

# Reframing research and literacy pedagogy relating to CD narratives: Addressing 'radical change' in digital age literature for children.

*Issues In Educational Research, Vol 13, 2003*

[ [Contents Vol 13](#) ] [ [IIER Home](#) ]



## **Reframing research and literacy pedagogy relating to CD narratives: Addressing 'radical change' in digital age literature for children**

Len Unsworth

[University of Sydney](#), NSW

Electronic books have become quite common in the early school years. The types of stories include instructional materials for packaged reading programs, traditional tales, well known classic and contemporary children's literature and recently authored digital narratives. Some of the latter deploy hypertext and multimodal resources in ways that facilitate innovative construction of point of view and metafictional elements, to engage readers in active, reflexive reading in ways not possible in conventional books. The range of CD stories reflect reading practices from those most closely aligned with reading conventional books to those associated with new digital narratives. Current research and classroom practice seems to be largely positioned at the conventional literacies end of the continuum. This paper proposes rethinking that position and the relationship between research and practice in the classroom use of CD narratives.

---

As computer-based reading and writing have become more commonly integrated into many realms of daily literate practice, it has been necessary to re-think what is involved in reading and writing activity. Negotiating hypertext, hypermedia links and windows are new aspects of reading and writing in digital formats. The need for integrative reading of images and text and even the interpretation of accompanying sound and music however, are not peculiar to digital texts, but the extent, nature and quality of the multimodal dimension of texts is different in digital formats and combines with the hypertextual/ hypermedia features to

multiply potentially new literacy practices. These are more likely to augment rather than replace conventional literacy practices associated with hard copy texts. Hence it is important that literacy research and pedagogy address the enhanced nature of literacy activities associated with computer-based texts rather than construing the affordances of digital technology as simply tools for teaching traditional literacy practices. The use of CD narratives in classrooms is an important context for examination of these issues.

The use of electronic books has become quite common in classroom literacy learning in the early school years (Matthews, 1996; Medwell, 1998; Underwood, 2000). A substantial and increasing range of stories for children from infancy to adolescence are now provided in CD format. The types of stories include those written as instructional materials for various packaged school reading programs, traditional tales, well known classic and contemporary children's literature and lesser known, recently authored narratives. The electronic presentation of these stories as well as their narrative forms vary widely. The presentation typically includes an option where the story is read aloud, but may also include the possibility of the reader being able to select a sentence and/or individual words to be read aloud, while s/he is reading the text silently. Some CD stories have accompanying music, animated illustrations and hyperlinks, or 'hot spots', which may be 'clicked' to activate dialogue, new screens or an animated part of an illustration, and some CDs also include games and other interactive features based on the story. The extent to which these presentational features are incorporated into CD stories clearly influences the kinds of reading practices entailed in engaging with them, some of which are peculiar to the story's electronic format. But the narrative form of stories also influences their interpretive possibilities. Purpose-written instructional materials often contain simplistic stories designed to incorporate repetition of vocabulary and grammatical structures targeted for pupil learning. On the other hand, the visual and verbal forms of contemporary literature for children frequently construct an active role for the reader as s/he fills in the possibilities left by interpretive gaps or ambiguities within the text, images, or the interaction between them. Some recently authored electronic stories deploy hypertext and multimodal resources in ways that facilitate innovative literary construction of point of view and metafictional elements, to engage readers in active, reflexive story reading in ways that would not be possible in conventional book formats (James, 1999). The range of CD stories reflect reading practices along a continuum from those most closely aligned with the reading of conventional book formats to reading practices associated with new digital narrative forms. Current research and classroom practice related to the use of CD stories seems to be largely positioned at the conventional literacies end of the continuum. This paper proposes rethinking that position and the relationship between research and practice in the classroom use of CD narratives. This re-thinking focuses on what Dresang referred to as "radical change" in digital age literature and learning, marked by the interactivity, immediacy, and complexity of both images and text (Dresang & McClelland, 1999).

# Current research on CD storybooks and classroom literacy learning

Increasing use of CD storybooks in classroom work (Medwell, 1998; Underwood, 2000) is reflected in recent studies investigating various aspects of classroom literacy learning associated with their use (Lewin, 1998; Lewin, 2000; Miller & Olsen, 1998; Trushell, Burrell, & Maitland, 2001). Although the parameters of these studies vary considerably, a common trajectory is the investigation of the ways in which the use of stories in CD formats might enhance conventional reading practices associated with hard copy texts. Where reader use of the affordances of electronic texts, such as hot spots, has been explored (Miller & Olsen, 1998; Trushell et al., 2001) the object has most frequently been to determine the ways in which this interaction impacts on story recall and accuracy in answering comprehension questions. Despite the fundamental role of images in children's storybooks, recent studies of children reading CD narratives have paid scant attention to them. In addition, the types of stories and range of titles investigated has been extremely limited.

## The role of hypertext

The role of hypertext links or hot spots in the construction of character and events in CD stories has received little attention in recent research. Lewin (2000) was concerned with improving pupils' word identification during reading. The only information provided about the reading scheme books used in the study is that they were designed to develop sight recognition of key words and phonological awareness and that the study involved hypertextual modification of the software to include segmented feedback, reinforcement activities and hints to word pronunciation. Similarly, in reporting the talking books project Medwell (1998) provided no information about the books, *The Naughty Stories* (Bonham & Bonham, 1993) used in the study. It is noted that the children discussed the "animation and hotspots", but the type and frequency of these is not indicated. *Arthur's Teacher Trouble* (RandomHouse/Broderbund, 1994a) used in the Underwood (2000) study had the options of having the story read aloud or interacting via the mouse with each page in turn, which allowed the whole text or individual words to be read and also permitted hot spots in the illustrations to be activated. Some hot spots were related to the storyline. For example clicking on Arthur when he first meets his stern new teacher produced a 'thought cloud', which articulates Arthur's anxiety about being in this teacher's class. Other hot spots were peripheral and distracting to the storyline, such as clicking on a poster of a baseball player on the classroom wall and then the player will hit a home run. Although this aspect of the CD-ROM storybook was noted it was not taken into account in process or product measures of reading behaviour. No indication is given of the relative extent to which these different kinds of hot spots were activated, which were more frequently recalled, how they influenced the students' understanding of the character or the events in the story.

Some analysis of the type and incidence of hot spots in two CD stories was carried out by Trushell and his colleagues (Burrell and Trushell, 1997; Trushell et al., 2001). They classified the hot spots as 'incidental' (where the linked animation was largely irrelevant or at least peripheral to the story) or 'supplemental' (where some aspect of the characterisation or events of the story was enhanced by the linked animation). Their analysis of *The Tortoise and the Hare* (RandomHouse/Broderbund, 1994b) showed that it contained about seven times as many incidental as supplemental hot spots and they also commented that some of the incidental hot spots included stereotypical depictions of male and female behaviours (Burrell & Trushell, 1997). Similarly their analysis of *Kiyeko and the Lost Night* (Ludimedia, 1995) revealed a ratio of incidental to supplemental hot spots of six to one (Trushell et al., 2001). Year five pupils read the *Kiyeko...* story in seven mixed ability, mixed gender groups of three. The mean of the groups' accessing incidental hot spots was 84.57 (sd 23.45) the mean of their accessing supplemental hot spots was 15.86 (sd 4.06), so the ration of 17:3 was consistent with the ratio of available incidental and supplemental hot spots. The intensity of choice of hot spots by particular groups was related to their lower scores on multiple choice comprehension questions on the story. Trushell et al. also concluded that poor recollection of the story was due to the children's focussing more on recall of interpolated hot spots, which seemed to be consistent with studies by Miller and Olsen (1998) and Underwood (2000). Although the Trushell et al. work acknowledges the processes of hypertextual reading in electronic narratives, the relating of these practices to story recall and scores on conventional comprehension tests maintains the orientation of the research to an exploration of new electronic routes to conventional literacy practices. However a number of research imperatives about the nature of reading digital narratives do emerge from consideration of these studies. The very limited range of books used in recent studies means that we don't know whether the type and proportion of hot spots will vary significantly in different story forms and CD presentational formats. The classification of hot spots was also quite rudimentary. Discussion of the types of hot spots in textual studies of other CD stories like *Payuta and the Ice God*, *Lulu's Enchanted Book* (James, 1999) and *Stellaluna* (Unsworth, 2001) suggests that a more elaborated classification of hot spots might facilitate a more detailed understanding of the relationship between electronic presentational format and the interpretive practices of children reading digital narratives.

## Reading images

Very few recent classroom studies of children reading CD narratives have addressed the role of images in the stories. The influence of some images on the children's comprehension of *Kiyeko and the Lost Night* (Ludimedia, 1995) was noted by Trushell et al. (2001). For example, despite the caption read aloud by the storyteller that the Snake King has a tree palace, the images indicate that the Snake King's palace is a lake, and 19 of the 21 children in the study responded that the Snake King's palace was in a lake. In recollecting the story, children

erroneously referred to dragons, or confused dragons and snakes. The researchers point out that a prose description of snakes sharing poison is translated into an anthropomorphised scene in which each snake sips poison from a spoon held in the tail of the Snake King. The image of the upright anthropomorphic snake may well have influenced the children's visually reading this as a dragon. The discussion of the images in this study is more in terms of their distraction from story recall and comprehension rather than their contribution to the nature of the story. What is not addressed in these recent studies is the integral role of images in the design of the story and the construction of its interpretive possibilities and how these are visually 'read' by children.

In the CD stories *Payuta and the Ice God* (Ubisoft, n.d.) and *Lulu's Enchanted Book* (Victor-Pujebet, n.d.) it is largely via the images that readers are introduced to innovative techniques (James, 1999) that distinguish these digital narratives. In the CD version of *Stellaluna* (RandomHouse/Broderbund, 1996b) not only are there more images, but subtle variation from the book version (Cannon, 1995) in terms of orientation and social distance contribute to the construction of different points of view and different kinds of meanings being made. To date there is minimal work explicating the variation in the deployment of images in hard copy and CD versions of literary texts for children (Unsworth, 2001). Not only does this need to be extended, but we also need to know more about the role of images in constructing the different kinds of stories in CD formats. We need to know how children are 'reading' these images and the ways in which their reading of images influences the kinds of story readings that are possible for them.

### **A limited range of CD stories in recent classroom research**

The CD storybooks used in recent studies seem to be largely restricted to purpose-written instructional reading materials and only a couple of single titles of electronic books in other studies.

Instructional graded reading scheme stories were used in studies by Medwell (1998) and Lewin (2000). The Medwell study also included disk-based books known as *The Sherston Naughty Stories* (Bonham & Bonham, 1993) however the nature of the electronic presentation of these stories is not detailed in the research report. The Underwood (2000) study used one CD from the Living Books series entitled *Arthur's Teacher Trouble* (RandomHouse/Broderbund, 1994a) based on the book by Marc Brown. The Trushell et al. (2001) study also used only one CD storybook entitled *Kiyeko and the Lost Night* (Ludimedia, 1995). Since what children read will influence how they read, it seems crucial that an understanding of the potential of classroom reading of electronic books should be based on research which includes a wider range of the types of electronic books available. Many young children for example, will be familiar with some version of stories like *The three pigs*, *Goldilocks and the Three Bears* and *Jack and the Beanstalk*, which are now available in electronic format

(<http://www.interactivebook.com/>). How children approach the CD versions of such stories may well be influenced by their prior story experience. This may also be the case for children reading CD versions of *Lion King* (Disney, n.d.-a) or *Mulan* (Disney, n.d.-b) having seen the movie, or reading the CD version of *The Paper Bag Princess* (Discis, 1994), having previously read the book. Whether they are reading CDs of well known traditional tales, adaptations of popular children's movies or recontextualizations of familiar or unfamiliar literary texts for children, the variety of reading practices children engage in may be quite different from those exhibited in reading the limited range of titles drawn mainly from one publisher, which have been explored in research to date. Further research is needed to explore the influence of story and story type on young children's reading of digital narratives.

## **Widely acclaimed literary texts for children in book and CD format**

The recontextualisation of existing literary texts in book format as CDs has also made quite variable use of the resources of electronic hypertext environments. Like all 'talking books' published by Discis, *The Paper Bag Princess* (Munsch, 1994) appears on the screen as an open book in its CD version (Discis, 1994). Clicking on the printed text activates the reading but there are no interactive or animated images. *The Polar Express* (Van Allsburg, 1985) in its CD version (HoughtonMifflin, 1995) includes the same images as the original book but with animated elements, such as the train moving on the track and the reindeer moving in the snow. The language is also the same as in the book version apart from changes in vocabulary apparently reflecting differences between American and British English. For example, 'conductor' replaces 'guard' and 'dressing gown' replaces 'robe'. The enduring more extended illustrated story of *The Little Prince* by Antoine de Saint-Exupery, originally published in 1943, has since appeared in many editions and most recently in hard copy in Penguin Classics (de Saint-Exupery, 2000) and as a CD (Gallimard, 2000). There are some translation differences between the texts of the CD and the hard copy versions. The CD includes all of the same images as the hard copy, but with some variation in sequencing and position relative to the text and with very substantially extended visual features utilizing animation and hyperlinks, as well as a range of games and puzzles associated with the story. These digital features provoke quite different reading practices and an interpretive experience distinctively different from reading the conventional book version. An adaptation of Lewis Carroll's *Alice's Adventures in Wonderland* has recently been produced in CD format (Joriko, 2000). The narration of this animated story is very close to the original dialogue but the CD presentation includes no printed text. What is interpolated throughout the twelve chapters is a range of intriguing and challenging games and puzzles derived from the plot and characterisation of the story. The unique narrative experience of the CD adaptation is very different from reading the original book, or indeed from innovative hard copy adaptations such as the version illustrated by Anthony Browne (Carroll & Browne, 1988).

## Comparing *Stellaluna* in CD and book formats

A critical appreciation of how the resources of language and image and the affordances of hypertext can be used to construct different interpretive possibilities for stories in hard copy or digital formats can be developed through a comparative analysis of the same story in conventional and computer-based versions. While some CD adaptations of widely known children's literature are obviously very different from the book versions, many CDs which are ostensibly the same as the book versions are in fact also very different. This can be seen in a close reading of the book and CD versions of *Stellaluna* (Cannon, 1995). In this story a baby bat, Stellaluna, is separated from its mother when she was avoiding an attacking owl. Stellaluna lives in a nest with a family of young birds and adopts bird-like behaviours. Eventually Stellaluna and the mother bat are reunited but Stellaluna visits the birds she has made friends with and lived harmoniously with despite their differences. The CD includes many hot spots with animated images, which are gratuitous intrusions into the story and which do not appear in the book version in any form. For example, when the text states 'They perched in silence for a long time', instead of making time for a reflective pause, the 'silence' is interrupted by squawking and inappropriate action. A number of activities of jungle animals are included which are quite unrelated to each other or to the story, like a monkey running up a tree, elephants splashing water at each other, a giraffe drinking and then gargling and a bird sliding down the giraffe's neck. Inter-modal comparisons of this kind are similar to those children make informally in discussing different forms and formats of popular narrative experiences such as *Lion King*, *Mulan* and "Harry Potter". But in comparing stories like *Stellaluna* in book and CD formats there are also key differences in the choice of images and variation in the language.

Some of the differences between the images in the book and electronic formats of *Stellaluna* relate to the visual construction of interactive relations between the viewer and the represented participants (Kress & van Leeuwen, 1996). For example, in the scene where Stellaluna meets the older bat who queries her unusual "bird-influenced" behaviours, the gaze of the older bat is directly at the reader as though addressing him/her, presenting a "demand" for the interpersonal engagement of the reader. In the book version; however, this scene is depicted as an "offer" where the gaze of the older bat is directed at Stellaluna and the reader looks on in more interpersonal detachment. There is also greater variation in the social distance in the images in the CD version. For example, when the young birds and Stellaluna are hanging upside down by their feet, the initial image is a long shot, but changes to a close up shot when Mama Bird confronts Stellaluna about the misbehaviour she is encouraging in the older birds. Reading the images is an important part of interpreting the story and the experience in the book and CD versions is quite different. A lot of additional text is included in the CD version of *Stellaluna*. For example 21 additional lines of text in the CD are directly attributable to Stellaluna. In the original book version only

15 lines of text are spoken or thought by Stellaluna. These inclusions seem to be designed make meanings explicit and remove the opportunity for inference, as in the additions 'I love you, Stellaluna' and 'I love you' (from Stellaluna to Mother Bat). The additions also seem to be more colloquial than the more standard forms of English in the book format *Stellaluna* ('I gotta eat something' and 'I wanna take a nap you guys'). The effect of this is emphasised by the somewhat unfamiliar standard form of the text from the book that is omitted in the CD ('You slept at night?' gasped another. 'How very strange,' they all murmured.) These aspects of the changes in the language, different visual perspectives in the images, and distractive animations via hot spots, very significantly change the somewhat serious tone of the book to almost a slapstick approach to frivolous humour in the CD version.

The extent and type of variability within story across modes as well as the variability across stories within modes, provides a rich resource for the exploration of how multimodal resources can be deployed to shape and reshape the interpretive possibilities of narrative. This kind of exploration needs to be a central concern in developing the multiliteracies entailed in engaging with children's literature in computer-based formats, and hence a site for innovative classroom learning experiences and research.

## **Digital narratives - rethinking the nature of story and terms of engagement**

While adults have become used to movie adaptations of books and books based on movies, children enter a world where multiple versions of fiction are the norm. Many children and adolescents come to school already used to making cross-media comparisons and judgments whether the characters are Thomas the Tank Engine, Harry Potter or Romeo and Juliet. To think of children's literature in the usual restricted terms of novels, poems and picture books, is to ignore the multimedia experience and expertise of our children (Mackey, 1994). Children's ideas about the nature and role of narrative and how they engage with it are being affected by the kinds of cross-media hybrid fictional experiences that are available to them. CD stories are a significant part of this cross-media fictional experience.

Many children now routinely experience not only Disney movies for children like *Lion King* and *Mulan*, but also the animated CD storybook versions. In the CD version of *Mulan* (Disney, n.d.-b) the children can enjoy the story with sound effects and music, but they can also play, with a friend or a story character, games directly related to the story. They can learn about ancient Chinese costumes while they dress Mulan or print out her clothing for the included Mulan paper doll. At the Imperial Storymaker they can choose a background and create their own story with paint, stickers and music. But children's cross media experience involving CDs extends beyond such stories of popular culture to traditional tales such as *The Tortoise and the Hare* (RandomHouse/Broderbund, 1994b), classic children's

stories such as *Winnie the Pooh* (Disney, n.d.-c), more recent enduring early picture books such as Dr Suess's *Green Eggs and Ham* (RandomHouse/Broderbund, 1996a), and contemporary picture books like *The Paper Bag Princess* (Discis, 1994) and *Stellaluna* (RandomHouse/Broderbund, 1996b). Although the affordances of digital technology like hypertext mean that the electronic versions of these stories entail new ways of reading narratives in digital format (Bearne, 2000), the point of departure on these CDs is always the story, re-formatted from the original movie or conventional book version - and the narrative structure is familiar. However, Hunt has argued that

Electronic media are not simply changing the way we tell stories: they are changing the very nature of story, of what we understand (or do not understand) to be narratives (Hunt, 2000:111).

One of the sites for the redefinition of narrative referred to by Hunt is the story context of popular electronic games. Detailed consideration of the narrative dimension of electronic games for children is beyond the scope of this paper, but it is clear that electronic games like *Myst* (Cyan, 1993-94), *Riven* (Cyan, 1997) and *Creatures* (Cyberlife Technology, 1996-97) are remaking what counts as narrative in the experience of many children and adults (Mackey, 1999; Zancanella, Hall, & Pence, 2000). In *Creatures* the human player hatches and then rears digital babies. In the play space these little creatures grow, succeed or fail in learning to talk, mate, reproduce, age and die, with their actions developed through their digital make-up and also by the care and attention offered to them through the game's players. Margaret Mackey has noted the contribution of this game to a remaking of what counts as narrative:

"Creatures" is predicated on a new kind of narrative development that can only be described as digitally organic. The strength of its long-term appeal is yet to be established but the sense of new fictional territory opening up is very powerful (Mackey, 1999:27).

*Creatures* is described on the Amazon.com website as suitable for players who are six years or older, so it may well be that this kind of "new fictional territory" will form part of the experience some children bring to their reading of CD storybooks at school. It is also likely that, as "stand-alone" CD games derived from book and movie versions of stories like the J.K. Rowling "Harry Potter" series (Rowling, 1997; Rowling, 1998; Rowling, 1999; Rowling, 2000), become accessible to children who have not experienced the chronological emergence of the books, movie(s), CD stories and CD games, many children's initial experience of the narrative may well be via the CD game. For such children games included in CD storybooks may be the locus of their engagement with the narrative and the interactive and interpretive possibilities they encounter in electronic game-narratives will influence the kinds of reading practices they expect to engage in with CD story books.

Some innovative CD stories are significant in providing high quality literary experiences that also fulfil children's anticipation of reader agency in engaging with narrative events, which is a materially active role some children expect on the basis of their experience of electronic games. *Payuta and the Ice God* (Ubisoft, n.d.) and *Lulu's Enchanted Book* (Victor-Pujebet, n.d.), discussed by James (1999), are important exemplars of such literary e-stories. *Payuta and the Ice God* is the story of an Eskimo boy whose sister is kidnapped by Kiadnic, the Ice God, to be his cook. With the help of creatures like a narwhal, a polar bear and an eagle, he reaches the Mountain of Clouds where he finds the fallen Ice Star - famous in Eskimo legends. Payuta picks it up, releasing Nature from the Ice God's grip. Spring returns and Kiadnic's power is destroyed. Payuta and his sister return home triumphant. In common with most CD stories, clicking on the text activates the narrator's reading of it and the CD includes games derived from the story which involve activities like hand-eye co-ordination and shape-matching. But Rebecca James (1999) draws attention to the role of the images and their hypertext links, which, rather than being predominantly peripheral to the story (Burrell & Trushell, 1997; Miller & Olsen, 1998), elaborate events and characterisation as well as actually advancing the story and adding different points of view to its construction. Clicking on the ice cave makes Kiadnic's face metamorphose menacingly out of the rock, accompanied by frightening music. At one point Payuta is marooned on a ledge above a freezing river. Upon clicking on the ravine, Payuta disappears from the ledge and can be seen paddling a canoe in the river below. The interscene linking this one with the previous one zooms in on the canoe, looking directly down on the river from a bird's eye view. Then, by clicking on the canoe, Payuta vanishes and the camera pans upward to view the ravine from below again. As James points out, these hyperlinks enliven the narrative and construct an agentive role for the reader's involvement with the characters and events of the narrative.

*Lulu's Enchanted Book* (Victor-Pujebet, n.d.) similarly included hot spots integral to enhanced interpretive possibilities of the story. Frequently the written text entices the reader to activate hidden illustrations. For example, at one point the text states 'Lulu loved masquerading in the most outrageous outfits and posed before the mirror.' The mirror is a hot spot that makes Lulu comment aloud on her appearance as she simultaneously changes into one of three costumes. James (1999) further describes the ways in which hot spots are used to enhance the inclusion of metafictional elements. For example, the character Mnemo, imprisoned in a desert, tries to escape by actually turning the page of the story in which he is trapped. At another point a subtitle 'The Cutout' is a textual clue to the fact that if the reader clicks on the image, one character draws a frame around another character and cuts her out of the page, rolling her up like a poster. These kinds of electronic stories blend some aspects of hypertext and linear models of narrative, respecting the role of the young reader as an active constructor of meaning. The author creates the potentially interactive, story enhancing moments, but the reader determines, perhaps influenced by relative experience in identifying such moments, whether to pursue them or continue through the plot sequence in a

manner typical of reading traditional print narratives. These are unusual CDs that engage readers in ways that page-based narratives cannot and *Lulu's Enchanted Book* invites young readers "to explore and experiment with the boundaries of its narrative" (James, 1999:61).

## **Conclusion: A developmental framework for integrating digital technologies into literacy teaching and research**

The penetration of digital reading and writing into daily literate activity has increased to such a level that no reasonable person can deny that it is having and will continue to have profound effects on what is considered to be mainstream reading and writing (Reinking, Labbo, & McKenna, 2000). Some of the affordances of computer-based and networked technologies for information and communication, such as hypertext and hypermedia links and windows or frames, are exclusive to digital texts. Multimodality is not an exclusive feature of electronic texts, but the range of modalities, the extent of their use, and the nature and quality of their articulation, are significantly different in electronic formats. The interaction of the peculiar affordances of computer-based and networked technologies and the multimodality of electronic format texts has the effect of multiplying potentially new literacy practices. Because of the digital dimension of these new practices and growing access to multimodal authoring software, individuals are now more likely to be able to be equally engaged as constructors and consumers of textual materials, closely articulating comprehending and composing behaviours. Clearly the impact of the new technologies cannot be understood as an add-on tool for learning and teaching literacies. Rather than trying to 'squeeze' new technologies into familiar literacy education procedures, we need to attend to the reality of new and emerging literacies (Buckingham, 1999; Lankshear, Snyder, & Green, 2000). Having noted the need to attend to the reality of new and emerging literacies, it is important to acknowledge that the conventional, hard-copy forms of 'linear' texts will continue to co-exist with the textual matrices of electronic hypertext for some time (Hunt, 2000), and that in many electronic texts, a good deal of conventional page-based reading behaviour is required (Garton, 1997).

We need to abandon the idea that these 'new' and 'old' forms of literacy are mutually exclusive alternatives; or that the 'new' literacies are simply routes to towards the 'old' (Buckingham, 1999:11)

A framework for understanding current orientations to research and practice relating to the use of digital narratives in classroom literacy learning has been proposed by Reinking and his colleagues (Reinking et al., 2000). This framework appropriates the concepts of assimilation and accommodation from Piagetian developmental learning theory. The use of digital narratives like CD storybooks is assimilated into literacy pedagogy and research when it is conceptualised in relation to conventional literacy, and when it is implemented in ways that

conform to existing curricula and pedagogic practice in ways that are comfortable and familiar. Accommodation implies that new information and experiences lead to a fundamental restructuring of thinking that brings about a new conceptualization. When this is applied to the role of digital narratives in literacy learning and teaching this means being prepared to entertain the idea that narrative itself and the literacy practices associated with it may well be changing as a result of the affordances of computer-based technologies. It means understanding that these new narrative forms and reading practices need to be negotiated in their own terms rather than being seen as extensions of traditional page-based literacies (Lemke, 1998; Leu & Kinzer, 2000). Recent classroom research on CD storybooks and literacy learning largely exemplifies assimilation. Clearly there is a need to advance research toward accommodation, but as Reinking et al. (2000) point out this does not mean abandoning research on ways in which electronic texts interface with conventional literacy practices. Rather the question is how to mediate the interaction between new digital media and established text forms.

To facilitate the transition from assimilation to accommodation in research and practice related to electronic texts in classroom literacy learning, Reinking et al. suggested the provision of opportunities for teachers and students to compare and contrast printed and digital texts, discussing the differences between them (Reinking et al., 2000). The discussion of different forms of CD narratives in this paper suggests how such comparisons could be sequenced. An initial focus could be on well-known stories in conventional formats and CD adaptations involving minimal semiotic recontextualization. Following this kind of experience, discussion could move to a comparison of those stories with significant recontextualization of images and/or text in the CD version. The next move would be to CD stories created for digital format only and then to electronic game-narratives and perhaps other innovative forms of digital narrative not discussed here, such as character dolls that interact with electronic stories in which they are characters (Mackey, 2001). Critical engagement in this kind of comparative discussion by students, teachers and researchers will be enhanced by their access to relevant analytical frameworks. The New London Group (New, London, & Group, 2000) indicated that what is needed to support such a pedagogy of multiliteracies is

... an educationally accessible functional grammar; that is, a metalanguage that describes meaning in various realms. These include the textual and the visual, as well as the multimodal relations between different meaning-making processes that are now so critical in media texts and texts of electronic multimedia (New London Group, 2000:24).

The application of such grammars (Kress & van Leeuwen, 1996) to practical issues in the use of literature in classroom literacy learning has been fairly well established in relation to conventional hard copy story formats (Lewis, 2001; Unsworth, 2001). Our understanding of the articulation of conventional and

computer-based literacies related to the use of literary texts for children could be advanced by a research agenda which involved adapting these functional descriptions of visual and verbal meaning-making resources and exploring different kinds of hyperlinks in the systematic, progressive, comparative, classroom discussions of the different forms of CD narratives suggested here. This would contribute to a practical agenda for re-thinking the role of electronic narratives in classroom literacy research and practice.

## References

- Bearne, E. (2000). Past perfect and future conditional: The challenge of new texts. In G. Hodges, M. Drummond, & M. Styles (Eds.), *Tales, tellers and texts* (pp. 145-156). London: Continuum.
- Bonham, B., & Bonham, L. (1993). *Sherston Naughty Stories 1* [CD ROM]. Malmesbury: Sherston Software.
- Buckingham, D. (1999). Superhighway or road to nowhere? Children's relationships with digital technology. *English in Education*, 33(1), 3-12.
- Burrrell, C., & Trushell, J. (1997). 'Eye-candy' in 'interactive books' - a wholesome diet? *Reading*, 31(2), 3-6.
- Cannon, J. (1995). *Stellaluna*. Mascot, Sydney: Koala Books.
- Carroll, L., & Browne, A. I. (1988). *Alice's Adventures in Wonderland*. London: Julia MacRae.
- Cyan. (1993-94). *Myst*. Broderbund Software.
- Cyan. (1997). *Riven*. Broderbund Software.
- Cyberlife Technology (1996-97). *Creatures*. Mindscape Entertainment.
- de Saint-Exupery, A. (2000). *The Little Prince*. London: Penguin.
- Discis. (1994). *The Paper Bag Princess* [CD ROM]. Buffalo: Discis Knowledge Research.
- Disney. (n.d.-a). *The Lion King Animated Storybook* [CD ROM].
- Disney. (n.d.-b). *Mulan Animated Storybook* [CD ROM].
- Disney. (n.d.-c). *Winnie the Pooh and the Honey Tree Animated Story book*. Disney.
- Dresang, E., & McClelland, K. (1999). Radical Change: Digital Age Literature and Learning. *Theory into Practice*, 38(3), 160-167.

Gallimard. (2000). *The Little Prince*. Milton Keynes: Tivola/Editions Gallimard.

Garton, J. (1997). New genres and new literacies: The challenge of the virtual curriculum. *Australian Journal of Language and Literacy*, 20(3), 209-221.

Houghton Mifflin (1995). *The Polar Express* [CD ROM]. Boston: Houghton Mifflin Interactive.

Hunt, P. (2000). Futures for Children's Literature: evolution or radical break. *Cambridge Journal of Education*, 30(1), 111-119.

James, R. (1999). Navigating CD ROMs: An exploration of children reading interactive narratives. *Children's Literature in Education*, 30(1), 47-63.

Joriko. (2000). *Alice's Adventures in Wonderland* [CD ROM]. Brighton, United Kingdom: Joriko Interactive.

Kress, G., & van Leeuwen, T. (1996). *Reading Images: A grammar of visual design*. London: Routledge.

Lankshear, C., Snyder, I., & Green, B. (2000). *Teachers and technoliteracy*. Sydney: Allen and Unwin.

Lemke, J. (1998). Metamedia literacy: Transforming meanings and media. In D. Reinking, M. McKenna, L. Labbo, & R. Kieffer (Eds.), *Handbook of literacy and technology: Transformations in a post-typographic world* (pp. 283-302). New Jersey: Erlbaum.

Leu, D., & Kinzer, C. (2000). The convergence of literacy instruction with networked technologies for information and communication. *Reading Research Quarterly*, 35(1), 108-127.

Lewin, C. (1998). Talking book design: What do practitioners want? *Computers and Education*, 30(1/2), 87-94.

Lewin, C. (2000). Exploring the effects of talking book software in UK primary classrooms. *Journal of Research on Reading*, 23(2), 149-157.

Lewis, D. (2001). *Reading contemporary picturebooks*. London: Routledge Falmer.

Ludimedia. (1995). *Kiyeko and the Lost Night* [CD ROM]. London: Ubisoft.

Mackey, M. (1994). The new basics: Learning to read in a multimedia world. *English in Education*, 28(1), 9-19.

Mackey, M. (1999). Playing the phase space. *Signal*, (88), 16-33.

Mackey, M. (2001). Talking Cats, Interactive Aardvarks, and the Development of

Contemporary Readers. *CREArTA*, 2(1), 37-48.

Matthews, K. (1996). What do children think of CD ROM story books? *Texas Reading Report*, 18(6).

Medwell, J. (1998). The talking books project: Some further insights into the use of talking books to develop reading. *Reading*, 32(1), 3-8.

Miller, L., & Olsen, J. (1998). Literacy research oriented toward features of technology and classrooms. In D. Reinking, M. McKenna, L. Labbo, & R. Kieffer (Eds.), *Handbook of literacy and technology: Transformations in a post-typographic world* (pp. 343-360). New Jersey: Erlbaum.

Munsch, R. (1994). *The paper bag princess* (CD ROM). Buffalo, NY: Discis.

New London Group. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures*. Melbourne: Macmillan.

RandomHouse/Broderbund. (1994a). *Arthur's Teacher Trouble* [CD ROM]. San Francisco: Living Books: RandomHouse/Broderbund.

RandomHouse/Broderbund. (1994b). *The Tortise and the Hare* [CD ROM]. Novato, California: Living Books: RandomHouse/Broderbund.

RandomHouse/Broderbund (1996a). *Green Eggs and Ham*. San Francisco: Living Books: Random House/Broderbund.

RandomHouse/Broderbund (1996b). *Stellaluna* [CD ROM]. San Francisco: Living Books: RandomHouse/Broderbund.

Reinking, D. Labbo, L., & McKenna, M. (2000). From assimilation to accommodation: A developmental framework for integrating digital technologies into literacy research and instruction. *Journal of Research in Reading*, 23(2), 110-122.

Rowling, J. K. (1997). *Harry Potter and the Philosopher's Stone*. London: Bloomsbury.

Rowling, J. K. (1998). *Harry Potter and the Chamber of Secrets*. London: Bloomsbury.

Rowling, J. K. (1999). *Harry Potter and the Prisoner of Azkaban*. London: Bloomsbury.

Rowling, J. K. (2000). *Harry Potter and the Goblet of Fire*. London: Bloomsbury.

Trushell, J., Burrell, C., & Maitland, A. (2001). Year 5 pupils reading an 'Interactive

Storybooki' on CD ROM: Losing the plot? *British Journal of Educational Technology*, 32(4), 389-401.

Ubisoft. (n.d.). *Payuta and the Ice God*. London: Ubisoft Multimedia.

Underwood, J. (2000). A comparison of two types of computer support for reading development. *Journal of Research in Reading*, 23(2), 136-148.

Unsworth, L. (2001). *Teaching Multiliteracies Across the Curriculum: Changing contexts of text and image in classroom practice*. Buckingham, United Kingdom: Open University Press.

Van Allsburg, C. (1985). *The Polar Express*. London: Andersen.

Victor-Pujebet, V. (n.d.). *Lulu's Enchanted Book*. Hove: Wayland.

Zancanella, D., Hall, L., & Pence, P. (2000). Computer games as literature. In A. Goodwyn (Ed.), *English in the Digital Age* (pp. 87-102). London: Cassell.

**Author:** Len Unsworth is Associate Professor and Head of the School of Development and Learning and the Division of Graduate Studies in the Faculty of Education and Social Work at the University of Sydney. He has published extensively in literacy education journals and also a number of books including *Literacy learning and teaching* (Macmillan, 1993) and *Researching language in schools and communities* (Continuum, 2000) and *Teaching multiliteracies across the curriculum* (Open University Press, 2001).

**Please cite as:** Unsworth, L. (2003). Reframing research and literacy pedagogy relating to CD narratives: Addressing 'radical change' in digital age literature for children. *Issues In Educational Research*, 13(2), 55-70. <http://www.iier.org.au/iier13/unsworth.html>

---

[ [Contents Vol 13](#) ] [ [IIER Home](#) ]

© 2003 Issues In Educational Research. This URL: <http://www.iier.org.au/iier13/unsworth.html>

HTML: Clare McBeath, Faculty of Education, Curtin University of Technology,

[c.mcbeath@bigpond.com](mailto:c.mcbeath@bigpond.com) and Roger Atkinson [rjatkinson@bigpond.com](mailto:rjatkinson@bigpond.com)

Created 8 Jan 2003. Last revision: 25 May 2006.