MULTIMODAL DISCOURSES ACROSS THE CURRICULUM

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This is a pre-print version of an entry that appeared in Volume 3, on 'Discourse and Education' A. Mejía and M. Martin-Jones (Eds) the *Encyclopedia of Language and Education,* Springer.

INTRODUCTION

Multimodality approaches representation and communication as something more than language. It attends to the complex repertoire of semiotic resources and organizational means that people make meaning through - image, speech, gesture, writing, 3-dimensional forms, and so on. Strictly speaking then multimodality refers to a field of application rather than a theory. A variety of disciplines and theoretical approaches can be used to explore different aspects of the multimodal landscape. Psychological theories can be applied to look at how people perceive different modes or to understand the impact of one mode over another on memory for example. Sociological and anthropological theories and interests could be applied to examine how communities use multimodal conventions to mark and maintain identities. The term multimodality is however strongly linked with social semiotic theory and is widely used to stand for 'multimodal social semiotics'. This is the use of multimodality in this chapter.

Multimodality is concerned with signs and starts from the position that like speech and writing all modes consist of sets of semiotic resources - resources that people draw on and configure in specific moments and places to represent events and relations. From this perspective the modal resources a teacher or student chooses to use (or are given to use) are significant for teaching and learning. In this way a multimodal approach rejects the traditional almost habitual conjunction of language and learning. Using a multimodal approach means looking at language as it is nestled and embedded within a wider social semiotic rather a decision to 'side-line' language. Examining multimodal discourses across the classroom makes more visible the relationship between the use of semiotic resources by teachers and students and the production of curriculum knowledge, student subjectivity, and pedagogy.

Early Developments: A visual start

Multimodality is to some extent an eclectic approach. Linguistic theories, in particular Halliday's social semiotic theory of communication (Halliday, 1978) and developments of that theory (Hodge and Kress, 1988) provided the starting point for multimodality. A linguistic model was seen as wholly adequate for some to investigate all modes while others set out to expand and re-evaluate this realm of reference drawing on other approaches (e.g. film theory, musicology, game theory). In addition the influence of cognitive and socio-cultural research on multimodality is also present, particularly Arnheim's work on visual communication and perception (1969). Many of the concerns that underpin multimodality also build on anthropological and social research (specifically the work of Bateson (1977), Barthes (1993), Foucault (1991), Goffman (1979) and Malinowski (2006) among others).

By the mid to late 1990s, a few books and papers on multimodality were starting to be published. The primary focus of this work was visual communication and the relationship between image and writing. The work of Gunther Kress and Theo van Leeuwen (1996), the

New London Group (1996) and Michael O'Toole (1994) was particularly significant for multimodal research within education. This work challenged the notion that learning is primarily a linguistic accomplishment, sketched key questions for a multimodal agenda, and began to define conceptual tools for thinking about teaching and learning beyond language.

The call to understand pedagogy as multimodal was radical when it was first made. A key design element of a future pedagogy of multiliteracies was heralded as 'designs for other modes of meaning' (New London Group, 1996). In part this call was a response to the social and cultural reshaping of the communicational landscape (related to globalization, new technologies, and new demands for work). In a sense the conclusion that reading this 'new' multimedia, multimodal landscape for its linguistic meanings alone is not enough was inevitable. A special issue of *Linguistics and Education* on multimodality was an important publication (and one of the first) to provide tools for educational researchers wanting to undertake multimodal research (Lemke, 1998).

Attempting to understand the relationship between image and text was central to the development on multimodality. The redundancy of 'non-linguistic' modes was argued against and the idea that the meaning of modes is incommensurable was key. *Reading Images* (Kress and van Leeuwen, 1996) opened the door for multimodality in the way that it discusses key concepts such as composition, modality and framing. This work offers a framework to describe the semiotic resources of images and analyzes how these resources can be configured to design interpersonal meaning, to present the world in specific ways, and to realize coherence. It demonstrates and generates a series of semiotic network maps showing the semiotic resources of image in play and how discourses are articulated visually through the design of these resources.

Work by Kress on literacy and young children's meaning making also helped highlight the potential of multimodality for literacy. His concern with font, style, the spatial design of the page, and the materiality of the written text positioned writing as multimodal. This work began to make connections across multimodality and New Literacy Studies – a combination that offers a distinct theoretical 'accent' to multimodality.

Major contributions: Key themes in the study of multimodal discourses

From early 2000 there has been an explosion of interest in multimodality within educational research and this approach has been actively taken up educational researchers across a wide range of learning contexts. Some of the major contributions made by this work are discussed below.

Mode and semiotic resources for meaning
In order for multimodality to be of use to educational research a clearer sense of how modes are used for meaning making is required. Much is known about the semiotic resources of language in the classroom and curriculum but considerably less is understood about the semiotic potentials of gesture, sound, image and so on. A number of detailed studies on specific modes helped begin to describe these semiotic resources, material affordances, organizing principles, and cultural references. Alongside Kress and van Leeuwen's work on images (1996) other key works that contribute to an evolving 'inventory' of semiotic modal resources include Van Leeuwen's (1999) work on the materiality of the resources of sound (e.g. pitch, volume, breathing, rhythm and so on). Martinec's work (e.g. 2000) contributes to this with his work on movement and gesture. With a focus on writing as a multi-semiotic resource Kenner (e.g. 2004) shows how young bilingual learners use directionality, spatiality, and graphic marks to realise meaning and

express identities in complex ways. The work of Kress et al (2001, 2004) attempts to map how these modes interact and interplay in the classroom.

Shapes of knowledge, pedagogy and subjectivity

Through detailed multimodal analysis, classroom research shows how teachers orchestrate a range of modes in the classroom. Some key studies include Kress et al (2001) in relation to school Science and school English (2004) and mathematics (O'Halloran, 2004). This research maps how curriculum concepts are 'filled in' by teachers' pedagogic movement between, in the case of science, abstract diagrams, embodied action, interaction with models, and canonical images to create complex multimodal narratives. At times the complex multimodal configurations realised by teachers are designed to enable the tension between discourses, and domains of knowledge (e.g. everyday knowledge and the specialized scientific knowledge) to reside in the seams between modes: with one mode supporting one discourse and another mode realizing a quite different one. The classroom itself can also be viewed as a multimodal sign that articulates discourses of time, managerialism, ability, subject knowledge etc. through its spatial arrangements, furniture, visual displays, equipment, and artefacts. This research shows how multimodality can be applied to examine the connection between policies, the use of technologies, pedagogy and what it means to learn.

Multimodality and new technologies

The ways in which modes are newly configured and made available for teaching and learning via new technologies is a focus of multimodal research (Kress, 2003). Burn and Parker's (2001) work on media education and digital animation explores how students design meanings across different sites of display and semiotic resources and what this means for learning and literacy. Multimodal research into new technologies and learning also explores the meaning potential of a texts structure: the semiotic facilities of linking, hypertext, and the design of hyper links (Jewitt, 2002; Lemke, 2002; van Leeuwen, 2005). These links and structures create relations and continuity or discontinuity between elements, what Lemke calls 'hyper-modality'. Another term useful to multimodality is 'resemiotization' (Iedema, 2003) which focuses on how new technologies remediate discourses via multimodal representation and communication across media. This is explored in the work of Jewitt (e.g. 2006) that brings together multimodal social semiotics with Vygotskian theories of learning to explore the relationship between representation and technology in relation to the production of curriculum knowledge, literacy, learning and pedagogy.

Multimodal learning and literacy

Approaching the classroom as a multimodal environment demands a rethinking of learning and literacy. Multimodal research shows the complex decisions of children that are involved in the design of multimodal texts: what mode to use in order to 'best' represent and communicate a particular meaning. Considering students in the classroom as *designers* of meaning in this way has important implications for learning such as what semiotic resources are made available in the classroom (and how modes are valued in different contexts). Children's multimodal selections, adaptations, and transformations of these semiotic resources to make their own meanings are examined as one kind of evidence of learning (Kress et al, 2001, 2004; Jewitt and Kress, 2003). These transformations have been traced and mapped as links in the 'chain of semiosis' (Stein, 2003; Pahl, 1999). This rethinking of learning has implications for how to think about assessment.

Developing theory and method
Alongside accounts of multimodal research, the need to develop multimodal research tools remains. Kress and van Leeuwen's book *Multimodal discourses* (2001) contributes to the general theory of multimodality in their exploration of the distinction between mode and medium and the formulation of the relationship between discourse, production, dissemination, and design. Multimodal theory has opened up the question of what constitutes a mode. The idea of mode has also been expanded in van Leeuwen's *Introducing social semiotics* (2005) to look at semiotic resources such as food, dress, everyday objects as well as image, music, gesture and writing.

Ethnographic methods have been combined with multimodality to look at semiotic literacy practices as well as texts. Stein (2003) for example explores how students in South African townships express complex narratives of identities and culture through multimodal texts, highlighting the links between representational means and the production of identities. This work explores how multimodal pedagogy can reconnect linguistically disenfranchised learners - through the use of performance, semiotic artifacts, visual representation etc.

Scollon and Wong-Scollon (2004) combined multimodal semiotics and intercultural communication to explore how the physical and material characteristics of language as situated in the world give meaning to people's actions. Sigrid Norris (2004) takes up this approach to multimodal discourses and introduces several interesting concepts to the multimodal debate. One of which is the idea of *modal density* (intensity and complexity) a conceptual tool for separating out the modes as analytical units. This sets out a way of thinking about the relationships between modes in terms of a scale of low to high intensity and contributes to the theorization of the relationship across and between modes.

Work in Progress: Distinctive directions

There is substantial work in progress that looks at multimodal meaning making across a wide range of sites in pre-school and early years writing and meaning making, school English and Media education, games studies, Science education, Music, Maths, and technology-mediated learning (e.g. Bearne and Kress 2001; Goodwyn, 2005; Carrington and Marsh, 2005). Building on this work researchers are now looking at how the 'choice' and use of representational modes and media/technologies shape teaching and learning across the curriculum in different ways - choices that are made by policy makers, teachers, curriculum and software designers, and students at a national level, a local level, and in the classroom. In this way multimodal discourses analysis has begun to shift from primarily descriptive accounts to connect more explicitly with macro social, political and cultural concerns within education.

Ongoing multimodal research focuses on the development of more robust theoretical concepts and methodological tools. The need to develop practices of multimodal transcription and systematic multimodal analytical processes for working with video data is an area that is at a relatively early stage of development (e.g. Norris, 2004; Jewitt, 2006; Flewitt, 2006). The work of conceptualizing modal hierarchies and relations, problematising the concept of semiotic resource, and moving towards multimodal corpus based approach to multimodal meaning making is underway. Another approach in the early stages of development is an analytical framework for dealing with multimodal data in corpora (Bateman, Delin and Henschel, 2004).

The need to rethink what it means to learn and to be literate is a thread that runs through much multimodal educational research. This raises numerous research questions in relation

to learning including how representations impact on thinking and learning? What kinds of opportunities do different modes present for dialogue? How are modes 'valued' in and out of the school? And what kind of learners do schools want to 'produce'? It also raises questions about what literacy is and could be in a multimodal and multilingual communicational landscape. Which in turn has led to research that sets out to ask what multimodality has to offer as a pedagogic resource and how it can be shaped as a force for change.

The need to engage with social questions (beyond the role of description) is realized in research that attempts to move from notions of critique to design. As already described multimodality can be used to build inventories of semiotic resources and to understand how resources are used to articulate discourses across the curriculum. Multimodality can *also* contribute to the development of new ways of using semiotic resources. Focusing (through historical analysis) on how semiotic resources come to be as they are multimodality can ask why they are as they are. This is a powerful approach enabling people to see *how* it is a 'reality' comes to be represented and offering the potential to *imagine* it differently and to *redesign* it. Highlighting the implications for learning of how semiotic resources are used can help to bring resources into the awareness of educational practitioners, and this brings with it the potential for new ways of using and configuring – *designing* – multimodal pedagogy.

Problems and Difficulties

Multimodal analysis is an intensive research process both in relation to time and labor. One consequence of this is that research on multimodal discourses is generally small scale and this *can* restrict the potential of multimodality to comment beyond the specific to the general. It is perhaps important to be clear however that multimodality can be applied to take a detailed look at 'big' issues and questions through specific instances. Nonetheless the scale of multimodal research can make it difficult to use findings for policy and educational strategy. The technical and theoretical developments mentioned in an earlier section, for example the development of multimodal corpora may help to overcome this problem. The potential to combine multimodal analysis with quantitative analysis in innovative ways in the future is an alternative strategy.

A criticism sometimes made of multimodality is that it can seem rather impressionistic in its analysis. How do you know that this gesture means this or that that image means that? In part this is an issue of the linguistic heritage of multimodality, that is, how do you get from linguistics to all modes. In part it is the view of semiotic resources as contextual, fluid and flexible – which makes the task of building 'stable analytical inventories' of multimodal semiotic resources complex. It is perhaps useful to note that this problem exists for speech or writing. The principles for establishing the 'security' of a meaning or a category are the same for multimodality as for linguistics (or Philosophy or Fine Art). It is resolved by linking the meanings people make (what ever the mode) to context and social function. Increasingly multimodal research looks across a range of data (combining textual/video analysis with interviews for example) and towards participant involvement to explore analytical meanings as one response to this potential problem.

Linked with the problem above is the criticism that multimodality is a kind of 'linguistic imperialism' that imports and imposes linguistic terms on everything. But these critics overlook the fact that much of the work on multimodality has its origins in a particular strand of linguistics: namely, the social semiotic theory of communication first proposed

by Halliday (1978). This strand of research on language and communication foregrounds meaning and the ways in which language contributes to the construction of social life. The social component of this approach to language sets it apart from narrower concerns with syntactic structures, language and mind and language universals that have long dominated the discipline. From a multimodal perspective this view of communication can be applied to all modes, to gesture and image no less and no more than to speech and writing.

Description is theoretically grounded and contributes to theory building. There is a need to actually ask questions of and through detailed description. For instance, to ask what kind of discourses are being articulated in a classroom and why, what is the social function of the representations being described. For example, to ask how the multimodal design of the English classroom shapes what school English is, what texts are included in English and how does this shape what it might mean to be student in that classroom and so on. This analytical focus is important to show how discourses are articulated across the curriculum so that they can be made explicit, shared or challenged and re-designed. Multimodal research can be problematic if it offers an endless detailed description that fails to make clear the broad questions it seeks to answer.

The question of where the boundaries of its effective work are located are key for multimodality (as with any approach). In social semiotics, of which multimodality is a part, it is recognized that there are such limits, beyond which other approaches work much more effectively. In part this is a question of scale. Semiotic analysis works best with small elements or with larger level elements treated as small, namely as 'signs'. When the aims of enquiry shift to larger-level relations in process, and historically over time, it may be necessary to shift theoretical paradigms, and combine multimodality with other theoretical approaches.

New directions

The combination of multimodality with theories that attend to the social at a macro level is an area for development. Multimodal theories of communication and representation emerged at a 'pivotal moment' when boundaries were fraying across the communicational landscape: modes were being recast, revalued and redesigned by the social demands on communication (the remaking of boundaries between nation states, languages, work and leisure and so on as well as the use of new technologies). Such moments and shifts have happened in the past and will happen in the future. The use and conventions of semiotic resources are established over time, and are fluid, situated, as well as being shaped by community and culture. The work of describing modes and semiotic resources as they are used in education is therefore an ongoing and important one. To realize the full potential of multimodality research also needs to make links between *what* is happening in the classroom and *why* it is happening – to ask how the micro social interactions of the classroom inflect, reflect and connect with the concerns of macro educational and broader social policies.

The 'change potential' of multimodal semiotics is another aspect that may be developed more in the future. The potential for multimodal research to impact on teacher training, the design of learning, and curriculum and software design is immense. By challenging the exclusivity of the link between language and learning, multimodality opens up the need to better understand the relationship between multimodal pedagogy and learning and this raises significant questions. Questions about the impact of modes of representation on learning: what does it mean for learning to have all these modes operating in the classroom? What mode is best for what? How does the move between modes impact on

shapes of knowledge? What does all this mean for cognitive load and learning? What forms of communication are students being expected (often implicitly) to understand? Questions concerning what educationalists want learning to be and how a knowledge of multimodal semiotics could enable it to be redesigned: How can students best be taught the skills to make and interpret multimodal texts? A future direction for multimodality is to theorize the relationship between semiosis and learning. This is needed to find pedagogically productive ways to connect on the one hand the ways that students select, adapt, and transform information in the classroom (the resources that they bring into the classroom to learning) and on the other the expectations and demands of curriculum subjects.

The connection between student practices, curriculum, and pedagogy foregrounds the notion of assessment. There is a glaring disjuncture between multimodal pedagogy, multimodal learning, and a primarily written assessment process. This is a growing focus within multimodal research across the curriculum and a key direction for research in the future is to tackle the issue of assessment, to ask how best to assess students' learning in a multimodal classroom.

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Cross references

- Vol 2: Literacy in the New Media Age, Literacy, power and identity
- Vol 8 - Language Socialization and Multimodality in Multilingual Urban Homes
- Vol 10 - Ethnography and language education
- Genres and institutions: functional perspectives on educational discourse
- Official pedagogic discourses and the construction of learners' identities
- Critical discourse analysis in education

Keywords

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Literacy
Curriculum knowledge
Classroom research
Social semiotics

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