Using the Internet to enhance the literacy curriculum

Greer Johnson, Claire Wyatt-Smith and James Garton

This article examines the theory–practice links between the teaching of literacy and information technology. In the first section we outline a theoretical rationale for the inclusion of information technology in teacher education and professional development. Supported by the rationale and the understanding that literacy requirements in teacher education and teaching have changed, the second section of the article demonstrates some of the outcomes of initiatives in an English teacher education program at Griffith University, Australia, which focus on the collection and evaluation of Internet resources so that they might support worthwhile activities in the literacy curriculum. Finally, suggestions are made for forging additional theory–practice connections between literacy and technology, based on a critical literacy approach to reading texts.

Introduction

The latest developments in the Oz Literacy Links <http://www.gu.edu.au/gint/ozlit/Homepage.htm> project at Griffith University are concerned with the use of the Internet in a preservice secondary English teacher education program. The project aims to explore the use of the Internet in three ways: to collect resources; to evaluate resources; and to utilise resources to plan and implement language and literacy activities for use in the secondary English language curriculum. Although the kinds of technology-related literacy activities outlined here are presently being undertaken in the preservice sphere, we suggest that they are equally appropriate for professional development. The continuing interest in this project is based on the collection of data over three years in the preservice site, which reconfirms the need for further work with the current generation of teachers in computer and technology literacy (see Bigum, Durrant, Green, Honan, Lankshear, Morgan, Murray, Snyder and Wild, 1998).

Redefining literacy through technology

The concept of what it means to be a literate person is changing. The last decade has seen a shift away from an understanding of literacy as a single, unitary set of skills to what Christie, Devlin, Freebody, Luke and Martin (1991) referred to as a changing, even ‘evolutionary’ view of literacy in which it is imperative ‘to progressively redefine what it means to be literate’ (p. 212). In the acquisition of non-unitary literacy practices, as outlined by Freebody and Luke (1990), readers and writers are encouraged to adopt four roles simultaneously. They must crack the code (decode and encode), participate in the text (make sense of what they read), use the text (do things with the text) and analyse the text (be critical of the text). Although Freebody and Luke do not link the four roles to particular textual modes (spoken, written, audio, visual), in this article the roles are utilised as a frame that can be applied to an emergent multimodal text: the Internet. The context of online literacy is situated here in secondary English curriculum. However, the points raised have implications for the teaching of literacy across the primary, secondary and tertiary curriculum. The Internet as an avenue for diversifying literacy offers at least two possibilities: computer and online literacy. Computer literacy can be linked to the role of decoder and encoder of language insofar as it involves learning to use computer software. Online literacy includes computer literacy, but also requires aspects of the other three roles since it involves an
understanding of how cyber-genres work (Garton, 1997) and the ways in which they position the user as a social being.

Luke (1995, p. 14), reporting on the aims of the London-based multiliteracies project, highlights the need for making ""the cultural political"" through multiliteracies of multimedia cultural texts, images, iconography, and ""languages"". The Internet is a specific area of multimedia where there is a need to make the cultural practice of literacy, political. Moore (1996) describes the Internet as 'a series of screens containing words and/or images. Some of these words or images act as a link to other screens containing information; with a mouse to point at and click on these links the user is taken to the next screen"" (p. 318). Although it is vital that Internet users attain competency in computer skills, it is also important that they begin to question whether literacy practices are consistent across modes and media and/or whether they change in relation to particular technologies. For example, do we read and write print text in the same way that we read and write Internet text? What is the effect of choosing to hyperlink to one screen and not another?

The position on literacy adopted in this article is that put forward by Green and Bigum (1996), who argue the need to bring 'together in a theoretical synthesis the operational, cultural and critical dimensions of literacy and literate practice' (p. 195). From this vantage point, literacy is understood as a social practice that involves ways of doing/functioning (operational), of being, acting and feeling (cultural), as well as ways of thinking and reflecting (critical). Literacy is also understood as a material practice 'and therefore in necessary association with available technologies, whether they be the quill, the ball-point biro, the printing press or the computer. That is, literacy needs to be grasped as the articulation of available technologies and a specific set of reading–writing and teaching–learning practices' (Green and Bigum, p. 195). By extension, technological literacies are defined by Knobel and Lankshear (1995) as 'social practices in which texts (i.e. meaningful stretches of language) are constructed, transmitted, received, modified, shared (and otherwise engaged), within processes employing codes digitised electronically, primarily, though not exclusively, by means of (micro) computers' (p. 148).

There is strong support for this redefinition work in literacy education from those within the academy whose interests lie in how the contested term literacy is understood and practised in everyday contexts. By extension, there is a specific interest in the historical, theoretical and pedagogical relationships between literacy and technology.

The urgency for examining technology-based literacy can be traced to the observation that technology is a pervasive feature of the contemporary world, and also to the insistence of public and policy rhetoric, evidenced in Australia, the United States and Britain, concerning the significant benefits to be derived from the technologisation of education and literacy. Initiatives supported by Australian Departments of Education attest to this priority area within literacy education (see Department of Education, Queensland, 1995).

On the national level, the recently released DEETYA-funded study of the interaction and relationship between literacy and technology in teaching and learning primarily in school education, Digital rhetorics, reported by Bigum et al. (1998), recommends that:

Teacher education courses include components which address 'the structure of knowledge' in ways that prepare teachers to develop effective learning programs addressing literacy and technology based on statements of learning outcomes, as well as to handle the evaluative and critical dimensions of information.

(Volume One, p. 155)

Luke (1997) provides a compelling imperative for educationalists to instigate initiatives in the area of information technology and literacy for teacher education and professional development:
Literacy requirements have changed and will continue to change as new technologies come on to the marketplace and quickly blend into our everyday private and work lives. And unless educators take the lead in developing appropriate pedagogies for these new electronic media and forms of communication, corporate experts will be the ones to determine how people will learn, what they learn, and what constitutes literacy. (p. 7)

The Oz Literacy Links Web site

In operational terms, the Oz Literacy Links Web site began as a home page for a course in Technology Enhanced Language Learning for the Master of Arts in Applied Linguistics. Then, with seed funding from the Griffith Institute for Higher Education, it became a Web site with four main components. These linked pages have grown to eight major sections in the latest revision, reflecting a variety of issues and concerns in language and literacy education. The components on the Oz Literacy Links home page at the time of writing were:

- Online Literacy and Freedom of Speech
- News Media
- Literature on the Web
- Kids’ Writing and School Sites
- Web Tips and Resources and Your Own Web Pages
- Technology Enhanced Language Learning
- TESOL and Applied Linguistics
- Literacy Curriculum and Policy.

There is no linear or superordinate order to these component pages. Readers of hypertext, to a large extent, create their own pathways through the various options. Home pages do, however, provide teachers with a pedagogical framing device, as discussed below.

Oz Literacy Links is ‘permanently under construction’, as the saying goes, reflecting the volatile nature of hypertext and Web sites. The home page components (each home page in their own right) reflect different orders of significance for each topic, with different roles in the site. The News Media page, for example, simply provides access to the resources of online news media such as The Australian Online, the Australian Broadcasting Corporation and a large variety of overseas news media. The intention in creating this page is to give teachers access to huge amounts of text in various news genres as input to language and literacy lessons. Online Literacy and Freedom of Speech, on the other hand, takes a more didactic approach, and encourages readers to investigate sites that challenge current notions of publication and censorship, with topics from gay rights to racial hatred.

Further explanations of some of the earlier activities of the project are available in Wyatt-Smith, Johnson and Garton (1997) and Garton, Johnson and Wyatt-Smith (1998). It is helpful here to make clear that the project explicates ways in which teachers can use the Internet to move beyond computer literacy to include online literacy in their classrooms. The means of development is discussed specifically in terms of showing teachers how to evaluate resources collected on the Internet and to utilise those resources to plan and implement worthwhile language and literacy activities in the subject English that strive to make the cultural practice of online literacy, political.

The specific assignment around which the preservice teachers’ work (profiled below) is based as follows. A previous version of this assignment appeared in Wyatt-Smith, Johnson and Garton (1997).
Statement of task

You are asked to prepare a Teaching and Resource Folio that will be useful for you as a beginning English teacher. The folio consists of three (3) sections, which are outlined as follows:

1. A clearly explained integrating device suitable for use in Senior English. (See examples in Brisbane Board of Senior Secondary School Studies [1996]. *The Trial/Pilot Senior Syllabus in English.*)

2. Four (4) lessons, which are based on four approaches to reading and writing about texts. The four approaches* focus on:
   - author;
   - text;
   - reader; and
   - world context/critical literacy.
   - The approaches can be treated singly or in combination.
   - For more details on these four approaches consult Brisbane Board of Secondary School Studies (1997). *Trial Senior Syllabus in English Extension (Literature).*

   Traditional multimedia, including Internet Resources for each lesson, are to be included in a fully referenced list. Each lesson must incorporate one resource collected from the Internet. A statement of evaluation of each Internet resource (based on the criteria outlined in Henninger [1997] and Department of Education [1991]) must be attached to your lesson plan. **All resources must be fully referenced.**

3. A rationale that explains how the teaching, learning and assessment activities in your lessons are supported by particular literary theories (approx. 500 words per lesson).

* The four approaches (author, text, reader and world context/critical literacy) are important insofar as they are emphasised differently in the four approaches to the reading of texts. In an author-centred approach, a close reading of the text involves considerations of the author’s intended meaning as evidence through the use of literary language. A text-centred approach takes no account of the author’s intended meaning. This approach establishes a close reading through attention to the literary language of the text. Unlike the author-centred and the text-centred approaches to the reading of texts, the reader-centred approach accounts for the readers’ interpretations in the meaning-making process. However, the part played by the reader varies according to particular versions of reader-centred approaches. Generally speaking, in the reader-centred approach the reader is an individual who responds subjectively/uniquely to the characters, themes and events presented in the text. In the world context/critical literacy-centred approach, the reader also contributes to the meaning making process. However, readers are not treated as individuals because they are seen as assemblages of cultural views and values and practices in which they participate in their everyday worlds. That is, in this approach readers interpret texts through varying cultural frames or contexts that are socially constructed. Therefore readers using this approach to textual analysis look at the power relations that are available though the discourses/ways of seeing the world, represented in the language of the text. The reader recognises the constraints on individuals that are inherent in social practices. In reader-centred approaches and a world context/critical literacy-centred approach, readers are capable of multiple readings because they participate in many ways of seeing the world. In a reader-centred and a world-context/critical literacy-centred approach, like the text-centred approach explained above, the author’s intended meaning has no place.
The specification that the lessons must include Internet resources encourages the preservice teachers to rethink the traditional notions of reader, text and author relations. As argued by Snyder (1995):

Indeed the actual experience of reading and writing with hypertext clarifies many of the key ideas of critical literary theory. For example, hypertext is non-linear and open-ended so that the reader isn’t locked into a particular organisation or hierarchy. Hypertext has the capacity to emphasise intertextuality, by connections and cross-references to other texts in ways that page bound books cannot. Hypertext promotes multivocality, that is, it doesn’t permit the reign of an invocal, authorial voice. In a hypertext environment, an active reader is continually shifting the centre of the text and recentring. Perhaps significantly hypertext blurs the boundaries between readers and writers. (p. 30)

Evaluating resources on the Internet

We have argued that information technology has instigated enormous changes to the understanding and practices of literacy. Further changes in the kinds of literacies that are appropriate to citizenship at the end of the 20th century have initiated changes in the education of teachers. Luke (1997) argues that “the Internet too is generating virulent responses from the public and social critics about its “anarchic” nature: the inability to control it, to censor it, to manage it and limit it” (p. 6). The task set out above assumes that teachers will adopt the role of text-analyst in relation to their evaluation of specific resources they locate on the Internet.

Two ways in which English teacher education students at Griffith University have been required to evaluate resources located on the Internet are in relation to reliability and inclusivity.

Reliability

Little work has been done to date on ways to systematically evaluate Internet materials for their usefulness as curriculum resources. Denise Grebert (1997), a preservice teacher, produced the following critique using Henninger’s (1997) Don’t Just Surf the Net as a guide to the evaluation of an Internet resource for use in a unit of work on poetry.

<table>
<thead>
<tr>
<th>Internet resource:</th>
<th><a href="http://www.charon.sfu.edu/TENNYSON/tennyson.html">http://www.charon.sfu.edu/TENNYSON/tennyson.html</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>Created by Arthur Chandler</td>
</tr>
<tr>
<td>Date of publication:</td>
<td>1995</td>
</tr>
<tr>
<td>Content of document or site:</td>
<td>Hypertext to biographical information, timelines, poems, student essay-writing skills, list books about Tennyson</td>
</tr>
<tr>
<td>Other factors:</td>
<td>No information about Chandler</td>
</tr>
<tr>
<td>Changed:</td>
<td>No sign of updated information (Grebert, 1997, p. 7)</td>
</tr>
</tbody>
</table>

(Ex)Inclusivity

Stephen Clark (1997), also a preservice teacher, examined the (ex)inclusivity of Internet resources in general using a functional grammar approach (see Butt, Fahey, Spinks and Yallop, 1995) to show how the language of the Internet constructs gendered social practices. He explained:

Hyper-media literacy involves being able to understand and follow instructions, as the interactivity of hypertext is dependent upon following the instructions (implicit or explicit) embedded within the text, ranging from the simplest underlined hypertext links to the complex procedures of downloading and installing the latest version of Netscape Navigator from Netscape Communications. (p. 1)
Elsewhere he emphasised that ‘the mode and medium make the hypertext links “imperatives” or commands by the underlining and/or the colour of the word, irrespective of what the actual word is’ (p. 1).

Clark then drew an analogy with traffic signs, for example, stop signs, and pointed out the frequent use of ‘stop’ and ‘find’ functions on the Web browser. He explained that these paralinguistic features in the electronic environment acted as imperatives that are often associated with a hegemonic masculinist discourse. He pointed to their potential for promulgating gender inequity for those outside that discourse. In other words, the language of the Internet could be instrumental in reinforcing the gender inequity that Singh (1995) found in her study of the use of computers by boys and girls in two Australian primary schools.

Planning and implementing language and literacy activities based on Internet resources

Using the task outlined above, Andrea Love (1997), also a preservice teacher, demonstrates the integration of an Internet resource into a lesson (shown below) on the world context/critical literacy-centred approach to the reading of texts about war, particularly poetry. Her particular interest in the site, <http://www.pol.adfa.oz.au/dept.info.html>, began with its potential for examining the use of exclusive language.

The lesson plan

<table>
<thead>
<tr>
<th>Class:</th>
<th>11 English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Thursday, 5 March 1997</td>
</tr>
<tr>
<td>Period:</td>
<td>1</td>
</tr>
<tr>
<td>Duration:</td>
<td>55 minutes</td>
</tr>
</tbody>
</table>

Holistic objective
- Introduce students to the world-context approach of reading poetic texts

Analytical objectives
Students will:
- identify and evaluate textual and contextual features of the advertisement
- demonstrate a capacity to interpret an advertisement
- recognise the constructed, ideological nature of texts
- learn about relationships between texts and social contexts
- problematise the text and consider resistant and alternate readings

Building on introductory lesson about world-context readings

Leading to further lessons looking at texts from the world-context approach

Selected assessment instruments
- observing students during video screening
- observing students during class discussion

Classroom organisation
- normal seating arrangement

Resources
- video recording of the Australian Defence Force Academy Advertisement

Learning outcomes
- Students will become familiar with what is involved with a world-context reading of a text by analysing a television advertisement and an Internet resource
<table>
<thead>
<tr>
<th>Time + Content Strategies (Teacher)</th>
<th>Worthwhile Learning (Students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 min. Teacher briefly outlines the plan for the lesson.</td>
<td>Students consider the gaps and silences and question the problematic nature of the video text.</td>
</tr>
<tr>
<td>Explanation of world-context ways of reading.</td>
<td></td>
</tr>
<tr>
<td>Playing of video recording of the Australian Defence Force Academy Advertisement.</td>
<td></td>
</tr>
<tr>
<td>25 min. Second viewing of the same video.</td>
<td></td>
</tr>
<tr>
<td>Textual analysis will promote discussion that concentrates on the constructedness of the text, its ideology, the preferred, dominant reading and alternate or resistant readings.</td>
<td></td>
</tr>
<tr>
<td>The following questions provide a possible structure for the discussion.</td>
<td></td>
</tr>
<tr>
<td>• What is the purpose of the ad.?</td>
<td></td>
</tr>
<tr>
<td>• How are the Australian Defence forces represented through the:</td>
<td></td>
</tr>
<tr>
<td>— audio features of the text?</td>
<td></td>
</tr>
<tr>
<td>— visual features of the text?</td>
<td></td>
</tr>
<tr>
<td>• What does the ad. remind you of? — a videoclip? Is this a conscious decision by the creators of the advertisement?</td>
<td></td>
</tr>
<tr>
<td>What is the effect?</td>
<td></td>
</tr>
<tr>
<td>• Are the voices in the advertisement male/female, young/old? What does this imply?</td>
<td></td>
</tr>
<tr>
<td>• What is the age, sex and appearance of the people featured in the advertisement?</td>
<td></td>
</tr>
<tr>
<td>• Whose experiences are privileged in the text?</td>
<td></td>
</tr>
<tr>
<td>• What is the preferred reading of the text? What message is being conveyed by the Australian Defence Force?</td>
<td></td>
</tr>
<tr>
<td>• Has anything been left out of the text? Do you imagine life at the Australian Defence Force Academy would be as it is depicted in the ad.? What has been omitted by the creators of this ad.? Why? Could this text be read differently?</td>
<td></td>
</tr>
<tr>
<td>Homework: Find the address of the Australian Defence Force Academy on the Internet and find out about what else is involved in joining. (Read the fine print and check for exclusive language.) Bring this information to the next lesson.</td>
<td>Students research independently to fill some gaps and silences in online texts.</td>
</tr>
</tbody>
</table>

When commenting on the final part of the lesson, Love (1997) explains that it is:

a lengthy discussion, led by the teacher, which requires students to consider the dominant or preferred reading offered by the text. During the discussion the
teacher and students will draw on textual evidence to justify their views. Having explored the construction of the preferred reading, the focus then shifts to look at the text as problematic and students are encouraged, through questioning, to seek out the gaps and silences, and possible resistant readings to this and other related texts. This critical literacy approach incorporates strong principles of social justice; it is capable of empowering students because it challenges passive acceptance of texts and is directed towards the critical use of language. (p. 20)

Conclusions

In the main, the preservice teachers' work discussed in this article clearly demonstrates the ability to collect and evaluate Internet resources and to plan and implement theory related language and literacy activities. Their commentary shows also how they are engaging with the Internet by taking up, to some extent, the literacy roles outlined by Freebody and Luke (1990), including that of text analyst. However, as teachers we must consider that there is always the potential for the Internet to be used as de facto library full of readily available conventional texts online. While the work profiled here in the form of lesson planning and teaching activities does go some way towards treating and reading technology as a text (Beynon, 1992), no attention is given to a critical examination of how generic structures and ideologies work together in online text. In effect, the literacy activities are not exploiting the cultural and political nature of the Internet, as a particular technology. For example, the lesson plan outlined above needs to take account of the ways in which the electronic mode and medium of the Internet helps to construct a text in particular ways. Mackay (1992, p. 141) offers some salient questions that are useful in interrogating the power relations that are set up by technology in general.

Further work with specific online texts is needed in teacher education and professional development if links between literacies and technology are to be sustained and developed in a critical manner. The work done by Love's colleague, Clark (see above), is a very useful start. Students at all levels of their education need to engage with the subject matter as well as with the generic structure and the ideologies of Internet texts to develop clear understandings about how such texts position readers and writers. It seems that we have much to learn about how technology relates 'to power and control—across the globe, within the state, ... in the workplace' (Mackay, 1992, p. 141) and of course in the classroom.

The Internet has been described as virtual library that is being restocked with texts at an ever-increasing rate. As teachers we need access to these texts. However, teachers of literacy have long known that no text is neutral, and the Internet is no exception. This article has outlined a systematic approach to the development of online literacy in the preservice and professional sites. Particular ways of developing online literacy have been linked to the evaluation of resources available on the Internet and the planning and implementing language and literacy activities based on those resources. The article concludes with the challenge for teachers in all areas of the curriculum to develop online literacy in the sense that it becomes more than using the software and reading printed texts on screen. Attention to the interactive nature of the Internet is a prerequisite for the redefinition of what it means to be literate today.

References

Australian Government.


The project reported in this article was funded by the Griffith Institute of Higher Education (GIHE). In line with current professional development approaches to technology-related literacy initiatives, the Griffith University project has the intergenerational aim of enhancing the knowledge and skill base of beginning teachers so that they can confidently support planning-teaching-learning-assessment activities in their schools. The broad goals of the GIHE project include giving Bachelor of Education students improved access to literacy and language education resources on the Internet, with authentic experience of new information literacy practices. The assumption underpinning the project is that, with guided access to the Web, literacy education students can begin to develop a critical understanding of the new genres and new literacies being generated with information technology. A related assumption is that this understanding is foundational for effective teaching practices with information technology in the literacy education area.

Members of the project team include Dr James Garton, a lecturer in literacy education subjects, and convenor of a technology and language learning subject on the Master of Arts in Applied Linguistics, Dr Greer Johnson and Dr Claire Wyatt-Smith, convenors of literacy education subjects in the Bachelor of Education, and Mr Barry Downes, as Faculty of Education Learning Technology Facilitator providing technical expertise. Mr Stephen Heimans, a postgraduate student in the MA in Applied Linguistics, worked as research assistant on the project. This mix of roles and backgrounds covers a spectrum of subject specialist knowledge and computer expertise, which we believe is necessary for a project that attempts to integrate Web resources into a curriculum with no existing information technology component.