

'Max the Apple: a Multi-modal research Project'

Author

Moyes, Peter

Published

2010

Conference Title

Edulearn10: proceedings.

Rights statement

© 2010 IATED. The attached file is reproduced here in accordance with the copyright policy of the publisher. For information about this conference please refer to the conference's website or contact the author.

Downloaded from

<http://hdl.handle.net/10072/39057>

Link to published version

<https://library.iated.org/view/MOYES2010MAX>

Griffith Research Online

<https://research-repository.griffith.edu.au>

MAX THE APPLE: A MULTIMODAL RESEARCH PROJECT

Peter Moyes

Griffith Film School, (AUSTRALIA)
p.moyes@griffith.edu.au

Abstract

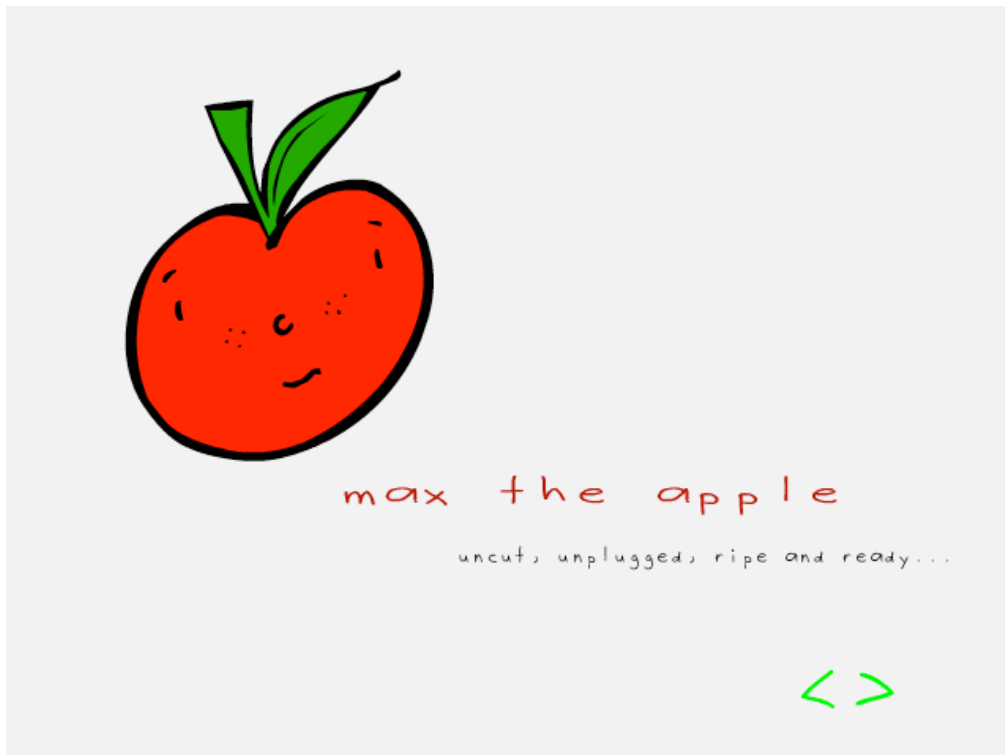
The research project *Max the Apple* poses the question: How can we best exploit interactive animation for children's engagement and learning? A web-based interactive narrative for children aged 5 to 10 years, *Max the Apple* presents themes of friendship, loss, grief, the cycles of nature, and the representation of a range of cultural practices in response to these themes.

The story engages on three tiers: the first tier is the first-person narrative communicated by text and simple visuals, and narrated by a 5 year old child; the second tier provides learning content associated with the story's themes and accessed via interactive buttons; while the third tier presents games also related to the themes and further developing the participant's investment in the narrative.

The project aims to present an entertaining and challenging learning environment by retaining the affordances of traditional media, such as conventional narrative arcs and imaginative readership, while exploiting the possibilities of active participation offered by new media.

This paper discusses the ways in which the project responds to ongoing concerns for children's diminishing cognition as they engage with increasingly immersive photo-realistic media [1]. By enhancing a picture book format with interactivity and games options, *Max the Apple* utilizes the capacity of new media to facilitate children's active participation in the narrative, to develop associated knowledge and an enthusiasm for learning, and to contemplate significant and complex themes within a playful environment, all the while maintaining a space between participant and text for critical reflection, interpretation and contextualization.

Reference is made to pedagogical models of literacy. In appreciating *Max the Apple* as a multimodal text; the project is seen to facilitate access and critical engagement in a contemporary context of cultural diversity and proliferation of media [2].



1. INTRODUCTION

The research project *Max the Apple* poses the question: How can we best exploit the interactive possibilities presented by new media in stories for children?

A review of online stories for children reveals that the vast majority are essentially digitized pages from print media, with interactivity mostly limited to page-turning. In light of the many digital games and puzzles that engage children in innovative and exciting ways, surely there are more meaningful ways to utilize interactivity for digital stories. The *Max the Apple* research project aims to present an entertaining and challenging learning environment for children by retaining the strengths of traditional media—conventional narrative arcs and imaginative readership—while exploiting the possibilities of active participation as offered by new media.

A web-based interactive narrative for children aged 5 to 10 years, *Max the Apple* presents themes of friendship, loss, grief, the cycles of nature, and the representation of a range of cultural practices in response to these themes. The story engages on three tiers: the first tier is the first-person narrative communicated by text and simple visuals, and narrated by a 5 year old child; the second tier provides learning content associated with the story's themes and accessed via interactive buttons; while the third tier presents games also related to the themes, which further develop the participant's investment in the narrative and promote a sense of playful learning.

My background is in animation practice and visual arts theory, so the project represents a new venture into primary level educational pedagogy, and also tentative steps into interactive design. As such, the project at this stage reflects a less than comprehensive knowledge of educational pedagogy, equally its computer graphics and game-play are competent to the task at hand but no more than that. That task is to explore the possibilities of new media for engaging children in story book learning and its cross-curricula applications and as such the project provides a possible model for future developments and enhancements.

2. CONVENTIONAL NARRATIVE

In discussing the applications of narrative in teaching and learning for adults, Marsha Rossiter highlights the potential of story to personalize the communication of knowledge and the creation of new experience: 'It is the particularity of the story ... that evokes a fuller response than does a simple statement of fact' [3]. Stories provide the familiar backbone from which a reader/participant might venture into personally relevant (self-navigated) terrain; 'In short, stories enable us to engage with new knowledge, broader perspectives, and expanded possibilities because we encounter them in the familiar territory of human experience' [3].

New media provides the opportunity for various approaches to content for children—such as games, virtual learning environments and sand-box approaches. As it engages with narrative, new media facilitates the open-endedness and multiplicity of meaning embraced by current pedagogical approaches that place as much emphasis on writing and the creation of content—on participation and agency—as on traditional reading/reception.

In this landscape, *Max the Apple* holds to a conventional narrative arc and so employs the narrative devices of plot, characterization, causality and closure. These devices hold reader attention, create empathy with character and predicament, and importantly, provide the (mythic) structure that a reader can apply to and make sense of their lives. Employing a first-person perspective to heighten immediacy and to facilitate this application, *Max the Apple* plots out the experience of the protagonist as he/she encounters Max on her window sill 'one sunny day', forges a friendship with the apple, and then confronts the end of a relationship and the loss of a friend as Max inevitably decomposes. Max's passing, however, is made sense of with the identification of a remnant seed which requires planting so that the cycle of life can continue.

Hunter McEwan considers two types of narrative, 'coercive narratives' and 'emancipatory narratives', when discussing approaches to narrative in research on teaching, 'The former are persuasive and seek to constrain belief; the latter are expressive and offer processes for creating new meanings' [4]. The conventional narrative as outlined above situates *Max the Apple* within a coercive context, as regards its efforts to impart factual information (about life cycles, religious and cultural practices, medical history, etc. as articulated through interactive selections) and its encouragement of social practices based on a moral code of creativity, positivity and caring. Equally, the conventional closure

provides certainty (and the framework for the possibility of a gently humorous treatment of potentially weighty themes such as death and grief).

And yet, at the same time, due to its allegorical and essential nature, *Max the Apple* operates as an emancipatory narrative more in keeping with the sentiments of new media narratives (and pedagogies) indicated above. The simplicity and universality of this (archetypal) narrative opens the way for personal identification (and re-contextualisation) and cross-cultural applications (some of which can indeed be pursued via interactive options); the story acts like a metaphor and symbol capable of courting various interpretations and participant meaning-making. 'We must fill in, from our own store of knowing, that which is unspoken. In so doing, we create as well as discover meaning, and we pose the questions we ourselves need to answer' [3]. As a simple yet meaningful narrative (coupled with its multi-modes of delivery as discussed later), *Max the Apple* lends itself to a fruitful critique of story, and a point of departure for re-contextualisation and creative possibilities, for studies in Literacy in the later years of primary education. In a similar way, the visual design of the project leaves space for such participant meaning-making.

3. THE PICTURE BOOK

In *Understanding Comics*, Scott McCloud celebrates the common comic for its unique language, suggesting that comics, despite their apparent simplicity (and sometimes low-brow subject matter) generate complex relations with their audience. McCloud draws attention to the key convention of the 'gutter'—that space or gap between panels in which lie a reader's agency and individual contribution to story and meaning.



Fig. 1: Image from McCloud (1993) *Understanding Comics*, p. 66.

In reference to Fig 1, and by way of example, McCloud suggests that 'I may have drawn an axe being raised ... but I'm not the one who let it drop, or decided how hard the blow, or who screamed, or why. That, dear reader, was your special crime, each of you committing it in your own style' [5].

Max the Apple employs a picture book format with simple visuals and written text in flattened space, in a page-to-page presentation. Animation used to complement this format is secondary and limited, mostly taking place on the interactive tier. These design choices have been made in order to maintain the imaginative space between text and reader inherent in traditional print media. Pared-back visuals and the written word act as cues for imaginative interpretation rather than full (in time) renditions of an illusionary world. Space is left between symbol and referent for personal interpretation and contribution to the story, in a similar fashion to the workings of the comic gutter. Page to page presentations allow a self-determined pace for contemplation and reflection.

Neuroscientist Susan Greenfield harbors concerns for generations of digital natives, as the increasingly ubiquitous and intrusive presence of the screen image blurs the boundaries between life and its representation [1]. Many writers have addressed these issues; Martin Jay urges spectators to resist the 'entertainment industry's cinema of attraction' which 'threatens to dissolve the distinction

between reality and simulacra entirely and make every experience vicarious, derivative and ultimately hollow' [6]. As digital technology develops and the more aligned our audio-visuals become with the physical world—the more faithful our simulations in time and space—the less personal nuance and interpretation may be possible. The more we close the gap between representation and referent, the less space for imagination, for creative visualisation on the part of the viewer as they affect closure. *Max the Apple* is unashamedly low tech in its aesthetic values, endorsing the school of 'less is more' in employing graphics that act reflexively rather than seamlessly. (see Fig. 2)

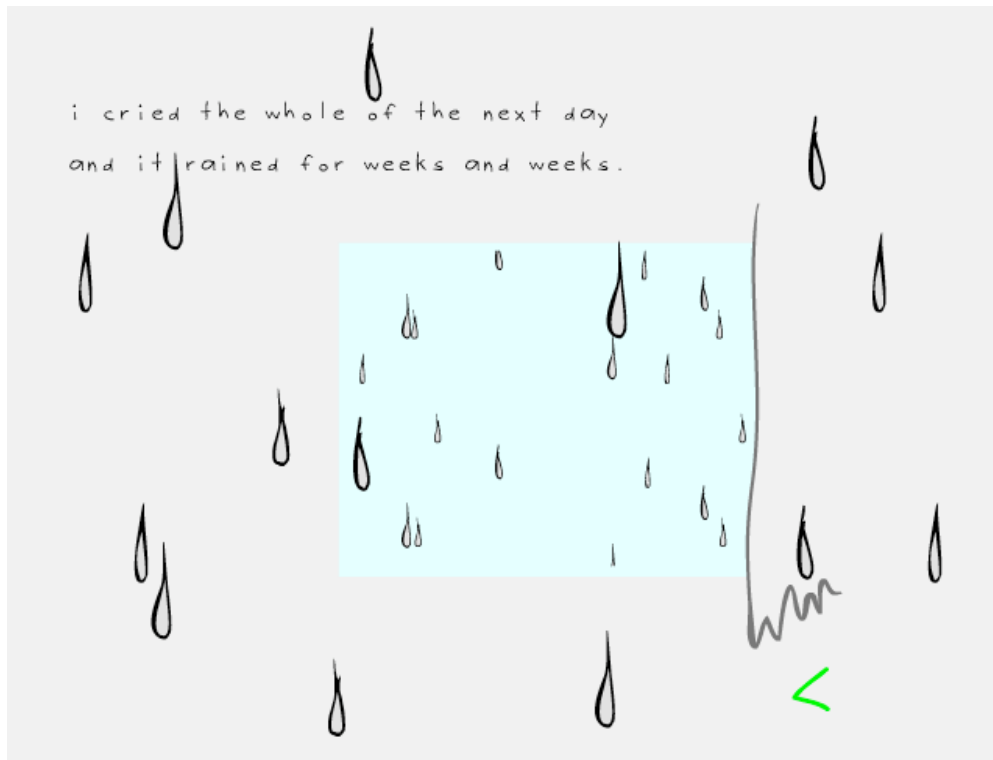


Fig. 2: *Max the Apple*: 'I cried the whole of the next day'.

We are told that new generations are able to multi-task, source information, navigate, interpret, and potentially work together with more efficiently and skill than previous generations, yet there is shared concern that new media might be neglecting its digital natives in at least two key aspects of the learning experience: reflection and evaluation. Marc Prensky explains that:

Reflection is what enables us, according to many theorists, to generalize, as we create 'mental models' from our experience. It is, in many ways, the process of learning from experience. In our twitch-speed world, there is less and less time and opportunity for reflection, and this development concerns many people [7].

Content for children can be couched within pedagogical approaches that draw attention to overarching concepts and contexts, and can prompt further creative responses and applications (these will be indicated as they pertain to *Max the Apple* later in the paper); a picture book format for *Max the Apple* facilitates a self-paced approach, and an on-going acknowledgement of contextual frames, as participants pause from the story to penetrate areas of interest by means of interactive links to associated facts and activities. (see Fig. 3)

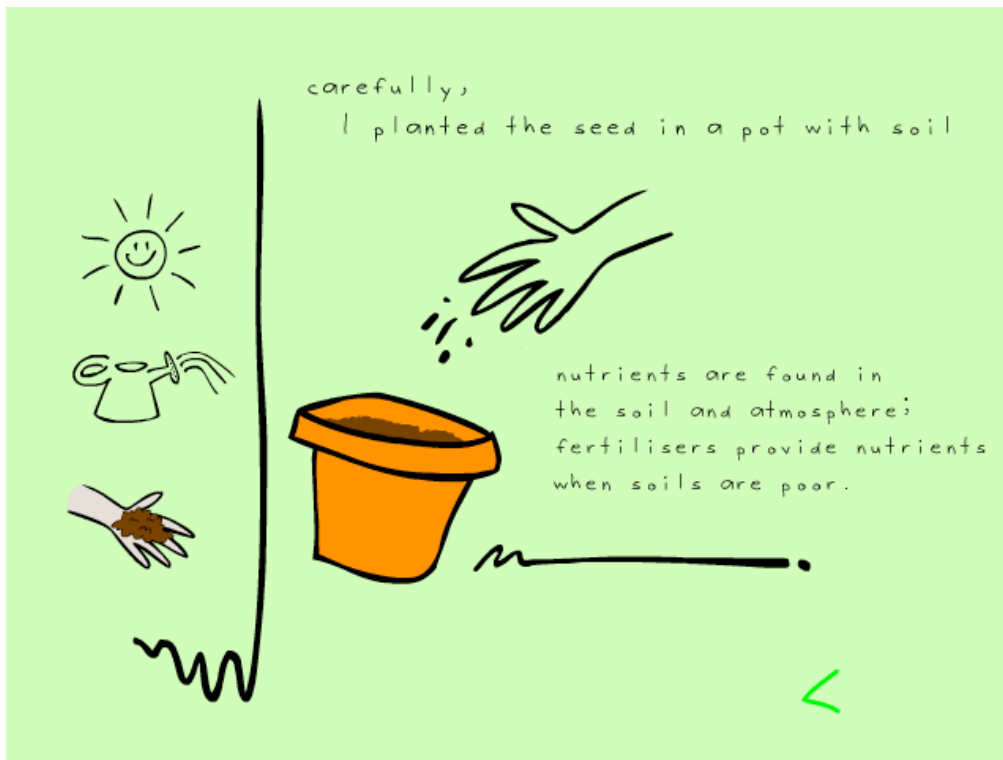


Fig. 3: *Max the Apple*: 'carefully, I planted the seed in a pot with soil.'

4. INTERACTIVITY

The attraction of computers for children, according to Ellen A. Wartella and Nancy Jennings in an overview of studies on children and computers, lies in an active engagement with media, in contrast to passive viewing relationships fostered by traditional media:

Children are drawn to computer technology that enables—even demands—more active engagement ... children generally prefer more participatory forms of computer-assisted instruction. Even young children (birth to age eight) prefer programs that are animated and oriented toward problem solving and that give them a sense of control [8].

With this in mind, children can interact with *Max the Apple* on three levels. The first level presents story. Children can navigate back and forth along a linear progression to revisit written text, sound and dialogue, and to (re)play through animated scenes. They might skip through 'the boring bits' to arrive at points in the story that they can relate to, or that have particular meaning for them. Consequently, children are allowed their own pace in keeping with their levels of comprehension and interest; they are empowered in their learning through this sense of control. In this way, the project emulates the traditional picture book's sense of direct manipulation, of being handle-able. In reference to the hard-copy picture book, Margaret Mackey and Jill Kedersha Mcclay suggest that:

The fixed nature of the (picture) book means that you can hold it in your hands, touch the words and pictures, remember where they are and return to them later. Meaning is developed through a very active form of handling the text, yet at the same time it dances in a third space beyond any form of touch [9].

In two key plot points in the story, the participants are obliged to make a choice in order to progress further in the story. These points have been deemed critical to the comprehension of a central theme of the project: coming to terms with loss and moving through subsequent grief. In the first instance, children have the option of making choices for themselves that are helpful (that progress the story) and those that are not so helpful (that give them the opportunity of choosing again) —see Fig. 4. In the second instance, children must choose from various cultural mourning traditions, as a way of acknowledging the loss of a friend. In these instances, agency is maintained for the children, while not compromising a key learning aspect of the story. This first tier also relies on conventional devices of narrative to engage an audience, as discussed above.



Fig. 4: *Max the Apple*: 'losing a friend does make you blue'.

The second level of *Max the Apple* offers facts and information relating to the story, which can be accessed via hotspots in the written narration and are often associated with choices that enhance the narrative. Early in the narrative, children are given the opportunity to choose a colour for Max that will feature throughout the rest of the narrative, based on different apple varieties. This is one of many examples in the project in which the effects of interactive participation are two-fold and complementary: children have the opportunity to personalize (and invest in) the experience of the story, while exploring associated facts and information; importantly, they are pro-active in their learning.

Some choices that personalize and enhance the narrative aim to instill appropriate behavior through experience; that is, through choice and consequence. On meeting Max, various options are presented as ways of 'showing Max that you're his friend'. These are based on customs of greeting from various cultures, including the New Zealand 'hongi', the Hindu 'namaste', etc (Fig. 5). A short explanation accompanies each option via text and voice over, and associated sound effects play. If the child chooses to greet Max with a 'raspberry', this is identified as a rude gesture, and consequently Max exits screen left.



Fig. 5: *Max the Apple*: 'show max you're his friend'.

Another opportunity to play out appropriate behaviors presents itself as Max succumbs to sickness (his decomposition). Participants can choose from a selection of speech bubbles that offer support from a first person perspective. If the child chooses the option, 'Get over it, Loser!', a chorus of children's voices suggest 'that's not very nice', the screen goes black and then fades up to 'Max thought you were his friend', before returning to the original screen for more supportive options.

A participant can actively attend to Max's ailments via diagnostic options and then treatment options based on the prognosis. Children are able to drag and drop from options of stethoscope, thermometer, tongue depressor and otoscope, and then treat via options of leeches, band aids, acupuncture and chicken broth.

The objectives of these interactions are threefold: children personalize the story—they strengthen their empathies with Max (and so stand to experience with more immediacy the narrative's life lessons); they follow their topics of interest (choosing from various cultural and historical practices and customs); and, they practise appropriate behaviours, learning through choice and consequence. Importantly, such potentially labored themes as caring for the sick and practices of mourning are couched in a light and playful tone; the effects of each choice playing out a humorous yet apt response. (see Fig. 6)



Fig. 6: Max the Apple: 'what would you prescribe, doctor?'

Factual information provided at this level is necessarily limited due to design considerations and the potential scope of the topics. Short paragraphs of text (with voice-over) are presented to incite interest and further research into key learning areas. Sources of further information can be identified by parents and teachers; hyperlinks to appropriate sites could be included in future versions/similar stories.

The third tier, that of games activity, is designed to enhance a playful approach to, and associations with, learning. Games are used to immerse children in the narrative—to bring participants into direct relationship with Max and to heighten the experience of the story. Children can choose from three slider puzzles in positing a backstory for Max's mysterious appearance (Fig. 9). When the last tile is correctly positioned, a small vignette plays out as one account of his past. With the guidance of parents and teachers, these scenarios can prompt further narratives (creative writing, drawings, oral stories, etc.) by way of elaboration, and alternative scenarios.

Tic-tac-to, pong, and maze puzzle options are presented at the point in the narrative where the protagonist bonds with Max—a Max icon features in each as an opponent and play-mate. Children can also contribute to a riddle page at this point of the narrative arc; further work to launch the story online will include readying this page for peer-sharing, which will, in effect, widen the circle and notion of friendship pertinent to this stage of the story. A 'bee game' (Fig. 7) involves the children in (learning about) pollination, and facilitates their playing a part in forging new life from the demise of Max. It is worth reiterating here another crucial nurturing role children play earlier in the narrative when choosing to plant the seed as a creative response to the death of Max (hope), rather than the less fruitful options of discarding the seed as refuse (sadness), or stomping on the seed in anger (see Fig. 4).

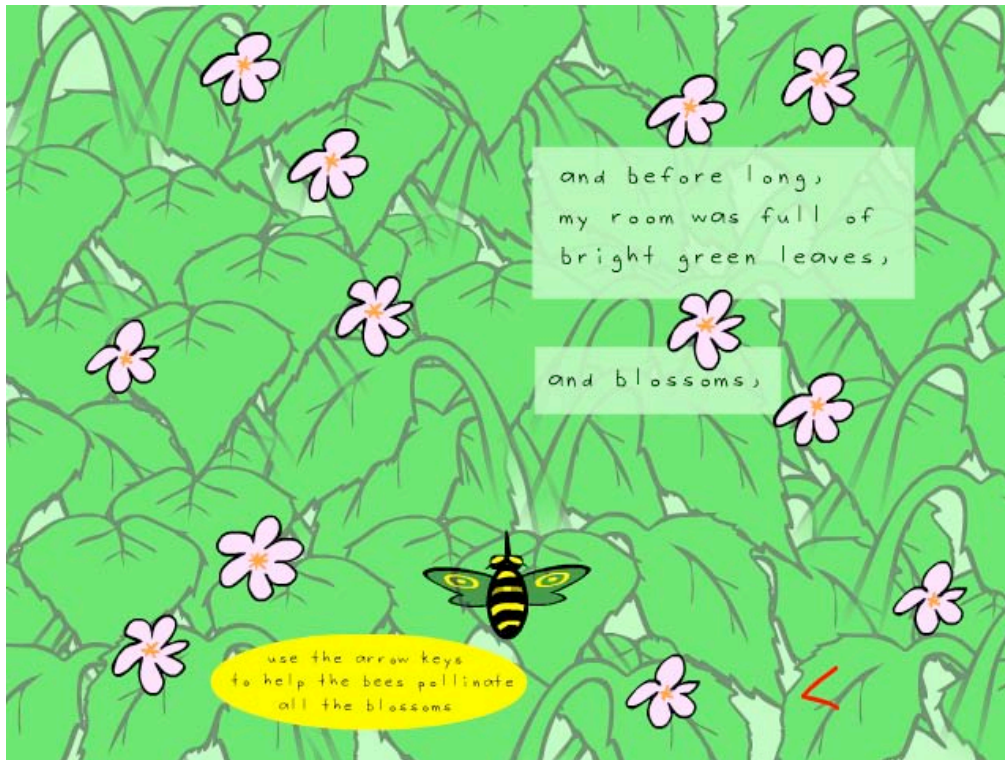


Fig. 7: *Max the Apple: bee game*.

5. MULTI-MODALITY

Picture books offer the stability of print but at the same time they open the doors for readers to make connections with many different kinds of texts in their own lives. Polysemic texts abound in today's culture, on television with words and images, in audio form with words and music, on computers in multiple incarnations [9].

Multi-modal texts, that is texts that employ a number of modes of communication (and accommodate various levels and approaches to literacy) can be seen to facilitate access and critical engagement in a contemporary context of cultural diversity and proliferation of media—two key concerns for literacy as identified by The New London Group in 1996 [2].

Digital technology can be used to synthesize different modes of communication within the same text and to articulate links within a package of associated media. *Max the Apple* employs the written word, still and moving images, voice over, music, sound effects and games in delivering its story. While multi-modal packages of associated media are all-inclusive in their appeal to children's varying literacy levels and modal preferences (participants have the option of following a story all the way through in the same mode), the integration of media in *Max the Apple* encourages competency across a number of modes simultaneously. Children can make sense of the (simple, conventional) narrative by picking their way through the story via activities and modes of their choice, while they are exposed to and encouraged to take part in the operations of other media. Importantly, interactivity allows this self-paced, self-directed navigation. According to Cope and Kalantzis, the multi-modality of new media:

allow(s) learners of different dispositions to drift in the direction of expressive forms with their comfort zones, whilst challenging them to transfer meanings into new and as yet unfamiliar forms ... Using digital media, learners do not all have to be on the same page. At any one time, they can be doing what is best for them given what they already know [10].

Max the Apple acknowledges the computer interface as a site for new literacies. The interactive design engages with the intuitive computer skills of current generations via text and graphic hotspots, and

puzzle activities, allowing children to select, drag and drop, type and draw; the opening page of the project flags and initiates such ways of engaging (Fig. 8).

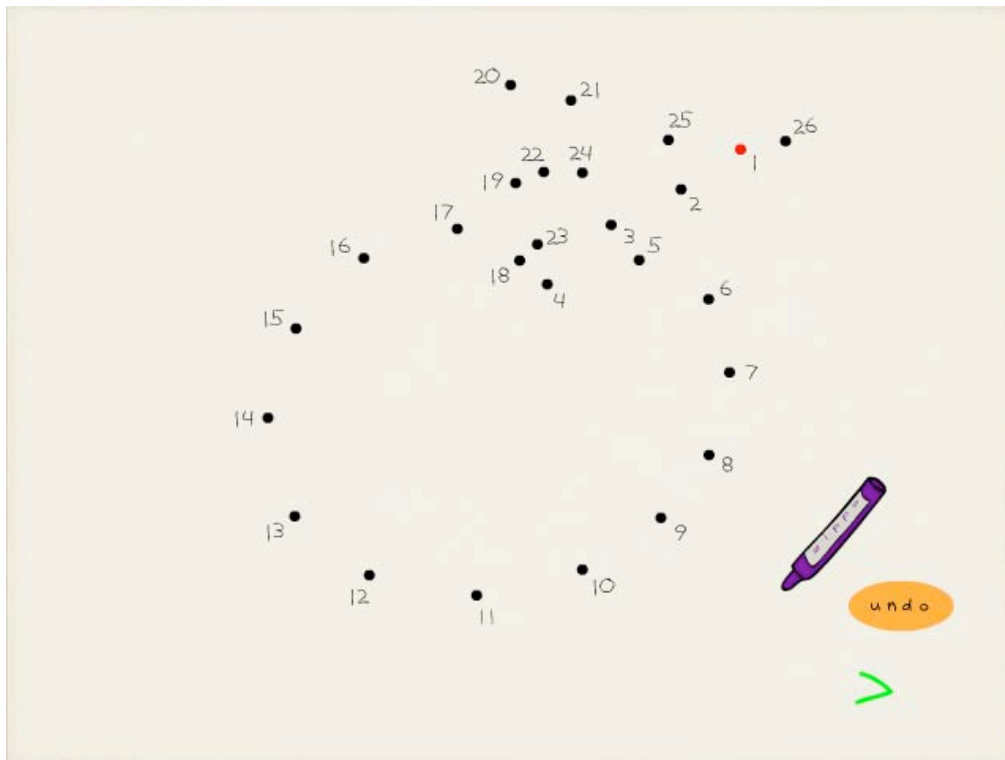


Fig. 8: *Max the Apple*: opening page.

The cross-curricula applications for *Max the Apple* are made possible by the multi-modal nature of the project; they include Science (life and living, science as human endeavour), Studies of Society and Environment (culture and identity), The Arts (media, visual art), English (reading and viewing, writing and designing, language elements, literary and non-literary texts), Health and Physical Education (personal development) and ICT (inquiring with ICTs, operating ICTs, communicating with ICTs). Textual, aural and visual information as well as interactive activities inform and enact, moreover they invite further inquiry into key learning areas. The archetypal nature of the story provides a framework and context for acknowledging and developing these interconnections.

Heritage modern schooling divided modes of meaning neatly into different subjects. Language was for text; art was for visuals. Schools stripped away the richly multimodal life of pre-school children by separating off the mechanics of handwriting or phonics. New learning uses synaesthesia—or mode shifting—as a pedagogical device [10].

Freebody's and Luke's 'Four Resource Framework' [11]—that is, decoding, constructing meaning, re-contextualizing and critiquing—is useful in appreciating the project as a rich resource in English studies for engaging in and identifying literacy practices:

Code-breaking:

Max the Apple's essential narrative, its employment of colloquialisms, and its multimodality provide scope for practicing interpretation and comprehension across various media.

Text-participating:

Links to factual information, comparative cultural information, and the metaphoric scope of the narrative invite the incorporation of knowledge and understanding from wider cultural, disciplinary and personal contexts.

Text-using:

The multimodality of *Max the Apple* provides much scope for an analysis of the functioning of various media, their specific strengths and applications. This analysis, an extrapolation of the simple narrative, and exploiting the project's cues to creativity (slider puzzles, riddle page, etc) can provide points of

departure for creating further narratives across various media (Fig. 9).

Text-analysing:

In acknowledging the (interdependent) functions of the various modes of communication in *Max the Apple*, and by discussing alternative modes and narratives (content and devices), a point of view and purpose/s can be identified, and an objective overview realised. Alternative designs (and points of view) can then be proposed.

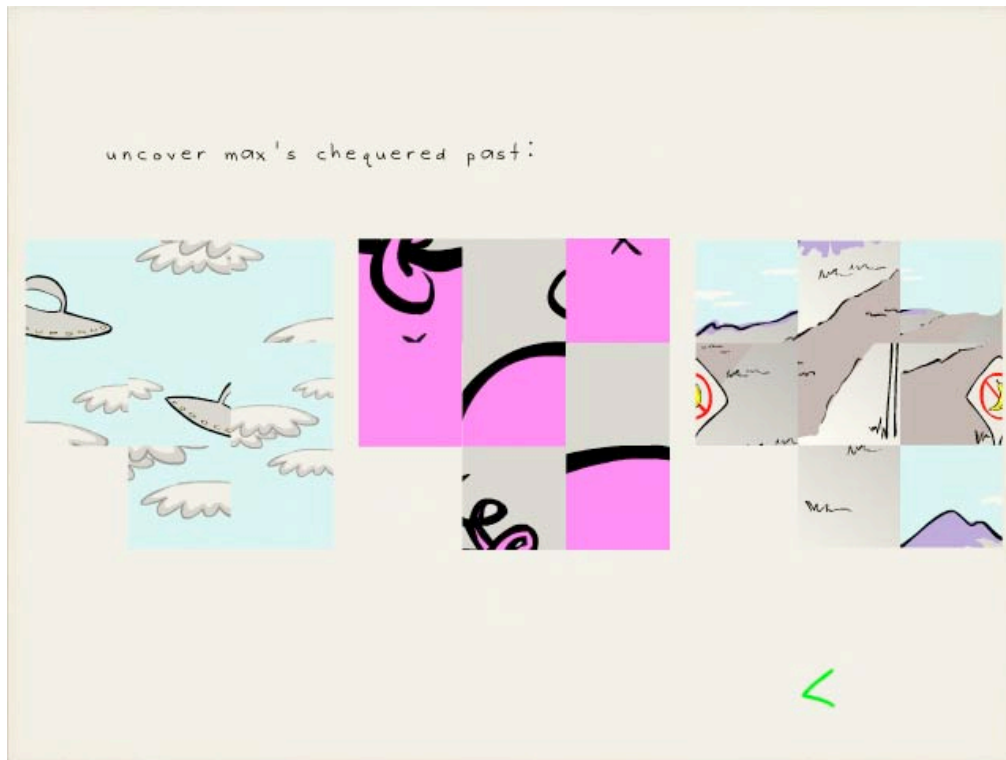


Fig. 9: *Max the Apple*: 'uncover max's chequered past'.

The intensity and insight with which these literacy practices are enacted and examined is determined of course by individual age and ability. It is the simplicity and scope of the *Max the Apple* narrative, and its multimodal delivery across tiers of story, information and gameplay that accommodate a wide range of responses, competencies and applications.

6. CONCLUSION

The *Max the Apple* project draws on the strengths of both traditional and contemporary media to create a playful learning environment for young children.

A (digital) picture book format is used to facilitate a self-paced, self-directed engagement reminiscent of the fixed nature of the print book [9]. Simple graphics and a 'bare-bones' story maintain interpretative, reflective and creative space for the reader/participant. The archetypal story dealing with significant themes of life, loss and recovery, presented by means of a conventional narrative arc, provides scope for personal identification, and for creative departures. *Max the Apple's* narrative is both 'coercive', in providing instruction through causality and closure (and via associated hyperlinked factual information), as well as 'emancipatory' [4] with its cues to further inquiry and scope for creative departures and interpretations.

Interactivity in *Max the Apple* empowers children with active participation and investment. Interactivity provides opportunities to customise aspects of the story, to select from various associated facts, to play games pertinent to key plot points, and importantly, to make choices which progress story and suture participants into the narrative outcome.

Max the Apple draws on the picture book, animation, games, hypertext and music to provide an environment of playful invested learning. The multi-modal nature of the project encourages literacy across the written word, visual, aural and interactive modes; each of these channels of communication enhance comprehension within a simultaneous presentation. Access is possible for children of varying levels of literacy; children preferencing particular modes are erstwhile exposed to others.

The archetypal nature of the narrative and the interactive functions provide the scope and connections across curricula. *Max the Apple's* multi-modal presentation informs, enacts and invites further inquiry, as well as providing cues to further creative responses and to critical analysis.

REFERENCES

- [1] Greenfield, S. *ID: The Quest for Identity in the 21st Century*. Sceptre, London (2008)
- [2] New London Group. A Pedagogy of Multiliteracies: Designing Social Futures. *Harvard Educational Review* (1996) 66, pp. 60-92
- [3] Rossiter, M. Narrative and Stories in Adult Teaching and Learning. *Educational Resources Information Centre Digest* (2002) no. 241
- [4] McEwan, H. The Functions Of Narrative And Research On Teaching. *Teaching and Teacher Education* (1997) vol. 13, no. 1, pp. 85-92
- [5] McCloud, S. *Understanding Comics: The Invisible Art*. Harper Collins, New York (1993)
- [6] Jay, M. Diving into the Wreck: Aesthetic Spectatorship at the Fin-de-Siècle. *Critical Horizons* (2000) vol. 1, no. 1, pp. 93–111
- [7] Prensky, M. Digital Natives, Digital Immigrants, Part II: Do They Really Think Differently? *On the Horizon* (2001) vol. 9, no. 6
- [8] Wartella, E. A. and Jennings, N. Children and Computers: New Technology—Old Concerns. *The Future of Children: Children and Computer Technology* (2000) vol 10, no. 2, pp. 31 -43.
- [9] Mackey, M. and McClay, J.K. Graphic Routes to Electronic Literacy: Polysemy and Picture Books. *Changing English* (2000) vol. 7, no. 2
- [10] Cope, B. and Kalantzis, M. New Media, New Learning. *The International Journal of Learning* (2007) vol 14, no. 1
- [11] Freebody, P. and Luke, A. Literacies programs: Debates and demands in cultural context. *Prospect: Australian Journal of TESOL* (1990) vol. 5, no. 7, pp. 7-16

ACKNOWLEDGEMENTS

The author wishes to acknowledge the efforts of the following in their contributions to the *Max the Apple* project:

Henrik Pettersson and Spencer Harvie for computer scripting; Mikey Squire for original music; Buddy Moyes, Frances Whiting, Dusty Moyes, Georgina Rankine and Thomas Rankine for voice.