope and Kalantzis 2000). The space-time compression that is reshaping the way literacies are practiced, would not have occurred without a history of global exploration, advances in technologies of communication and transport, fuelled by political and economic interests (Fenwick et al. 2011). The implications of these global shifts has presented new directions of inquiry for socio-spatial literacy research to understand precisely how literacy practices that we observe are simultaneously influenced by both global and local places, and the flows and connections between them.

CHALLENGES AND RECOMMENDATIONS: SPATIALISED DIGITAL PRACTICES

Given the rapid changes to the communications environment in recent decades that have given rise to new foci in literacy studies, the future of socio-spatial literacy studies will undoubtedly shape and be shaped by the emergence of global communities, both online and offline social spaces and networks. Theorists of social

semiotics have argued that in recent decades, digital media is increasingly replacing books or other written artefacts as sites of display, both in education and within social institutions and society more broadly. This has been accompanied by a related emphasis on linear or temporal arrangements of words, one-after-the other, to the use of image, with its spatial rather than temporal organisation, as the "central mode of representation" (Kress and Bezemer 2008: 166). While images are certainly appearing in greater force in the public sector, such as on websites, magazines, billboards, shopping malls, food packaging, buses, and walls, the logo centric orientation of texts is clearly still dominant in current discourses of the academy, such as books, journals, and literacy assessments in schools and higher education. Geospatial tools have emerged via the Geoweb, such as the widely accessible Google Maps and Google Earth platforms, and other competing developments. Thus, there are new challenges for socio-spatial literacy researchers to explore new forms of geospatial data collection, analysis, and reporting, incorporating moving visual images, network analysis, and other spatial presentations of data. Such multimodal representations of knowledge will increasingly play complementary or alternative roles to the conventional reporting of research findings via conventional books and journal articles with their linear and logo centric formats.

FUTURE DIRECTIONS: SOCIO-SPATIAL LITERACY STUDIES

Socio-spatial approaches to literacy studies have enabled researchers to understand how literacy practices are recontextualised and reconfigured in different social spaces – emphasising the materiality of literacy – by attending to matters beyond discourse – the body, the classroom, the tools, the technologies in the context of broader dynamic relations between people and places. There is potential for literacy studies to investigate the multiplicity of "activity spaces" as the "spatial network of links and activities, spatial connections and locations, within which a particular agent operates" (Massey 2000: 54). Research will continue to be needed to investigate how literacy practices are transformed as they migrate to different virtual spaces (e.g. web sites, online gaming, social media), and other digital sites of textual display and interaction (e.g. iPads, Smartphones, touch screen computers, games with motion sensors), geographical sites, social contexts, transnational spaces, and sites of social control and resistance. Furthermore, there are changes to the material circulation of texts and practices, and the networks, rhizomes, and nodes that connect and differentiate literacy practices locally and globally.

Spatial research of literacy practices does much more than adopt spatial language and terminology; rather, such research acknowledges that literacy practices and their associated spaces are socially produced. There is also a consciousness of the politics of space and the distribution of literacy practices. If, as Soja and Hooper (1993: 197) state, there is general agreement that "space makes a difference in theory, culture and politics" then it can equally make a difference to our knowledge of literacy practices which are inherently social and spatial.

RELATED TOPICS

Place based approaches, Critical pedagogy of place, Ecological approaches, Rural and urban literacies Indigenous literacies

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