MULTIMODAL APPROACHES TO ENGLISH FOR ACADEMIC PURPOSES

Kay L. O’Halloran, Sabine Tan and Bradley A. Smith

Introduction

As the field of English for academic purposes (EAP) has grown and expanded, one important development, identified by Hyland (2009), has been the inclusion of multimodal perspectives. Changes in higher education, especially in the use of digital technology, have revolutionised traditional academic practices, with an increasing recognition of the need for students and teachers to develop multimodal competencies across a range of communicative platforms:

while in the past the main vehicles of academic discourse were written texts, now a broad range of modalities and presentation forms confront and challenge students’ communicative competence. They must learn rapidly to negotiate a complex web of disciplinary-specific text types, assessment tasks and presentational modes (both face-to-face and online) in order first to graduate, and then to operate effectively in the workplace.

(Hyland 2006: 3).

The study of multimodality, as Jewitt (2014: 1) explains, ‘approaches representation, communication and interaction as something more than language’, extending the study of the social interpretation of language to the whole domain of meanings which are made through visual, sonic and other semiotic resources (e.g. image and symbolism, gesture, gaze, proxemics, sounds) and their interactions in multimodal texts and events. Together, these clusters or configurations of meanings constitute domains of cultural activity (e.g. casual conversation, news reporting, academic discourse). The study and practice of academic discourse requires a theoretically informed approach for understanding how language, images and other resources work together to create meaning within and across different multimodal genres.

In this chapter, we explore the implications of a multimodal approach (e.g. Jewitt 2014) for the various aspects of EAP, which is conceived as academic discourse in the broadest possible sense (Hyland 2006). The multimodal approach has significance for learning about the nature of academic discourse in the interactions of (spoken and written) language with
Multimodal approaches to English for academic purposes

Historical perspectives

The study of multimodal phenomena can be traced back to early studies of semiotics, the science ‘that studies the life of signs within society’ envisaged by de Saussure (1916/1983: 16), and of course has been a key focus for disciplines such as visual and performing arts, architecture and design. Recent decades have seen the emergence of a field of multimodal studies (O’Halloran & Smith 2011), with a dominant influence from Michael Halliday’s social semiotic theory of language (1978), known as systemic functional linguistics (SFL) (Halliday & Matthiessen 2014). A social semiotic approach seeks to understand the meaning of texts (see Jewitt, Bezemer & O’Halloran 2015 in press), which are seen as the outcome of choices within systems that have functions within their social contexts; the latter of which in turn are seen to shape ‘the resources available for meaning-making and how these are selected and designed’ (Jewitt 2014: 33).

SFL approaches to academic discourse have primarily been concerned with the close analysis of spoken and written text in educational contexts (e.g. Chang & Schleppegrell 2011; Coffin & Donohue 2012; Gardner 2012; Martin 2012), often with a focus on literacy requirements in specific subject areas, e.g. mathematics, science and English (e.g. Christie & Maton 2011; Dreyfus, Hood & Stenglin 2011). Social semiotic theory has, however, also been extended to the analysis of a range of domains, including paintings, architecture, sculpture by O’Toole (2011), and visual art, advertising, websites, toys and games by Kress and van Leeuwen (2006). These pioneering works paved the way for research on the interaction of multimodal resources in educational contexts (e.g. Unsworth 2008), including science and mathematics (Lemke 1998; O’Halloran 2005), spatial semiotics (Ravelli & Stenglin 2008), film (Bateman & Schmidt 2012) and music (van Leeuwen 1999). Social semiotic theory was a key influence in the development of the ‘multiliteracies’ approach by The New London Group (1996), a leading tradition seeking to deal with contemporary forms of representation that are ‘increasingly multimodal, with linguistic, visual, audio, gestural and spatial modes of meaning becoming increasingly integrated in everyday media and cultural practices’ (Cope & Kalantzis 2009: 166). Scholars within this tradition draw on work by Kress and colleagues to examine the impact of multimodality on literacy skills and practices (e.g. Böck & Pachler 2013).

Other approaches to multimodality include multimodal interactional analysis (e.g. Norris 2011), which is based on interactional sociology (e.g. Goffman 1967), sociolinguistics (e.g. Gumperz 1982; Tannen 2006) and mediated discourse analysis (Scollon 2001). This approach seeks to account for all social actions as meaningful and multimodally complex human interaction. Another approach which engages with the notion of multimodality from a broader sociolinguistic or ‘sociocultural’ perspective is the field of study referred to as academic literacy/ies (e.g. Lillis & Scott 2007) which is concerned with literacy requirements across different subject areas.

Critical issues and topics

Kress & van Leeuwen (2001: 1) note that the ‘distinct preference for monomodality’ which held sway for centuries across Western cultures shifted in the twentieth century towards the other modalities, for enhancing students’ capacities for understanding and producing texts that employ and integrate a range of modalities and for developing pedagogical practices that facilitate these competencies.
use of ‘an increasing variety of materials’ in multimodal discourses. Multimodality has of course always been a part of academic discourse, for example in the use of gesture, gaze in face-to-face lectures and tutorials, in the use of images and symbols in textbooks and academic publications, as well as being an integral part of multimedia materials for distance learning (Kuomi 2006). The increasing range of semiotic resources enabled by digital platforms, including not only for learning and teaching but also in online publications and university websites (e.g. Zhang & O’Halloran 2014), has meant that multimodal communication is increasingly important within academic practice as in contemporary societies in general. The importance of oral communication skills for graduates entering the workforce has also been noted (e.g. Crosling & Ward 2002; Jackson 2014). The importance of multimodality within academic discourses thus problematises the somewhat peripheral status still accorded multimodal forms of communication within crucial areas, in particular assessment and publication.

Academic writing has always presented difficulties for students to master: it has been characterised as dense and abstract, with a high level of organisation and an authoritative stance (Schleppegrell 2006), features which are largely derived from scientific language (Halliday & Martin 1993; Halliday 2006). Multimodal discourse offers alternatives to the constraints of the written mode and access to new ‘meaning potentials’ (Halliday 1978). As Lemke (1999) shows, different modes bring with them differing affordances and constraints, as in the distinction between the typological meaning characteristic of language and the topological meaning characteristic of images, a complementarity exploited to great effect in mathematics discourse (O’Halloran 2005).

The key challenge for educators, therefore, is to design approaches to learning and teaching with technology (e.g. Laurillard 2012) that enhance students’ capacities for understanding and producing texts that employ and integrate a range of modalities across media platforms. This multimodal approach to learning design requires an understanding of the affordances of different media and modes of discourse, and the integration of semiotic resources in multimodal discourse. However, issues of complexity and scale continue to present significant difficulties for the study of multimodality. Even a single text can present a multitude of system choices from many different semiotic resources; and each semiotic resource has its own characteristics presenting different analytical challenges. As a result, the development of integrated perspectives on multimodal meaning across texts and corpora presents theoretical and methodological challenges, as scholars struggle to define concepts and develop integrated frameworks capable of application both to multimodal analysis (e.g. Bateman 2011b; Kress 2009) and to practice.

Current contributions, research and practice worldwide

Current multimodal approaches to EAP are – amongst other things – concerned with developing (a) students’ capacities for understanding and producing texts that employ and integrate a range of modalities in different contexts and disciplines; (b) pedagogic practices for fostering awareness of multimodality; and (c) understanding of multimodal discourse within other professional discourse genres and domains (e.g. plenaries, conference presentations, institutional and public academic discourses). In the following, we discuss the contributions of select studies that address these issues, with implications for pedagogies, assessment, teaching and learning, as well as research practices.
Enhancing students’ capacities for understanding and producing complex multimodal texts in different contexts and disciplines

Archer (2006: 451) posits that the ‘increasing multiplicity and integration of modes of meaning-making, including the audio, the spatial, and the behavioural’ needs to be taken into account in order to enhance students’ competencies for creating and understanding producing multimodal texts and genres. In her explorations of the influence and incorporation of the visual domain in first-year engineering and humanities students’ writing practices, comprising both written reports and team-produced posters, Archer (2006, 2010) argues for a multimodal approach that addresses the complexities that confront L2 learners when engaging in multimodal academic practices (see also Archer & Newfield 2014).

Building on the work of Thesen (2001), Archer claims that multimodal genres require students to draw upon four kinds of ‘language’ resources: (1) the English language system; (2) academic discourse; (3) mode-specific language associated with the analysis of the visual; and (4) a metalanguage for critical analysis. Archer (2010: 210–211) finds that having access to these resources ‘freed up’ academic discourse practices for the students who participated in the research projects in profound ways. According to Archer (2006: 455), scientific discourse has the proclivity to create a ‘disjunction between everyday commonsense knowledge and the systematised knowledge of the discipline’, particularly for L2 students, whose written reports tended to reflect a certain ‘lexico-grammatical awkwardness’. Knowledge of the visual design principles of posters, such as the use of images and colour, and non-linear spatial design logics pertaining to the presentation of information such as non-hierarchical bullet-point form and part–whole relationships, allowed students to present scientific discourse in ways that more closely aligned with everyday perceptions of the world (Archer 2006: 455–456).

O’Halloran (2015a) proposes a multimodal approach to mathematics ‘where language is considered as one resource, often a secondary one, which operates in conjunction with mathematical symbolism and images to create meaning in mathematics’. O’Halloran’s approach (see also Lemke 1998) has extended the study of the linguistic features of scientific discourse (Halliday & Martin 1993) to the study of the grammatical features of mathematical symbolism and images, revealing how the three resources (i.e. linguistic, symbolic and visual) have evolved to fulfil specific functions in mathematical discourse:

Language is used to reason about the mathematical results in a discourse of argumentation in which mathematical processes are related to each other and interpreted. To achieve this goal, scientific English operates to foreground and background concepts which are related to each other through technical taxonomies and relational processes to form chains of reasoning. Mathematical symbolism, on the other hand, is used to capture relations between mathematical entities and processes and derive results through a grammatical organization which retains participant and process configurations through the use of special symbols, specific conventions and deep levels of embedding. Meaning is encoded economically and unambiguously, resulting in a robust, flexible tool for reasoning about mathematical reality in a congruent, dynamic form, unlike scientific English, with its dense, metaphorical entities… Lastly, mathematical relations are visualized, opening up a vast potential for viewing the mathematical representation as a whole and the parts in relation to each other.

(O’Halloran 2015a)
The multimodal approach has revealed how expansions of meaning occur intersemiotically as mathematical processes and participants are reconstrued across language, symbolism and images at different ranks and scales (cf. O’Halloran 2008), demonstrating how the multiplication of meaning discussed by Lemke (1998) takes place in mathematics and scientific discourse.

**Developing pedagogies that foster awareness about multimodal texts**

The multimodal approaches to student learning by scholars such as Archer and O’Halloran address Jewitt’s concern that students’ proclivity to ‘work across text, image, sound and moving image with equal fluency, exploiting each dimension separately and making connections between these historically discrete domains’ (2003: 98) necessitates the expansion of conventional notions of academic literacy, with implications for both applied and research practice. As Archer concludes, student learning (about and through) multimodal discourse requires an explicit pedagogy that provides them with a ‘systematic technical knowledge of the ways semiotic resources are deployed in meaning-making’ (Archer 2010: 211); otherwise they will continue to ‘battle with vague generalities rather than insightful analyses’.

Doering, Beach and O’Brien also point out that rather than approaching multimodal, interactive Web 2.0 tools such as blogs, wikis and social networking sites as ‘an additional, but peripheral tack-on’ (2007: 57–58), the use of technology in higher education requires a new pedagogy that is built upon redefined ‘notions of reading, composing, and performing processes to infuse digital literacies’ in students (Doering, Beach and O’Brien 2007: 42). To enable students to understand the application of their learning with regard to the consumption and creation of multimodal digital texts and genres, it is imperative that students learn to think both ‘multimodally and semiotically’ (Doering, Beach and O’Brien 2007: 43). This involves learning how to engage in the critical analysis of multimodal texts and videos, which in turn requires a detailed understanding of how such texts function to begin with.

To this end, the University of Minnesota’s postgraduate English education programme for pre-service teachers requires students to create multimodal digital texts and genres such as websites, blogs and wikis etc. To perform their tasks successfully, students need the requisite skills and competencies in order to decide which media and modality (e.g. print, images, video, audio) to best use for presenting information. In addition, they need to possess a critical awareness of both visual design and rhetorical principles to effectively engage their audiences ‘as well as to change their beliefs and attitudes’ (Doering, Beach and O’Brien 2007: 43). At the same time, students, ‘as critical readers in these virtual spaces’, must be able to ‘assess how visual design functions rhetorically through developing “visual arguments” that are evaluated in terms of their impact, coherence, visual salience, and organization’ (Doering, Beach and O’Brien 2007: 43).

The need for new pedagogical and methodological approaches that both address and harness developments in e-learning and digital communication is also reflected in Ciekanński and Chanier’s (2008) study of the writing process in synchronous online environments in an English for specific purposes (ESP) course for L2 distance graduate students. They argue that online writing should be perceived as both a collaborative social event as well as a ‘complex and procedural activity’ (2008: 163), where multimodal communication is understood as being co-constructed through the actions (e.g. the deployment of semiotic resources) and interactions between participants (2008: 164). They apply an integrative multimodal approach and methodology to gain a better understanding of how participants in online environments exploit combinations of different modes (e.g. written, spoken language,
graphic, iconic, spatial) and modalities (e.g. by using text-chat, conceptual map, whiteboard, word processor, audio, voting, leaving/entering a room, moving away for a moment, raising a hand and moving between rooms and documents) to accomplish their respective learning tasks individually and collaboratively (2008: 164).

**Enhancing understanding of other academic discourse genres and domains**

Advances in technology have, of course, led to the emergence of new multimodal discourse genres that transcend conventional academic discourse domains and practices. Aside from learning and teaching contexts, digitally-mediated and embodied discourses have become established practice across a range of other academic discourse domains, as evidenced in multimodal research on conference presentations, and representations of institutional discourses in the public domain.

**Presentations as complex multimodal practice**

Since the launch in 1990 of PowerPoint, presentation software has become an indispensable tool for multimodal communication in the spheres of business and academia alike. Over the past two decades, researchers have endeavoured to enhance our knowledge and understanding of the design, layout and composition of presentation software as a resource for meaning-making, and of the ways presenters use and combine multimodal resources, such as speech, gesture, gaze, body language and visual imagery to engage their audiences and express their identity in slideshow presentations, in both L1 and L2 contexts.

Hood and Forey (2005) use social semiotic theory to analyse the ways presenters create relationships of solidarity with their audiences in the introductory or ‘set-up’ stage of their plenary talks. This analysis reveals that there is considerable variation in how this stage is realised by different speakers, using combinations of attitudinal language, gesture and other kinetic features, such as head movements and facial expressions. They found that speakers may use gesture, facial expression and postural stance sequentially or synchronously to amplify positive and negative affect, to convey attitude and to encourage audiences to interpret content in a particular way.

Morell’s (2014) study of presentations from the social and technical sciences at international conferences also shows that speakers at academic conferences use a variety of modes either simultaneously or consecutively to convey specific meanings. Morell (2014), who focuses on the interplay of speech (e.g. tone, intonation, pronunciation, stress on key words, volume, speed), body language (e.g. eye contact, gestures, hand movements, body position in relation to the talk and the audience), written text (e.g. contrast between background and lettering, font size) and non-verbal materials (e.g. graphs, charts, tables, diagrams, images), finds that presenters from the technical (or hard) sciences tended to use more non-verbal resources, whilst presenters from the social (or soft) sciences in her study were inclined towards the verbal mode. Morell (2014) further concludes that in terms of their generic conventions, social science presentations can be considered intercultural genres, whereas presentations from the technical sciences tend to be discipline-specific.

Tardy’s (2005) investigation of the choices made by multilingual presenters in PowerPoint presentations similarly shows that presenters from the field of electrical engineering and computer sciences tend to adopt the disciplinary norms of organisation and disciplinary-specific terminology endemic to scientific discourse genres. Tardy observes that even the
visuals and slide-colour in her corpus tended to be field-specific, which she considers to be ‘a sort of disciplinary short-hand’, understandable only by a discourse community with a shared knowledge of these generic conventions (2005: 325), but cautions nevertheless that the choices made in presentation slides may be to some extent influenced by the availability of pre-set templates provided by the software program (Tardy 2005: 326).

Zhao, Djonov and van Leeuwen (2014), in turn, maintain that an analysis ‘of slideshows alone cannot show how the design of the software privileges certain ways of using the semiotic resources it makes available (e.g., layout, texture, colour) and of composing and presenting slideshows’ (Zhao, Djonov & van Leeuwen 2014: 352). They see PowerPoint presentations as a complex, multimodal practice that demands not only a critical awareness of the meaning-making potential of the slide layout, how it is presented within the software’s interface and how it functions in various semiotic practices within the broader (academic) culture, but also requires ‘intensive temporal coordination’ between the various multimodal resources, such as speech, gesture, image, as well as a consideration of the physical setting, including the presenter’s placement in relation to the screen, the lectern and the audience (Zhao, Djonov & van Leeuwen 2014: 364).

Multimodal representations of institutional discourses in the public domain

In the digital age, advances in technology have profoundly changed the ways in which knowledge and information are communicated and disseminated. Moreover, professional academic discourses are increasingly compelled to conform to the pressures of a global marketised academia, with significant implications for representations of academic discourses in the public domain (Zhang & O’Halloran 2013). For example, Hyland’s (2011) analysis of the ways how academics from different fields such as the humanities and hard sciences use multimodal resources, such as text, images, visual design and hyperlinks, to construct professional identities on university homepages, reveals, for example, that they frequently do so within the constraints of corporate design principles, subjugated to a discourse of corporate branding:

The content of personal home pages, whether the text, design, visuals or links, draws on a palette of conventional paradigmatic elements which not only make information about subjects accessible to a potential world-wide audience, but which promote a version of them and their university to that audience. The fact that we find mainly professional biographies and references to research interests and publications; that the design reveals the uniform repetition of a university brand; that the visuals are restricted to cropped passport style portraits; and that links largely take us to places which reinforce the competent, accomplished academic, all reveal a genre which enhances the status of the author and subjugates him or her to its homogeneity.

(Hyland 2011: 296)

The crossing-over of corporate and public discourse practices into academic discourse domains is also revealed in Zhang and O’Halloran’s (2014) study of representations of scientific research reports on institutional science news websites, such as Futurity (www.futurity.org/). Zhang and O’Halloran (2014) note, for instance, that the generic structure of scientific reports on this website is increasingly ‘hypermodal’ in character (i.e. having hyperlinks between pages and sites enabling non-linear, intertextual reading; cf. Lemke 2002).
These online science discourses are composed of short written texts, complete with a headline, news lead, attribution and striking images from image banks, as well as having hyperlinks for easy dissemination on social media sites (Zhang & O’Halloran 2014: 161). They maintain that in adopting the reporting style and practices from the domain of popular culture, publications of science news have moved ‘beyond the popularisation of science’ and morphed into a form of ‘scifotainment’, in an effort to cater to the changed information consumption style of the general public in the digital age (Zhang & O’Halloran 2014: 172).

**Main research methods**

*Ethnographic approaches to multimodality*

Many contemporary studies that approach EAP from a multimodal perspective are qualitative and interpretive in nature, often combining language-based frameworks and methodologies drawn from SFL and other disciplines with ethnographic methods (cf. Lea 2004). Harklau (2005: 179) defines ethnography as ‘a range of diverse and ever-changing research approaches [...] originating in anthropological and sociological research and characterised by first-hand, naturalistic, sustained observation and participation in a particular social setting’. According to Harklau’s (2005: 179) definition, the purpose of ethnography is primarily to ‘come to a deeper understanding of how individuals view and participate in their own social and cultural worlds’.

According to Street, Pahl and Rowsell (2014: 227), multimodal approaches that apply ethnographic methods are similarly intent on taking ‘equal account of where, how, and by whom a text is made as it does of the physical features of a text as signifiers of contextual meaning’. This dual focus on situated meaning-making and meaning as social practice resulted in the development of two complementary research methods: an approach that follows the tradition of New Literacy Studies in applying ethnographic methods for understanding academic discourse within the broader context of everyday social practice; and a multimodal approach that originates from within social semiotics and which perceives texts as multimodal constructs, ‘imbued with intention and culturally shaped and constituted’ (Street, Pahl and Rowsell 2014: 230). As Kress and Street (2006: ix, in Street, Pahl and Rowsell 2014: 233) observe, ‘while both approaches look at broadly the same field’, the former approach ‘tries to understand what people acting together are doing’, while the latter ‘tries to understand about the tools with which these same people do what they are doing’.

For researchers adopting ethnographic research methods, this means studying and analysing multimodal texts and genres, text production and consumption practices, as well as taking into account participants’ motivations and values surrounding these practices – a methodology conceptualised as ‘textography’ (Paltridge et al. 2012). This may involve collecting and analysing texts and documents, observing classroom sessions and interviewing students and instructors. Other methods employed by researchers from the field of multimodal studies are ‘videoethnography’ for studying group dynamics and participation (e.g. Norris 2014) and ‘ethnopoetics’ – originally used to describe oral narratives/ folk art from ‘other’ cultures – for exploring sociocultural and sociohistorical meanings in students’ academic practices (e.g. Scott 2013).
A push for empiricism and theoretical frameworks

Other recent approaches to multimodal analysis, particularly those within a social semiotic/systemic functional perspective, aim for an empirical foundation as the basis for the development of theoretical frameworks and methods. Bateman (2008, 2011a), for example, draws on a systemic functional approach to provide detailed analyses of page-based multimodal documents, including academic texts, as the foundation for developing and illustrating the genre and multimodality (GeM) model. In this model, genre theory provides the underlying framework for studying multimodal documents, and for comparing recurring patterns (e.g. in visual and verbal elements, layout, rhetorical and navigational structures) across a corpus of similar texts. According to Bateman (2008: 2), the model allows researchers and practitioners to ‘attack’ any multimodal document with a set of analytical tools that can generate ‘reproducible, and therefore evaluable, analyses of what is involved in the multiplication of meanings discovered’ and is ‘sufficiently robust to advance theory empirically’ (Bateman 2008: 8).

The ‘multimodal digital humanities’ approach developed by O’Halloran and colleagues (e.g. O’Halloran 2015b) involves the development and application of interactive software platforms1 and methods for the detailed analysis of multimodal texts and videos, including from educational contexts (O’Halloran, Tan & E 2014), as well as utilising computational, mathematical and visualisation techniques for interpreting semantic patterns in multimodal discourse. The aim of this approach is to provide tools for systematically analysing multimodal phenomena, in order to develop a critical understanding and appreciation of the complex ways multimodal resources, such as language, text, images, gesture, body language and movement work together to create impact and achieve their respective communicative purposes in different contexts. Such an approach enables teachers, students and researchers alike to support their analytical processes with computational and statistical evidence derived from the annotations.

Thibault and King (in press), drawing on theories of distributed cognition, distributed language and multimodal interactivity, apply a multimodal event analysis (MMAE) framework to the analysis of video-taped university tutorials in a tertiary context, to show how learning is essentially an interactive process, involving embodied actions (such as touching, moving, pointing, visual scanning, talking, writing, reading, listening), and how these are realised in combination with higher-order cognitive processes such as problem solving, interpretation, evaluation and decision-making. For this purpose, Thibault and King (in press: 7) develop a learner–environment interaction system (LEIS) for investigating interactivity through visual scanning, haptic manipulation and exploration, sound and movement, with the aim of helping students develop more effective learning strategies.

The development of systematic multimodal methodologies that both critically address and harness the effects and affordances of digital technology are also the concern and aim of the MODE group at the National Centre for Research Methods (http://mode.ioe.ac.uk), which is tasked with developing multimodal methodologies (including seminars and courses) for social scientists to systematically investigate all forms of multimodal communication in digital environments, including a significant focus on educational contexts.

Recommendations for practice

The affordances, challenges and complexities of digitally-mediated multimodal discourse, outlined above, have implications for learning and teaching, and also for research. As Hamp-
Lyons (2011: 3) warns, ‘it is clear that the potential of modern forms of electronically-mediated interaction is barely acknowledged in most EAP courses: this is a failure we may come to regret’. In order for students to become proficient in multimodal EAP, ‘teaching needs to be supported by a well-formulated theory’ (McCabe, O’Donnell & Whittaker 2007: 2), pointing to the need for the further development and application of frameworks for multimodal discourse analysis of academic contexts. Laurillard’s (2012) conception of teaching as a ‘design science’ similarly underscores the need for a theoretically-derived, integrated approach to teaching and learning with technology. Advances in digital technology also offer new opportunities and prospects for the research and practice of an integrated multimodal literacy (e.g. O’Halloran, Tan & E 2014, 2015). Oviatt’s (1999: 81) observations on multimodal interfaces have general relevance to the study and practice of EAP [italics in original]: ‘the design of multimodal systems that blend input modes synergistically depends on intimate knowledge of the properties of different modes … and how multimodal input is integrated and synchronized’.

In order to meet the demands of a rapidly evolving digital environment which continues to shape and transform conventional discourse practices in higher education, greater emphasis needs to be paid to emergent multimodal genres and practices. These are increasingly becoming important in academic discourses, for example: the dissemination of academic research through new media venues such as TED Talks (e.g. Friesen 2011); the impact of interactive and dynamic presentation tools such as Prezi (e.g. Perron & Stearns 2010); the use of computer and video games in educational contexts (e.g. Gee 2003); the application of social media tools for academic purposes (e.g. Neal 2012); and a broad range of existing and emerging technologies and practices such as MOOCs (massive open online courses), tablet and mobile computing and learning analytics (Johnson et al. 2013). These wider developments offer significant possibilities for EAP practitioners, and will no doubt continue to have an impact on the ways multimodal EAP is taught and studied in the future.

**Future directions**

In order to understand the evolving sphere of academic discourse, we need to understand the functions of individual semiotic resources (i.e. for language, image, sound) and their interactions in digitally enabled, multimodal texts. The issues of complexity, scale, methodology and theory, as well as the application of knowledge to practice, makes the study and practice of multimodal academic discourse an ongoing challenge, ultimately requiring interdisciplinary teams of researchers with prerequisite knowledge and skills for developing integrated, digital approaches to multimodal analysis and research. Yet the increasing use and mediation of multimodal discourse, including the wealth of material publicly available online and in databases, offers an unprecedented opportunity to study multimodal discourse and develop theoretical frameworks adapted for the teaching and practice of multimodal EAP and makes such work imperative. The solutions will come not from research alone, within the field of EAP or elsewhere, but also from the self-reflective practice of innumerable practitioners, grappling with the challenges of negotiating their way through and mastering the range of media and modes of discourse available to them and their students.
Note


Further reading

Böck & Pachler (2013); Jewitt (2014); Kalantzis & Cope (2012)

Related chapters

2 General and specific EAP
3 Academic literacies
15 Systemic functional linguistics and EAP
17 Ethnographic perspectives on English for academic purposes research
30 The academic poster genre
32 Interpersonal meaning and audience engagement in academic presentations

References

Bateman, JA 2008, Multimodality and genre: a foundation for the systematic analysis of multimodal documents, Palgrave Macmillan, Basingstoke.
Bateman, JA 2011b, Multimodality and genre: a foundation for the systematic analysis of multimodal documents (reprinted edition), Palgrave Macmillan, Basingstoke.
Multimodal approaches to English for academic purposes


Halliday, MAK & Martin, JR 1993, Writing science: literacy and discursive power, University of Pittsburgh Press, Pittsburgh, PA.


Kress, G & Street BV 2006, ‘Foreword’. In K Pahl & J Rowell (eds), Travel notes from the new literacy studies: instances of practice, Multilingual Matters, Clevedon, UK.


Morell, T 2014, ‘Communicating research at international conferences: a multimodal analysis of an intercultural or a disciplinary specific genre?’, in A Łyda & K Warchał (eds), Occupying niches: interculturality, cross-culturality and aculturality in academic research, second language learning and teaching, Springer International Publishing, Heidelberg.


