VISUAL DIMENSIONS OF ACADEMIC DISCOURSE IN HIGHER EDUCATION

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ABSTRACT

This article explores the visual nature of academic discourse within Higher Education in South Africa. It provides insight into the increasing influence of the visual in academic writing – arguing that the materiality and visuality of writing be considered alongside cognitive dimensions. The visual design of writing includes considering aspects such as spelling, typography, emphasis and layout. The article also considers the affordances of images and writing, the function of the visual, and the relations between images and writing. The aim is to create awareness in order to assist students in becoming conscious and active designers of meaning in a multimodal environment.

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INTRODUCTION

This article explores the increasing incorporation of the visual into academic writing, including the visual design of written text. In doing so, the aim is to think about what academic discourse looks like in a multimodal environment in order to enable student access to this specialised discourse.

New technologies are an important contributor to multimodal texts in academia. These technologies enable a range of possibilities for individuals creating documents, including layout, image, colour, typeface, and sound.

> Flexible, interactive and relatively fluid hypertexts offer the ability to redefine reader, author and text relations… this suggests that new ways are needed to think about forms of literacy, new skills of linking, decomposing and reorganizing elements in a text (Jewitt 2006: 9).

The challenge for those involved in writing pedagogy is to utilise new technologies effectively and to remain equipped to deal with the changing nature of assignments as a result of these new technologies. According to Luke (1996, in Jewitt 2006: 9), in a “symbol saturated environment”, it is important to be able to “construct, control, and manipulate visual texts and symbols”. These include developing material for presentation on different technologies and “familiarity with the kinds of icons and the signs evident in computers like the Word for Windows package, with all its combinations of signs, symbols, boundaries, pictures, words, texts, images” (Street 2004: 11).

If we focus on reading and writing practices as only one part of what people have to learn in order to be “literate” this could lead to a shift from thinking about literacy as a euphemism for “competence” to thinking about literacy as “design” (see Author 2006 for a discussion on the term “literacy”). According to Kress (2003: 180), the notion of design starts from “the interest and the intent of the designer to act in a specific way in a specific environment, to act with a set of available resources, and to act with an understanding of what the task at hand is, in relation to a specific audience”. In order to assist students in becoming conscious and active designers of meaning in a multimodal environment, it is worth exploring what form academic discourse takes in this environment.

ACADEMIC DISCOURSE IN MULTIMODAL TEXTS

Academic discourse is a semiotic practice which has evolved to do specialised kinds of theoretical and practical work. At universities in Western societies academic discourse is a socially valued practice, conferring prestige on its users. It often functions within a framework of binaries, privileging one subsystem of binaries: logic over emotion; academic “truth” over personal experience; linearity over circularity; certainty over uncertainty; and formality over informality (Lillis 2001: 81). Knowledge is often produced through negation and opposition, through “argument” which involves positing a thesis, an antithesis and some new kind of synthesis. It would be interesting

to explore how argument proceeds in visual texts (through single images or sequences of images) and multimodal texts. Here it would be necessary to look at the relationship between different modes in terms of reinforcement of or opposition against a proposition (Andrews 2009).

Academic discourse functions on a hierarchy of epistemologies, creating a disjuncture between the systematised knowledge of the discipline and everyday commonsense knowledge. Academic discourse "sets up a pervasive and false opposition between a world of objective, authoritative, impersonal, humourless scientific fact and the ordinary, personal world of human uncertainties, judgements, values and interests" (Lemke 1990: 129-130). These different domains of practice (the "scientific" and the everyday) can sometimes be realised in different modes, allowing different orientations to reality to coexist in a single text (Author 2006). In a multimodal text like a poster, for instance, the choice of images, colour and other features on the poster could correspond closely to everyday perceptions of the world, whereas the written text could be more impersonal and objective. This is one of the many possible ways to use writing and image in academic discourse.

Academic discourse is realised in the written mode through lexical choice and particular grammatical constructions such as nominalisation. In the visual mode, academic discourse is realised through diagrammatic representation, the use of vectors, naming and labelling represented components and organising information into analytical hierarchies. In both written and visual modes, the degrees of authorial distance from and degrees of engagement with the subject matter are important in constructing academic discourse.

Kress and Van Leeuwen (2006) suggest that we can apply "grammatical" analyses to different modes or semiotic systems in a way similar to those applied to language in its more traditional sense. By grammar they do not mean rules, but rather the ways in which people, places and things depicted in images are combined into meaningful wholes. One important grammatical aspect to look at in academic discourse is modality. Modality as used by Kress and Van Leeuwen (2006) refers to the produced shared truth value or credibility of a representation. In academic discourse in the written mode, tentative modality is often the norm and is used in statements such as "it could be argued that". When looking at modality in a visual text, one looks at how the truth value is established within a particular "coding orientation". Coding orientation is defined as resources being repeatedly used in certain ways, establishing expectations which are habitualised over time (Kress & Van Leeuwen 2006: 170). In science, for instance, abstract and decontextualised representations often convey a truth within an abstract coding orientation, rather than a naturalistic coding orientation. Colour can be used as a marker of truth and reality in the visual mode, and colour meanings are developed within the conventions and constraints of particular disciplines. Here the markers of modality are colour saturation, colour differentiation, colour modulation, contextualisation, depth, and brightness (Kress & Van Leeuwen 2002).

In thinking of how the visual and the verbal modes realise academic discourse, it is useful to bear in mind the different affordances of these modes. A key affordance of images is to articulate attitude, including affect, judgement and appreciation (Martin 2000). In terms of design logics, written language has a linear sequential logic (where font type, font size and consistent headings follow a linear path) and images tend to have a non-linear logic of space (where different pathways are established through the text). In syntagmatic logic meaning is derived from the sequence of and connection between elements in a linear text. The sentence or written line is a perfect example of syntagmatic logic where the words as signs only have meaning in relation to each other. On the other hand, in paradigmatic logic, more of the meaning is placed in the individual elements of the composition, for example, a visual that represents the characteristics of a particular group. Thus, generally speaking, language tends to realise sequential relations better than images which realise spatial relations. Although, Harris (1995: 45) would complicate these categories by arguing that the underlying logic of writing is spatial, as illustrated by the functioning of Braille.

WRITTEN TEXT AS VISUAL ENTITY

It is often overlooked that writing itself is a visual form of communication. A conventional view of writing is that "the nature of a text lies in its linguistic content and structure, not its layout or its materiality (the physical form, such as ink on a paper page)" (Sharples 1999: 129). However, learning to write partly means learning how to produce well-designed print and digital texts, and becoming aware of how the design of the page can contribute to readability and persuasion.

Images and layout have not always been regarded as separate to the writing, but became divorced from the process of writing during the nineteenth century. Before that, in medieval times, a writer would have regarded them as indissoluble parts of the text. In the nineteenth century, two events led to separation of written text from its visual form. The first was the mechanisation of publishing, including mechanical typesetting. The second event was "the promotion of the densely written page as a symbol of literacy" (Sharples 1999: 130). The notion of image and layout as separate to the written text has persisted well into the twentieth century, but it is now disappearing as a result of computer-based publishing.

The modal resource of writing has undergone a transformation within electronic textual environments. Writing remains a dominant mode within environments such as the computer or mobile phone, and is, of course, still the most valued in academic environments. A textual feature typically associated with academic writing is citation. It is a resource used in the design of meanings in socially shaped and regular ways. It would be fascinating to look at the visual cues for citation and how these perform a rhetorical function through the form and layout of the text. For instance, the claims that are made about the authority of a written piece when there are many large blocks of indented quotes or when the piece is littered with references in a way suggesting insecurity of authorial voice.

The notion of writing as "design" suggests we consider both the materiality and visuality of writing alongside its cognitive dimensions. According to Sharples (1999: 131), "the language, visual appearance and physical form of a text together constitute the writer's communication with the reader. They embody, or *encode*, assumptions about the nature of that communication". He gives the example of instructions which are texts designed to be clear. The layout of the instructions complements the writing but does not intrude on it. However, there are also written texts whose visual designs are intended to be beautiful or intriguing, but not necessarily clearly legible. Here, the "presentation forms a large part of the appeal of the text" (Sharples 1999: 131). Written texts where clarity gives way to visual appeal include calligraphy and concrete poetry, where the shape of the writing on the page forms part of the meaning.

The idea of concrete poetry in the post-war years was the search for a universal or international poetry, a poetry that would unite and combine languages. Interesting examples of South African concrete poetry are Willem Boshoff's poems published in *KykAfrikaans* in 1979 (reproduced in Vladislavic 2005). These poems were produced on an old-fashioned typewriter and Boshoff characterizes *KykAfrikaans* as a homage as well as a farewell to the typewriter. He approached the page the way an artist would approach a canvas, using the typewriter as a "drawing instrument" (Vladislavic 2005: 26). For instance, in the poem entitled *Entrenched Revelation*, Boshoff typed the biblical text of *Revelations* onto a sheet of paper, then reinserted the sheet and typed the second page on top of the first, and the third on top of the second. The result is a text that is more of an obfuscation than a revelation:

> The reader trying to retrieve meaning from this layered chaos is compelled to relive the moment of its disappearance. It must have been clear to start with, when one layer of words filled the page, marching ahead in orderly rows; but with the superimposition of the second layer, the page would have moved out of range of its producer, as obscurity settled slowly over it. An inversion of the Creation's moment of illumination: not light, but darkness (Vladislavic 2005: 26).

In this kind of poetry, there is a constant interplay between reading and words and looking at the image. Concrete poetry is obviously an extreme example of a text where meaning and form are inextricably linked: "the more word approximates image, the more text becomes texture, the less it qualifies as a verbal message" (Vladislavic 2005: 26). When thinking of "writing as design" in more conventional written academic genres, the article will now focus on spelling, typography, visual emphasis and the use of white space.

Spelling and e-language

Goodman (1996) highlights the different connotations of differently spelt words, which change the visual nature of the word. She uses the examples "hello", "hallo" and "hullo" to illustrate degrees of informality. Perhaps the only time that conventionalised spelling is altered in academic writing is when a particular (new) concept is framed (such as Derrida's "difference"). Another visual marker of new concepts can be the use

of hyphens within words, like “in-side”, or brackets, like “(re)construct”. The hyphens or the brackets indicate the multiple meanings embedded in the word. This kind of play with the visual nature of the word is acceptable in certain kinds of academic writing. Another representational choice that academics writing in English need to make about spelling is whether to use British or American spelling and the effect that this choice might have on their intended audience (for example, “colour” or “color”, “centre” or “center”).

In contexts outside of academia, differently spelt words can sometimes index a “cool visual dialect” (Author 2005), such as the written language of mobile telephones which include homophones and emoticons. A sentence like the following creates what Goodman (1996: 51) calls “visual typographic puns”: “U guys r askin me 2 much. I already got enuff catchin’ up 2 do”. The utterance mixes representational media, namely numbers and letters. The visual cue for “too”/ “to” has been changed to “2” which produces an auditory effect similar to the conventional spelling, but also suggests the intonation of a dialect. In terms of academic discourse, spelling is a potent visual indicator to the reader of the academic status of the text. Traces of a “cool visual dialect” or e-language conventions tend to lower the credibility of most standard academic texts.

However, increasingly in academic environments, students are being required to get involved in computer mediated communication as part of their course work, and often this work gets assessed (even if simply for “participation”). Often students continue to use the language conventions of these media even in the more formal task-based pedagogical context. The following is a student posting in a course-based on-line simultaneous discussion forum:

> My report proposes the following: It proposes someway of improvement of housing situation in rural area. But from what I got from The Expert’s reply... I think I just gonna start my report all over AGAIN... (and we got test this week,,, and tha next week,,, yeah we got tha whole time in the world, all right?)
> Anyway, I’ll go got sum info. from what Tha X-pert suggested...
> Ciao

In the extract, we can see how the student uses paralinguistic cues, auditory and visual effects in order to show some kind of resistance to standard academic discourse (Author 2005). Lack of capital letters and punctuation and poor spelling are visual markers of the “ensemble” that is e-language. She uses ellipsis and three commas to slow down the pace of her text: “and we got test this week,,,and tha next week,,,yeah we got tha whole time in the world, all right?” Here she alludes to her perception of the relative unimportance of this course, compared to the others. This is a kind of hip-hop dialect in which the most common formulations include “yo” for “your”, “tha” for “the”, “wuz” for “was”. Other features of an African American accent are the dropped endings on words (don’ and sumthin’). She refers to “Tha X-pert” (someone knowledgeable in the field of development brought into the online discussion) in subversive ways, using capital letters in the same way one might use inverted commas, as a visual signal of

subversion in order to question the authority of the expert. The use of capital letters shows a mock respect, whilst the “X” resonates as a rich visual symbol, a “supercharged typographic icon” (Goodman 1996: 51) with connotations of transgression, taboo (as in X-rated) and identity (as in Malcolm X).

The above example demonstrates how new technologies and new assessment environments may open up a space for “play” with language (including exploiting its visual dimensions) in a way that the formal standard assessed assignments do not. E-language often bleeds into academic genres. Yet, as mentioned earlier, it does constitute “academic writing” in a sense because online discussions have become part of the teaching and learning environment and are often assessed. Also, it is becoming more common to quote from and reference personal communications such as e-mails in academic writing.

Typography

Writing and visual communication form an inseparable unit through typography (Van Leeuwen 2005b: 138). Letter forms as graphic shapes have distinct characters. These are partly based on association and partly on “intrinsic” form and shape. “The printed word has two levels of meaning, the ‘word image’, the idea represented by the word itself, constructed from a string of letters, and the ‘typographic image’, the ‘holistic visual impression’” (Van Leeuwen 2005b: 138).

A font such as Ariel is often used in academic writing. Sans-serif typefaces such as Ariel are open and unadorned and thus suggest “modernity” as well as objectivity. These fonts are also easier to read at small sizes and so are often used within tables or diagrams. Serif typefaces, such as Times New Roman or Garamond, have short decorative strokes on each character, which suggest classical elegance. These are also commonly used in academic writing. Perhaps a font like Times New Roman points to a sense of antiquity in the academic project – alluding to manuscripts of old.

The typeface of a text can “convey a mood, signal cues as to content or even suggest a point of view” (Goodman 1996: 45). Look at the following example of the use of different fonts and sizes in an e-mail:

Hello again my furry friend
it was/is my friend Bernice’s birthday party…. I drunk…er drank champers…. In the sun…. <fuzzy grin>

I can’t breathe. If I don’t quite smokin’ I WILL keel over and CROAK my LAST.

YOU MAY CALL ME….. TYPE-MASTER…. T.
the master of layout
AND
kiss my (;)
design.

The changes of type here are used to show a change in idea. The can also be used to imply multiple voices in a text, as well as turn-taking and intonation. Word-processed assignments that change fonts at random generally have lesser academic credibility. Commonly, font size is used to indicate hierarchy in headings and smaller fonts are often used for footnotes or tables. More worryingly, change in fonts or font sizes can sometimes indicate "cut and paste" in student writing.

Van Leeuwen (2005b: 142) maintains that since word processors, typographic expression has become accessible to all and he therefore argues that teaching "typographic literacy" should become an integral part of teaching writing at all levels, including academic writing, to enable writers to use "typographic expression effectively and discerningly".

Emphasis

This article has argued that increasingly a writer is becoming a visual designer. Mention was made of spelling and typography, but there are other aspects of visual design, including emphasis and use of white space that are equally important. Each choice writers make in laying out text and images on the page generates multiple meanings for its readers, for instance, underlining a piece of writing. The line signifies that those words are significant and in doing so, it "pre-interprets" the text on behalf of the reader (Sharples 1999: 137). According to Sharples, underlining:

> suggests the ground: it places the phrase on a firm foundation. The image is also intrusive, it breaks up the white space between the lines … Using **bold** or *italics* provides emphasis without intruding on the space needed for a reader to scan text a line at a time (1999: 137).

In addition, underlining now usually indexes a hyperlink and has become more unavailable as a design resource to indicate emphasis. The underlining of text could be medium-specific. In hand-written drafts or exams it is acceptable, but in word-processed documents it indicates a "clickable" hyperlink. In this sense, underlining has come to signify a different medium.

There are different kinds of emphasis or what Bezemer and Kress (2008) call "highlighting", including font size, use of bold, boxes around text, white space, bullet points, and so on. These all guide the reader through the macro-structure of the text.

Bold face type and italics are often used as signifiers of affect or degrees of authorial engagement. However, it is uncommon in academic writing to overtly signal affect through emphasis, such as "It is *extremely* rare to encounter…" Emphasis is generally expressed through words rather than visually: "In fact, it is acknowledged that …" would be more common than "It is *acknowledged* that …". Emphasis can be used to highlight contrast when making an academic argument, for instance: "It is generally acknowledged that there are no works of *pure factuality* any more than of *pure fictitiousness*." It can be used to make a distinction between two different things of a similar class: "It is *this* type of syntactic pattern that is problematic." Also, when

quoting from a source, a writer can choose to emphasise a part of the quote that is pertinent to the larger argument. French or Latin terminology in English text is often written in italics (like *vis-à-vis*). This use of italics does not signal emphasis, but is more akin to putting the word in quotation marks. Similarly, in scientific writing, some terminology is written in italics.

Layout and use of white space

The layout of a text is achieved through the use of white space. White space is "created within a character and between characters, sentences, lines, paragraphs and columns" (Sharples 1999: 139). A page can be spaced both vertically (space between lines and paragraphs, space at the head and foot of the page) and horizontally (spaces between letters and words). In terms of vertical spacing, the academic writer has the choice of signalling paragraphs through line breaks or through indentation of the first line. With horizontal spacing, a writer can group text into meaningful components by, for example, tabulating items or right justification.

White space can be varied for effect, and is utilised differently in different genres. If the aim of the writer is to draw the reader into a narrative, then the spacing is more uniform, with little to distract the eye. In a novel, for instance, the "writer holds the reader's attention by punctuation, dividing the text into sentences and paragraphs that create rhythms of prose" (Sharples 1999: 140). Due to the generic conventions of a novel, the reader reads the text in a linear way from start to end. For an instructional or a reference genre, the contract between the reader and writer is different. Here, the writer employs visual design to reveal the overall structure of the text and to guide the eye towards the more appropriate information.

To return to the earlier example of concrete poetry, the closing up of spaces between words is one of the major techniques Boshoff uses to make reading difficult or impossible.

> When the breathing spaces between words are eliminated, when their edges are allowed to bump up against one another, they lose their distinctness and start bleeding into one another or packing together into substance. Language as a system of differences collapses (Vladislavic 2005: 28).

Good use of white space can help a reader to see redundancies in the text and thus read faster, see more easily which parts are relevant, see the structure of the document as a whole (Hartley 1994). A writer can signal the macro-structure of a text to a reader by combining the use of white space to indicate breaks in meaning with appropriate headings to describe the content.

Writing and image both exploit the same basic resource, namely "spatial relations" (Harris 1995: 48). Thibault (2007: 144) argues that, like image, writing has properties such a spatial orientation and continuity of direction. "A line of writing on a page is itself a vector which specifies a particular direction for the purposes of optical scanning… This property therefore provides a basis for the integration of the line to

action and movement vectors, which belong to the grammar of depiction." He argues that because both writing and image make use of the same fundamental visual-spatial resources, this constitutes the basis for their integration.

Multimodal student assignments in Higher Education

This article has attempted to demonstrate the visual nature of written academic texts. Students are also, however, required to produce texts which combine the visual and the verbal modes. In these assignments, images are used in conjunction with the written mode to provide context, illustrate a point, make an argument, furnish evidence, or organise data. There are also a range of examples of academic genres that require the use of numerical graphical representations, such as needs analyses, impact assessments, or cost benefit analyses.

In multimodal texts, it is important to note the conventions surrounding the type of image, the function of the image, the choice of particular image and the visual-verbal linkages. In terms of the function an image is performing in a text, the image can serve as an illustration, it can be used as evidence in an argument, or it can be a part of an argument. In Prince and Author (2008), it is argued that numerical graphical representations in texts often function rhetorically. These types of representation tend to have high modality or truth value in academic texts as the assumptions underlying the numbers are generally hidden and numerical representations are often regarded as more factual and objective than other kinds of evidence. The type of image chosen for a particular purpose is important. A photograph may be better suited to emphasise a building in its surrounding context, whereas a more abstract drawing of a plan of a building could emphasise certain structural aspects better than a photograph could. In a scientific coding orientation, a cross-section diagram, perspective drawing or simplified two-dimensional drawing may be more appropriate than a more realistic drawing or photograph.

Finally, the relations between image and writing need to be explored in multimodal texts. Many multimodality theorists have thought about visual-verbal relations and attempted to systematically describe resources for meaning-making at the intersection of image and writing (Martinec & Salway 2005; Unsworth 2006; Royce 2002). Most of these analyses draw on a social semiotic metafunctional view of communication, specifically using concepts from systemic functional linguistics (Halliday & Hasan 1989). Although they classify and describe the visual-verbal relations differently, there are some underlying trends that emerge: similarity relations, opposition relations, complementary relations, and whole-part paradigmatic relations. In terms of similarity relations, one could look at how one mode exemplifies the other, and interestingly in terms of writing as a visual mode, look at how two different modes co-occur in one spatially bounded homogeneous entity in what Lim (2004, in Unsworth 2006) calls the phenomenon of "homospatiality". An example of this is where the smoke from a campfire spells a smoky "hot". In complementary relationships, what is represented in images and what is represented in writing may be different, but complementary. Here it is useful to bear modal specialisation in mind. As mentioned previously, language

tends to realise sequential relations better than images which realise spatial relations, and images tend to articulate affect and emotion in more direct ways than in writing. These similarity, opposition and complementary relations are close to Halliday's concept of "extension": the verbal and visual modes provide different, but semantically related information. According to Van Leeuwen (2005a), Barthes' (1977) concept of anchorage is close to Halliday's concept of "elaboration". It is a kind of specification as the words pick out one of the possible meanings of the image. The visual-verbal relationships of elaboration and extension are summarized in table 1 below. This is a fairly simplified view of the possible relationships, but is sufficient for the purposes of this article.

TABLE 1: OVERVIEW OF VISUAL-VERBAL LINKING

Elaboration	Specification	The image makes the written text more specific (illustration)
		The written text makes the image more specific ('anchorage')
	Explanation / exposition	The written text paraphrases the image, or vice versa
Extension	Similarity (exemplification, homospatiality)	The content of the written text is similar to that of the image
	Opposition	The content of the written text contrasts with that of the image
	Complement / enhancement	The content of the image extends that of the written text, and vice versa ('relay')

Look at figure 1 as an example of visual-verbal linkages. This is taken from a first-year essay in architecture which requires students to look at the influence of Renaissance features on a contemporary shopping and living centre, Century City, in Cape Town.

FIGURE 1: EXAMPLE OF VISUAL-VERBAL LINKAGES IN A FIRST-YEAR STUDENT ESSAY

Aerial photograph of Century City. It is evident that this 'city' does not seem to fit in with the context of its surroundings. Century City is quite clearly a demarked area of its own. (http://maps.google.com)

This image appears at the beginning of the essay and its function is to locate Century City in its urban context. The aerial photograph gleaned from Google Maps is appropriate for this function. The caption is an example of elaboration, and more specifically "specification" or "anchorage" in Barthes' (1977) terms. The words focus the reading of the image (onto some of the social and contextual circumstances of Century City) and constrain the number of possible readings one could generate. However, the caption assumes that the offered interpretation for the image is self-evident: "It is evident that this 'city' does not seem to fit in with the context of its surroundings." A substantial amount of contextual knowledge is needed in order to generate this reading. It would be necessary, for instance, to know that Century City is constructed in an area previously designated not for whites, under the apartheid regime. The student puts quotation marks around the word 'city' in order to question the notion of Century City being a city which would include public facilities which were not solely aimed at financial gain, like schools and libraries. It is for these reasons that the opulence and consumerism of Century City fit somewhat uncomfortably in the surrounding city. The caption claims that "Century City is quite clearly a demarcated area of its own". Again, this assumes prior knowledge and Century City is not indicated in any way on the image through the use of a different colour or through the use of a

border. So, although this caption serves to elaborate on the image and to specify one particular way of looking at it, it does assume a large amount of prior knowledge on the part of the reader. The image and the caption both form part of the larger argument that the student is making about the artificial and commercial nature of Century City.

CONCLUSION

The choice of how to represent data presents complex choices about conjunctions of meaning and form in multimodal composition. When creating texts, people bring together and connect the available form that is most apt to express their meaning at a given time. A writer who selects one visual effect where another is possible creates a motivated conjunction of meaning and form (Kress & Van Leeuwen 2006). The writer selects particular design features to be significant at a particular point, in a particular context. In this article, the author has attempted to show how "all writing creates a web not only of textual meaning, but also of visual connotation" (Sharples 1999: 137). It is important to note that both the regularities of modes and the interests of people are socially shaped to realise convention and this takes on a particular form in the academic environment. This author would thus advocate opening up access to texts for students through making explicit how textual conventions work. Finally, by seeing students as "designers" of texts we see them as actively engaged in meaning-making. We become interested in the representational choices they make, and the agency they have within the constraints of convention in the discourses of academia.

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