Hypertext software permits students to write non-linear stories which include pictures and words. The characteristics of these stories may be affected by student and teacher understandings of how pictures and words may be combined to produce meanings for the reader. The use of images and words in comic books and children's picture-books contribute to a shared cultural experience for students and teachers. The consequence is the initial conceptualization of theory applicable to hypertext and conventional stories, and a modeling effect which influences the nature of what is written. Conclusions in this paper are supported by data from a study of a group of 19 year eight girls in an English class at a private girls' school in Queensland, Australia who wrote hypertext stories with pictures and words. The increasing need for teachers to consider the addition of pictures to their pedagogy of story-writing means that some teachers will choose to modify the ways in which they teach. (Contains 27 references.) (Author/SWC)
Reconceptualising pedagogy: Students' hypertext stories with pictures and words

Hypertext software permits students to write non-linear stories which include pictures and words. The characteristics of these stories may be affected by student and teacher understandings of how pictures and words may be combined to produce meanings for the reader. The use of images and words in comic books and children's picture-books contribute to a shared cultural experience for students and teachers. The consequence is the initial conceptualisation of theory applicable to hypertext stories, and a modelling effect which influences the nature of what is written. Conclusions in this paper are supported by data from a group of students who wrote hypertext stories with pictures and words.

"What is the use of a book," thought Alice, "without pictures or conversations?"
(Carroll, 1988, page 2)

Reconceptualising pedagogies of writing with pictures and words

Media permeates culture. Our culture is saturated with the mental images generated by the advertisers use of electronic media. The extent to which our culture, and presumably, attitudes to story-writing in school are affected have been described by Kearney (1988), who noted that:

Everywhere we turn today we are surrounded by images. ... Even those areas of experience that some might like to think of as still "unspoilt" are shot through with images. It is virtually impossible today to contemplate a so-called natural setting, without some consumerist media image lurking in the back of one's mind. [eg] ... a wild seascape without a hair spray or tourism commercial. (p1)

However, schools sometimes appear relatively untouched by electronic media. Recent research by Breen, et al. (1994) has reported literary practices from twenty-three families in six communities, and contrasted it to the literary practices observed in nine schools. They concluded that classroom environments, unlike homes, were dominated by print.

When teachers ask students to write stories in English classes in secondary schools, it is likely that the stories will also be dominated by words, rather than pictures. Few English teachers have expertise in combining pictures with words, and there is little readily available information for teachers which explains how it might be taught. For those teachers who wish to teach their students how to combine words with pictures to create a story, research information would be helpful. Observations derived from students' work with pictures and words could provide a practical contribution.

Collectively, English teachers in secondary schools are faced with social and literary contexts which valorise change, diversity and choice. Their students can construct a range of narratives which include linear and non-linear stories. Findings from this research relates to students' hypertext stories, but it is likely that it would also be applicable to traditional linear stories with pictures and words.
This paper argues that a study of students' hypertext stories, using pictures and words, will be assisted by a perspective gained from the study of picture-word combinations in traditional non-electronic media. The selection of particular models for examination from the broader literacy-related contexts to which students and teachers are exposed is to make a pragmatic decision based on the need to consider how picture-text combinations in other media can begin to influence hypertext composition. Comics and picture books are suggested as models for student writing and contributors to a beginning reconceptualisation of a pedagogy of story writing with pictures and words.

The context for the stories
This paper describes one example of student writing, where students, working in pairs, wrote collaborative hypertext stories with pictures and words. The students in the study were a group of nineteen year eight girls in an English class at a private girls' school in Queensland, Australia. Their average age was thirteen years. The class teacher was able to allocate six forty-minute periods in a computer laboratory to this writing work, in addition to two planning periods in a normal classroom. Students were advised that approximately five hundred words should be included in each hypertext story, but that, in addition, as many pictures could be used as were necessary, providing that the students created them themselves. A small group of the same students had been trained previously in volunteer lunchtime sessions, using the nominated software, Linkway, and this helped in the reduction of the expected learning curve with software. The school was regarded as prestigious, and the girls were generally articulate and positive towards education and composition-related activities. A characteristic of the students was that technology was an integral part of their lives. 100% of the sample of nineteen students had watched television at home in the last week, 63% had used a VCR, and an equal percentage had used a computer. This group of students used a rich variety of media in their daily lives, including print and electronic media.

Students seemed to have an excellent understanding of what was required when the teacher explained that the writing of a story with pictures and words was central to their task. The software Linkway which was used for this activity, allowed for the creation of hypertext stories with both pictures and words. During this process interview protocols were used in addition to questionnaires, tape recordings of conversations at the computer, and field notes of student activities. Data from this study is referred to during discussion.

Students were asked to produce their own pictures, using the drawing tools available in the program Linkway, and to use the completed images in combination with the words to produce hypertexts. Although it was possible to incorporate other media in this work, a conscious decision was made to use relatively simple media, in order that the writing would not be excessively dominated by students’ day to day concerns with the technology. The influence of these two media, comics and childrens’ picture books, can be seen in the way that students combine pictures and words in their hypertexts.

Comics
Comics have been an important part of children's reading for many years, and teachers, too have usually been readers of them at some stage. In the USA, Waugh (1947) argued that in the 1940's, 95% of boys and 91% of girls bought comics regularly, between the ages of six and eleven, a figure which fell only slightly to 87% of boys and 81% of girls for the ages twelve to seventeen. In West Germany, in the 1970's, Reitberger and Fuchs (1972) noted that 144 million comics were being sold annually. In Australia, the extensive displays of comics available in newsagents suggests that comics continue to be an important formative influence.

The panel is the fundamental unit of comic art, and as Abbott (1986) notes, it was isolated from its context and enlarged by Roy Lichenstein in the 1960's in a series of paintings which asserted its nature as a graphic form. The borders of the panel define a framed opening which allows the viewer to see the scene beyond. It usually contains written language and drawing, and this combination affects the perception of the reader. Abbott (1986) maintains that the text influences the perception of the panel image and exerts a guiding factor in deducing the picture's meaning.

The notion of a panel in comic art has parallels in the nodes of some hypertext systems. Nielson, (1990), who describes the node as the fundamental unit of hypertext, maintains that although there is
no agreement as to what constitutes a node, some systems such as Hypercard are based on a frame which is defined as the size of a computer screen. The widespread availability of software such as Hypercard, Toolbook for Windows, Linkway and Storyspace, means that frame-based hypertext systems may be used by schools for student’s story writing.

Several hypertext stories written by the students in the associated study exhibited characteristics often found in comics, such as exaggerated features of characters, or the positioning of objects in a frame. Some students were aware that increasing the size of the picture relative to the text at a critical point in the story would increase the emotional impact of the page on the reader.

A number of conventions have been developed by comic illustrators, which may affect teachers’ and students’ understanding of how information can be presented in a single frame of hypertext. Eisner (1985) provides illustrations of how a series of facial expressions and postures can become familiar shorthand for readers. The omnipotent narrator can be included in a comic panel, as can speech balloons, thought balloons, and jagged edges which indicate voice or sounds coming from a machine. A frame showing a slim head implies a slim body outside the frame, and the size and the shape of the frame can change to accommodate changing mood or the speed of narrated events.

In the associated study of student hypertext stories with pictures and words, a number of screens produced by the students exhibited similar characteristics. In one example, part of the head of a beautiful woman implies a similar overall appearance, (see figure 1, below)

![Figure 1: Student hypertext screen, showing comic-panel attributes.](image)

What he had heard was true. She was the fairest women he’d ever seen. Many years ago she had lived her life as a human. All men were in love with her because she was so beautiful. This made Aphrodite, the goddess of beauty, so jealous that she transformed her into a mermaid. Still no man could resist her exceptional beauty so when any man looked into her eyes they were turned into the seaweed that grew around her fishlike tail. They were to stay like that until eternity.

and jagged and wavy lines used as borders of pictures suggests a particular action or state, such as an intention to solve a problem with force, or the dream-state of a protagonist. In another hypertext, reminiscent of the Disney characters in comics, students used the anthropomorphic device of attributing human qualities to an animal character, in a story entitled Riley the Rhino.

However, comics are not always simple, and the interaction of image with text can be sophisticated. Witek (1989) notes that some comics do not have the closure which the reader usually expects. Others, instead of paralleling the verbal and visual texts, contrast or even contradict the two. While it is common to believe that comics are suitable only for young children, Carl Barks, an author and illustrator of Donald Duck and other comics (Disney, 1978), argued that his work was not “juvenile kid stuff”, but a new form of fiction which men and women had first read as children, and then re-read as adults. His evidence was a considerable volume of mail received, not from children, but from lawyers, doctors, writers, artists, professors, sports figures and other adult occupations.
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In a similar way that Nintendo acts as an invisible culture which receives little attention from the adult world despite its accepted part of childhood culture (Provenzo, 1991), comics too may be overlooked by researchers. The investigation by Sachs, Smith and Chant (1990 and 1991) examined adolescents' use of media, including television, radio, books, magazines and newspapers, but failed to ask any questions about readership of comics. Other accepted components of childhood culture may similarly be overlooked, because they have taken place at an earlier time. Although they may be insignificant as a part of students' current reading, their formative influence may be considerable. An example of another such influence may include picture-books.

**Picture-books as a parallel to hypertext composition**

Adolescents' concepts of how to write a story in school are likely to have been affected by the narrative mediums to which they have been exposed. Many students in Western societies will have become used to reading picture-books, which contains one model of the use of pictures and text. As older school students, these memories may fade, but the experiences may nevertheless be formative in a student's concept of how picture and text can work together. Some students may have younger siblings who still use picture-books regularly. For teachers, the memory may be more distant for some, but others who are parents may still be involved in the use of picture-books on a regular basis. They thus constitute a shared heritage of mutually supportive meaning-making systems, pictures and words, which teachers and students can use to their advantage.

Students use a number of language processes to construct meaning, and Bartelo (1990) argues that teachers need to be more aware that language arts are inter-related, and not isolated. Picture-books are an excellent example of such interrelationships. Picture-books can be used directly in classes with older students, and O'Sullivan (1987) suggests that they can involve readers in thinking about possibilities and probabilities of the story, encourage an emotional response, and demand that students think about the linking of illustration and text. The use of illustrations is seen as valid in the English lesson by O'Sullivan because an appreciation of illustrations involves an understanding of how they change a reader's perception of the text.

Although Lucky (1989, page 290) has labelled pictures the "junk-food of the information age", and Salomon (1984) had earlier insisted that pictures required less mental effort than text, it is clear that some author-illustrators of picture-books have a sophisticated view of how pictures and text complement each other, and, in combination, add a richness to the story.

There is some consensus from writers on this subject (Wagner, 1992; Scott-Mitchell, 1987; Tucker, 1981; Ardizzone 1980; Lorraine 1980; ) that illustrations and text in picture-books must be balanced and complementary, but that the pictures should not just simply illustrate the text. This goes beyond leaving out obvious details such as a red dress or blue sky in the text, because it will be obvious in the illustrations. The pictures may be drawn to produce a particular emotional response in combination with the words. The details may also be deliberately left out of the pictures to allow the readers to use their imagination, as Tucker (1981) asserts about the artwork of Ardizzone. Again, as Wagner (1992) suggests, it may be deliberate to have the words saying one thing, and the pictures something else. An example may be seen in Wagner’s picture-book story, *John Brown, Rose and the Midnight Cat* (Wagner, 1977), where the pictures provide an interpretation of the story which differs from that offered by the words.

In the study, several hypertexts indicated that students were aware that the pictures could predispose the reader to the words which followed later in the story. One hypertext, was entitled *An Adventure in Giant Land*. (Figure 2)

In the hypertext node shown above from this story, a huge, sinister tree in brooding colours encircles the title on the first page. It establishes a feeling of foreboding, suspense and mystery which which the title alone does not hint at. In yet another student hypertext, the writers gradually increased the size of the frames containing the pictures, and the words on screen became correspondingly sparse. This awareness of the relationship between ratios of pictures and words, and the suspense in the story is found in a number of picture-books, and also in comics.

Symbolism and stylised representations of people and objects can be identified in picture-books. Similarly, one pair of students were able to consistently represent their ideas, not as realistic pictures, but as symbols. These signs, such as an oversized question mark, exclamation mark, Christian
symbols, a stylised knife and weeping eyes were used effectively with a sparse text to produce a hypertext which was strikingly different from that of their peers.

Figure 2: Student hypertext screen showing picture-book attributes

Suggestions from these student examples does indicate an area where pedagogy might inform future work. Without an appropriate body of knowledge or adequate models, teachers may implement a sophisticated process to assist students in the construction of hypertexts with words, but leave students to their own devices in the way in which pictures work with words in texts to produce meanings. Some students may be unaware that anything other than simple illustration is possible. Others may develop an awareness of some of the positive and negative aspects of writing hypertext composition with pictures and words. As one student in the study explained it:

I reckon I like writing the story on the computer...but actually drawing the pictures is harder. But it’s more interesting to read, you have more variety, more adventures, like instead of just reading the words you have choices and pictures.

Conclusion
This paper has argued that hypertext software permits students to produce stories which include pictures and words. The characteristics of such stories may be affected by student and teacher understandings of how pictures and words can be combined to produce meanings for the reader. Comic books and picture-books contribute to a shared cultural experience. This experience adds to a body of theory which may be applied to hypertext and conventional stories, and provides a modelling effect which influences the nature of what is written. Conclusions in this paper have been supported by data from a group of students who wrote hypertext stories with pictures and words. The increasing need for teachers to consider the addition of pictures to their pedagogy of story-writing means that some teachers will choose to modify the ways in which they teach. When this happens, it would be wise to have a pedagogy in place. As Eldred (1991) reminds us, technology is not neutral. To hope for it to just fall into place is to play Russian roulette with the effectiveness of our classrooms.

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