

Children writing: Multimodality and assessment in the writing classroom

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Abstract

Multimedia has had a widely recognised impact on society, but it is still under-represented in the literacy pedagogies of many schools. This may relate to the way we view assessment for literacy, which is still almost wholly monomodal. Students assessed at a low level as producers of verbal text may respond positively when working multimodally, but the only assessment instruments we have do not reveal this. In a class of 26 ten-year-olds in Victoria, Australia, with rich access to computers, five children performed at a very low level when working with verbal expression only, but responded remarkably when invited to work multimodally. A programme of text production was monitored and the results analysed, progressing from handwritten monomodal work, through stages of multimodality to full multimodal expression. The results suggest strongly that some children need multimodal scaffolding in order to communicate complex ideas effectively. This, however, requires an acceptance of multimodal texts as part of the primary literacy curriculum. It is therefore suggested that assessment of multimodal composition, both narrative and other texts, should be developed to help teachers accept the value of introducing multimodal literacies into the classroom.

Key words: multimodal, literacy, assessment, 10-year-olds

Introduction

Multimodality in the lives of children

In the society in which children are growing up, communication through print media is now almost always a mix of images and text, while electronic media incorporate sound, music, hyperlinking and animations. Most elements of popular culture are transmitted in multimodal formats, which are often very complex. Gee (2003) and Beavis (1999, 2001) have powerfully illustrated this in their work on games. Kress and Van Leeuwen (1996, 2001) have attempted to construct a basic grammar for multiple modes. The New London Group have issued their call for reform: "We argue that literacy pedagogy now must account for the burgeoning variety of text forms associated with information and multimedia technologies" (New London Group, 2000, p. 9).

As Kress has watched his own and other children grow up and move into school from their multimodal home environments, he has pointed out that "other forms of communication are making increasing and massive inroads into the domains of communication formerly securely settled by written language" (Kress, 1997, p. 2). Kress claims that by the time they get to school, children are practised and competent makers of signs in many semiotic modes. There is a huge jump to be made from the "rich world of meanings made in countless ways, in countless forms, in the early years of children's lives, to the much more unidimensional world of written language" (1997, p. 14).

Today's children pass through childhood receiving information multimodally through television, through multimodal books, through the computer screen and through electronic games. Although conventional printed books still play a major part in the lives of many children, increasingly these rely on a combination of images, colours and words. This is so even in school, where Kress (2003) has shown that text books now have a heavily multimodal format, and has concluded that many texts now rely as much, or more, on features of imagery and spatial design for message-giving as they do on verbal text.

In the early years of school, children work multimodally. Teachers accept, and indeed encourage, expression in multiple forms: drama, gesture, written words, drawings and song. Daiute (1992) and Eisner (1998) have both written of the multimodality of the earliest year in school and the need to continue onwards through the later grades with the pedagogy that allows this. They are concerned that we seem to drop this multimodality somewhere in the second year of school, as we get into the serious business of literacy. Daiute's early but classic study of using multimedia in literacy learning was built on research she carried out with reluctant Grade 4 writers. It still has relevance. Eisner's views are generated from his observations of North American schools, from his strong viewpoint of the need to integrate fine arts into the mainstream of education. But his comments resonate with those of Daiute:

"It is interesting and significant that kindergarten teachers often encourage children to use their senses to explore materials and tasks. When the educational stakes

are still modest, there is time and even merit for such activities, but once the child moves into first grade, the grade in which "the real business" of schooling begins in earnest, teachers seem to have less time for such matters. Grade-earning and teacher pleasing gradually become more important to children than securing the satisfactions a sensuous world makes possible." (Eisner, 1998, p. 14)

The role of assessment in maintaining monomodality

There has been some movement to increase the multimodality of early years classrooms beyond the earliest years, but the assessment systems in place in most of the schools of the English speaking world indicate that we value the ability to express in words above everything else. Monomodal verbal facility is generally considered to be a key educational asset. Most 'Western' education systems reinforce this by nationwide or statewide annual or biennial tests of literacy that are almost entirely based on skills with words.

We value what we can measure. When we measure literacy, textual skills are easy to measure and compare. In England the Qualifications and Curriculum Authority (QCA) is responsible for the writing assessment criteria guides for each year's Standard Assessment Tests (SATs). The writing required is monomodal, and the criteria reflect that. Figure 1 shows a set of short excerpts from a recent SAT criteria guide, and although it deals with many aspects of both the syntactic and semantic possibilities, there is no hint of assessing other message givers such as visual images.

Band A4	Simple and complex sentences used, with some variety of connectives. Expansion of phrases and clauses adds detail. Tense changes generally appropriate; verbs may refer to continuous action, past or future events. Additional words and phrases contribute to subtlety of meaning
Band B4	Relationships between paragraphs give structure to the whole story, for example, link between opening/resolution; contrasts of mood. Reference to characters / events / settings varied to avoid repetition, for example by omission of words (ellipsis). Paragraph structure is controlled to shape the story, for example a paragraph used to build up to a main event.
Band C4	Adaptation of story form evident in development of character and setting, for example, main character show awareness of others' feelings. Changes pace maintain reader interest. Writing engages the reader in a variety of ways, for example: direct address; repetition for z ect.

Figure 1: Some excerpts from an assessment criteria guide for a SAT writing task produced by the Qualifications and Curriculum Authority (Source: QCA, 2004)

In Victoria, Australia, the state in which this study was conducted, the first testing for the Achievement Improvement Monitor (AIM) is carried out during Grade 3 (approximately 8-year-olds, VCAA, 2003). Figure 2 shows part of the criteria used in Victoria to help teachers assess written competency. Like the QCA guidance in England (QCA, 2004), this shows that part

of the assessment at Grades 3 and 5 in Victoria concerns skill-based: syntactical accuracy, spelling and reading competency, while the remainder is semantically based. However, these criteria are solely concerned with working with words, a monomodal communication system. There is no concession whatsoever to texts that include other semiotic modes.

6 REFINING A BASIC TEXT
<ul style="list-style-type: none"> Varies sentence beginnings and uses extended sentences. Shows some accurate use of apostrophes and quotation marks to enhance text. Uses correct spelling more than misspelling. Selects vocabulary that is appropriate for audience and purpose. Links text with occasional sophistication and uses a variety of conjunctions.

(a) Example of AIM criteria for written texts, 'linguistic and structural features'

6 A TEXT WITH CLEAR DEVELOPMENT
<ul style="list-style-type: none"> Writes a text that has clear development of ideas and supporting detail. Shows logical and appropriate organisation of ideas. Selects and maintains an appropriate text type. Writes towards a clear conclusion. Selects content that is appropriate for the intended audience.

(b) Example of AIM criteria for written text, 'text and contextual understanding'

Figure 2: Two excerpts from the teacher-marked criteria used in Victoria, Australia for assessing student writings (Source: VCAA, 2003)

In recent years most Australian states have produced new curriculum overlays to update curriculum planning, in each case placing more emphasis on using and composing multimedia. In the case of Victoria, the new overlay, the Victorian Essential Learning Standards (VCAA, 2005), introduces multimedia text production in the upper primary years. However, as in other Australian states, the interest in multimedia ends before the assessment standards come into play. All assessment standards are monomodal.

The study

I had already retired from a career in primary teaching in both the United Kingdom and Australia, but in order to collect data about changes that occur when students move from verbal (monomodal) text production to multimodal text production, I returned to full-time teaching for one further year. I investigated a class of 9–10-year-olds by becoming their class teacher. Following Daiute (1992), whose case studies came from her teaching of Grade 4 children, in which she led them to produce multimodal text on the computer, I decided that the multimodal texts were to be computer-mediated, so needed a school with rich technology provision. The study has been carried out at an independent primary school in Melbourne at which students in Grade 5 (9–10 years) have constant access to portable computers. The students in my study were from 9.7 to 10.6 years at the start of the school year. The school has no entry requirements, and hence is mixed ability and coeducational, but draws on a high socio-economic sector.

The application selected for the use of the students was MicroWorlds, a multimedia successor to the Logo language applications. This had an additional interest in that Logo formed a scripting language, so that students could build microworlds and develop animations of their own as they constructed their compositions.

As the full-time class teacher I was in full control of the literacy planning within the framework laid down by the state of Victoria. The data for the study mainly consist of descriptive and narrative texts, although other genres were not ignored, either monomodally or multimodally. I implemented a programme of text production ranging from handwritten descriptive and narrative, through use of a multimodal wordprocessor (Textease), and finally to working in a full multimodal narrative tool with Logo scripting language (MicroWorlds). Every piece of text produced added to the data for my study. The text data were then assessed and grouped into text-production patterns.

The verbal, monomodal texts could be assessed using modifications of the criteria rubric given to all primary teachers by the Victorian Curriculum Assessment Authority, to judge texts written for the Victorian State Achievement Improvement Monitor (AIM) tests. In its original form the rubric included assessment not only of semantic and syntactic features, but also of strategies. Since the strategy assessment was not directly relevant to the current study, the rubric was amended accordingly. The criteria used have been discussed above, and are very similar to the QCA criteria used in England for English writing tasks.

The assessment of the multimodal texts was not so easy. As the study progressed it became clear that there are multiple schemes and rubrics available to assess the skills involved in computer-generated multimedia (for example Green and Brown, 2002, VCAA, 2004), but very few schemes to assess quality or content. This issue is further discussed below.

In any one class there is a large range of student responses to the task of verbal text production. But we can be fairly confident that by using the assessment rubrics such as those produced by the QCA or VCAA, we can successfully judge the quality of students' verbal texts. For example, in the early part of the study, the students were asked to produce a descriptive text based on viewing a candle burning. The first draft was handwritten, and one group of five students (out of 26) were struggling for words. They did not seem to be able to access the verbal resources to complete the task adequately. All five students had had 5 years of compulsory schooling, but handwritten or word-processed work in the early part of the study rarely produced much more than this from any of them. Any pressure on Student A resulted in tears, and an apparent inability to either find or organise the words that he needed for a task. The others reacted variously

to such pressure, but rarely produced more text. The government AIM testing indicated that all five were performing at very low levels in terms of written language.

Figures 3 and 4 show drafts by students A and B, as examples of texts produced by this group of students.

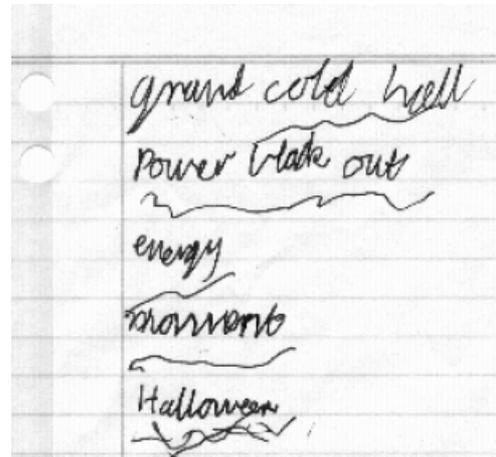


Figure 3: Full draft 'Candle' descriptive piece, Student A

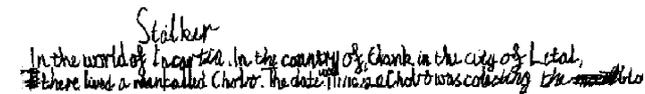


Figure 4: Full draft, descriptive text, Student B

Using the AIM criteria for linguistic structures and features, Student A's text could be said to lie mainly within the level 3 category of "writing intelligibly", in that the piece "uses vocabulary related to the topic", and has reasonable control over spelling. However most of his early Grade 5 texts failed to meet the grammatical criteria at this level, which specify that students should be using complete sentence structures and punctuation. In terms of the criteria concerning texts and contextual understanding, his work also falls into level 3 (a basic text) in that this text "lists ideas rather than interrelating them", and "communicates some ideas but with little or no development" (VCAA, 2004). It is, however, difficult to judge a level clearly since although there is a clear connected meaning between the 'power black out', 'energy' and 'movement', he resisted working in sentences. So the two sets of AIM criteria place Student A as performing at around a 7-year-old level.

Student B has much greater control over linguistic structures, setting him at level 5, "most basic conventions controlled", for linguistic structures and features, but at level 3, "a basic text", for texts and contextual understandings. However, he has tried to write a narrative in place of the required description, and has stalled after two lines. In the early part of the school year, Student B never wrote more than a few words.

As each of the students in the class moved to multimodal text production, their texts became considerably more complex. Within the limited space and even more limited modality of a journal article, it is very hard to reproduce the complexity of a multimedia text. Many of the multimodal texts produced by the students in the study consisted of more than 10 screens, and several of more than 20 screens. Here I concentrate on one child, Student B.

One of the questions I was seeking to answer was whether problems in handling verbal texts also translate to problems in handling multimodal texts. There is evidence from previous studies that many children who have problems with verbal text production can communicate effectively in other modes (Beavis, 2001; Daiute, 1992; Olson, 1992; Sutherland, 1995; Vincent, 2001). I was keen to see whether that would be the case in my classroom.

However, as I came to examine the multimodal texts, I became aware of an assessment dilemma. I realised that I could not use the same assessment criteria that I used for the verbal texts. A search for multimodal assessments found many rubrics that assess skills such as ability to handle graphics, ability to create and use sound files, use of navigation devices etc. (for example, VCAA, 2004), but little to help in assessing content or quality. I therefore relied principally on qualitative assessments based on Kress and van Leeuwen's (1996) grammars of semiotic modes, and observations of the degree to which students *integrated* modes to present the messages.

Student B's multimedia narrative

Student B found both oral and monomodal written language communication very difficult. His oral language was hard to follow because he seemed to be unable to assemble completed thoughts through words, often starting out on a sentence, which he struggled to complete. His interview (Interview Fragment 1) gives an impression of these difficulties, as well as highlighting some interesting insights into processes.

Interview fragment 1

- Interviewer: *So when you start out writing – what do you write first of all?*
- Student B: *Well ... Er what do you mean start out writing?*
- Int.: *What are you writing at the moment? What did you start out writing a story about?*
- B: *Usually with um with I started out with a fast reading fast movement like*

- Int.: *When you mean fast movement you mean something's happening?*
- B: *Yes*
- Int.: *So where do you go to from something's happening?*
- B: *Well – you know – then I build it up a bit more*
- Int.: *How do you get to the end?*
- B: *Um I usually just work well at ????? it*
- Int.: *What happens if you get stuck?*
- B: *I try to think up an idea that get it ...*

The interview took a long time while the interviewer waited for responses, two of which were incomplete, both syntactically and semantically. The lack of sentence completion in oral language was accompanied by inability to use appropriate phrases to convey the meaning he wanted. For example, "I started out with a fast reading fast movement like" appears to refer to the student's desire to get action into the beginning of the text, but the weak 'like' suggests a difficulty in building on this idea. The response promised further explanation, which did not eventuate. The interviewer then prompted with a possible interpretation of the utterance to which the student agreed. In at least one of the responses Student B was clearly having difficulty following the interviewer's meaning (. . . Er what do you mean start out writing?). This was a normal oral response for this student, and it was a severe impediment in all class oral work.

In written text production he was similarly slow, although his sentences were often complete. Early in the year, the fluency of his written work was low, whether handwritten or word-processed, but he sometimes used complex vocabulary. For example, in a descriptive piece written early in the year about a candle he wrote: "destructive like a dragon-/unknown when unleashed/a little burning candle is this so beware". He had found an internet image of a dragon and linked this with the candle. The piece was composed in Textease, a partial multimedia application, but one that allows easy inclusion of images and fluid arrangement of object on the page. For Student B, Textease represented a transition stage from monomodal to multimodal text production.

The text is very limited in size, but the three phrases, presented in three lines, have imagery, employ alliteration, use voice (in the warning) and are not syntactically simple. In view of what happened later in the Grade 5 year, as full multimedia text production was introduced, this seems significant. It accords with the observations discussed earlier by Beavis (2001), Daiute (1992), Olson (1992), Sutherland (1995), and Vincent (2001) about the impact of visual stimulus on

the quality of text production of many children who otherwise struggle with language expression.

When Student B was introduced to the MicroWorlds software he seemed to see its possible application to narrative immediately. He began to ask 'can I?' and 'is it possible?' questions and to experiment with possibilities. He was prepared to invest time and effort. By the end of Year 5, and into the start of Year 6, it became apparent that this student was a highly skilled communicator, but not through words on their own. His skill was in working multimodally, integrating words with other semiotic modes. The example shown here in Figure 5, from late in the Grade 5 year, comes from his multimodal response to the visit of an aboriginal story teller, as part of a social studies unit. B wished to respect the aboriginal traditions in the tale, while making it his own.

Notice that the graphics are all original and drawn on screen. Wanting to respect the use of gesture and movement by the elder, the student played for hours with programming Logo to incorporate the gestures on screen. In order to respect the flow of the elder's narrative, he incorporated seamless navigation into his story so that it flowed and the navigation devices became message-carriers in themselves. He wanted to write his own unique narrative in the style of the elder about a real event and something close to the land. As his big picture themes he chose finding oneself and drought, a contemporary issue in south-east Australia in recent years. The verbal text at the edge carries some of the message, but is in a peripheral position that de-emphasises its importance. The verbal text in bubbles also carries instructions to activate the animations. These animations powerfully carry part of the message, as does the imported sound file of the didgeridoo and the placing of the visual images. The navigation is invisible, embedded in the programming of the animation to make the narrative seamless: it is the movement that carries the story on to the next episode.

The eleven screens all display substantial originality and creativity. This emerges in many ways. On the screen shown in Figure 5, there is not just artistic creativity, but also verbal, animatory, navigational and musical creativity, plus a less easily definable element that comes from the way in which all the various semiotic modes combine to convey the messages. Here we see work that meets the description of the texts that Kress and Van Leeuwen (2001, p. 4) write about, "multimodal resources which are available in a culture used to make meanings in any and every sign, at every level and in any mode". The whole certainly seems greater than the sum of its parts.

We have to remind ourselves that at the time of this text's production, in terms of the conventional literacy assessment scheme, this student was struggling to achieve any success at all. Although his reading was

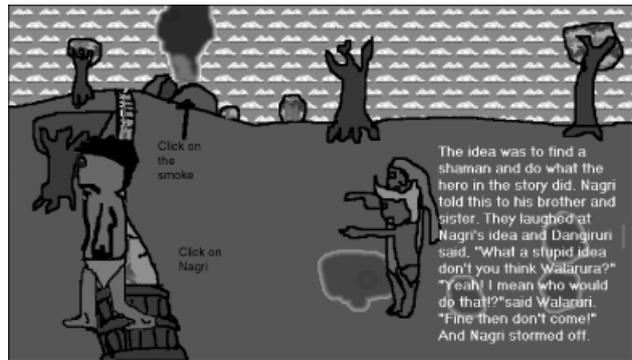


Figure 5: Page 4 of 11, *MicroWorlds narrative*, Student B

good, his performance on standard literacy testing for text production was very low.

In my class of 26 children, I encountered five who appeared to need a computer-based multimodal environment in order to produce meaningful and successful texts. From informal discussions with teachers who had been involved with these students in previous years I gained a clear impression that, in over 5 years of compulsory schooling, their multimodal productions were their first effective texts.

Discussion

In my response above to the multimodal text, part of which is shown in Figure 5, I have implicitly used assessment criteria derived from both Kress and van Leeuwen (2001), and from a familiarity with verbal assessment schema. But as yet there is no agreed schema for assessing such texts.

This is an unsatisfactory state of affairs for several reasons. Unless teachers possess an adequate means of assessing multimodal texts, they will not assess them, and are unlikely to accept them as normal means of text production, to be judged equally with verbal texts. Yet my study, as well as studies such as those by Beavis (2001) and Daiute (1991), has strongly suggested that multimodal texts are a pathway to literacy for a substantial group of students.

The development of a multimodal text assessment tool therefore raises an issue of equity. We need such a tool if we are to recognise the achievement of students who have used these alternative pathways to literacy. We already recognise the literacy learning of students who work readily with words, but not that of the likes of Student B.

If we are to move towards a more complex and multimodal literacy that reflects the world in which the students live, if we are to incorporate multiple semiotic modes into integrative expression, we need the assessment techniques to deal with this wider literacy

learning. Our understanding of verbal genres, however, is not equal to the complexities of multimodal texts. This has been recognised by others: Matthewman (2003), for example, conducted a project where upper primary students in an English school were introduced to multimodal expressive work and observed while they worked. In the end they could not be assessed within the English formal assessment procedures, leading Matthewman to make a similar plea for the development of multimodal assessment techniques.

Our current methods of assessment are fine-tuned to words alone, and even so it has taken a century to develop reasonable schemas. But words are only one of a number of semiotic modes used in multimodal texts, and, as Kress and Van Leeuwen (2001) point out, each mode has its own grammar and its own syntax. To assess a multimodal text you would have to understand the grammar of each semiotic mode used: graphic images, sounds, music, animation and text all carry their own assessment requirements, implying assessment techniques that have not all yet been developed.

However, a first step has been taken in the UK through a research project resulting in the publication of a guide to aid the assessment of multimodal texts (QCA/UKLA, 2004). This has been achieved by taking the writing assessment strands from the UK National Curriculum and deriving a set of new questions for imagery from these, so that texts drawn and written by hand can be assessed. This approach seems to work for the limited definition of multimedia used in the publication. Yet it is a measure of the difficulty that is faced in this area that this guide, excellent as it is, deals only with two semiotic modes – images and verbal text – and does not attempt to deal with fully multimodal narrative.

This is difficult territory. Multimodal outcomes can become unpredictable and almost impossible to assess. In a study of the children of Olifantsvlei Primary School in South Africa, Stein (2003) points out that when the various modes are used together, the whole can be greater than the sum of the parts. Creativity suddenly and unexpectedly arises at the boundaries of the semiotic modes as they are crossed and recrossed. “Multimodal pedagogies unleash creativity in unexpected, unpredictable ways. They *produce* creativity” (p. 134). How then do we assess creativity in multimodal expression?

The inability to assess multimodal outcomes is enough for many to dismiss multimodality from the classroom in assessment-dominated environments. When Beavis (1999) experimentally introduced computer games as a literacy genre into secondary classrooms she reported that some of the teachers were unhappy about the final stages of the project. They were so concerned that some of the students who normally experienced success

with literacy work were being ‘disenfranchised’ by the project, that for the last few lessons they reverted to monomodal written work. Embedded in this action is the notion that in literacy work it is the verbally skilful who ‘normally succeed’, and who were disenfranchised by the multimodality of the gaming. However, we are seriously out of step with students’ social realities if we do not include multimodal composition in the literacy curriculum. Yet fully multimodal assessment is probably impossible, given the fact that once in a multimodal world, many children will immediately break any genre rules we may have identified.

Conclusion

I have argued here that multimodal composition is not just a desirable extra, but should be brought into the mainstream of literacy teaching for two main reasons. Firstly it is the way in which students see the world, and secondly it releases certain children from the trials of monomodal, verbal expression where they are unlikely to succeed. This study suggests that it is unfair to some children for us to restrict assessment to written language and the conventional literacy of school. If we are to assess children on the full range of their literacy competencies, a re-thinking of literacy assessment is needed. The lack of a multimodal assessment scheme cannot be allowed to prevent multimodal literacies from being part of the literacy curriculum. We need to develop a better assessment programme.

We have to recognise that multimodal creativity may never be adequately assessed by a test. But many students do need to express themselves multimodally. Given the likelihood that once in a multimodal world, many children will immediately break genre conventions, fully multimodal assessment is probably impossible. It follows that if satisfactory methods of multimodal assessment cannot be found, we must find ways to ease the grip of current testing programmes.

Just as Stein’s South African children (Stein, 2003) produced unexpected creativity and outcomes as they created multimodally, so did some of the students described here. Some of the outcomes break away from standard genre codes. Indeed, they are probably at the cutting edge of inventing new genres by combining and recombining semiotic material and constant crossing from one mode to another. When Student B combines music, programmed animations and text, plus embedded navigation devices used as a semiotic mode, the outcomes are unexpected and creative.

Ruttle (2004) suggests that to overcome the deficiencies of the ‘one-off SAT’ (or, in the case of this study, AIM), we should move to a portfolio style of assessment of

writing, citing Dahlberg, Moss and Pearce (1999) as proponents of this method of assessment. The portfolio, writes Ruttle, "has the advantages of transparency and can lead to reflection and reconstruction and, most importantly, can throw some light on children as writers" (Ruttle, 2004, p. 77).

Portfolios may well be one way to resolve the assessment issue, but there may be others. Alternatively, I suspect that it may be possible to arrive at some sort of an 'integration index' to assess the effectiveness of the integrated modes in conveying the messages. However it is accomplished, there is urgent need for a change to our current assessment procedures, to allow teachers and children to work with the multimedia realities of the twenty-first century.

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