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Developing Multi-literacies in Technology-Enhanced Environments

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Background

Our lives are constantly being transformed by new technologies, global economies and cultures (Anstey, 2002). Educators in the 21st century are faced with the task of preparing students to function successfully in this ever changing and increasingly technological, globalised society. This has important implications for current practices in literacy education and it has been argued that new types of literacies need to be cultivated to ensure education is relevant in today's society (Kellner, 2000). In fact, having a degree of mastery over a wide range of 21st century literacies may mean the difference between “a fully functioning life and one on the margin” (Gallego & Hollingsworth, 1992 p.206). What is required is a rethink of the concept of literacy. For example, the New London Group argue that “the multiplicity of communications channels and increasing cultural and linguistic diversity in the world today call for a much broader view of literacy than portrayed by traditional language-based approaches.” (1996, p.60). Further to this Unsworth (2002) indicates that the literacy practices characterised by the new millennium must go beyond traditional literacy practices. Kellner (cited in Snyder, 2002, p.155) also states, “...if education is to be relevant to the problems and challenges of contemporary life it must expand the concept of literacy and develop new curricula and pedagogies.” If teachers are to support this change, we can no longer think of being literate as having control over the written word either through reading or writing (Zammit and Downes, 2002), but the concept must “reflect the diversity of social, technological, cultural, linguistic and economic contexts of which they form a part.” (Ludwig, (2003, p1).

This expanded domain of literacy has been termed multi-literacies or multiple literacies. Being ‘multi-literate’ should be seen as the ability to locate, compose and comprehend (analyse, evaluate, synthesise and apply) a variety of multi-modal texts in a range of social contexts (Zammit and Downes, 2002). Additionally, educationalists have a strong view that critical aspects of literacy should be integral to any new formulation of literacy. In the context of the study reported here, we have adopted the concept of critical multi-literacies.

A Study to Investigate Incorporation of Critical Multi-literacies in School Settings

If teachers are to adopt and implement the concept of critical multi-literacies, their needs to be a body of research that offers pedagogically effective procedures and theoretical underpinnings for teachers and curriculum designers to draw on for classroom practice. The initial study reported here is a component of a larger investigation being conducted by researchers from the University of Wollongong in partnership with Apple Computers Australia and WIN Television and supported by an Australian Research Council Grant. The broader study is seeking to: -

- Explore how new pedagogical frameworks can be applied in secondary schools settings.
- Describe the nature of the teaching and learning processes realised through application of such frameworks
- Measure the impact of the educational application in terms of student learning outcomes associated with multi-literacies
- Evaluate the way a technology-supported environment supports the implementation of new pedagogical frameworks and the development of multi-literacies.
- Produce a set of guidelines that will help teachers design and implement learning experiences based on these pedagogical frameworks and which will support multi-literacy outcomes within the context of media rich classroom settings using media production technologies and an underpinning drawn from a journalism paradigm.

This preliminary study, a component of the larger study, seeks to investigate the constructs of multi-literacies and how they may manifest themselves in a *media analysis and production curriculum unit* for middle high school students. More specifically, this initial study seeks to determine whether student participation in a media analysis and production curriculum unit influences the development of critical multi-literacies through answering the following questions.

- What is the nature of the learning process for students who engage in the analysis and production of media?

- What learning outcomes, associated with critical multi-literacies are achieved through engaging in media analysis and production?
- How does the technology-enhanced learning environment support the development of the proposed learning outcomes?

Research Method Adopted

A single-case mixed-method design will be utilised to explore whether the implementation of teaching and learning strategies based on new pedagogical frameworks within a technology-rich environment can support the development of critical multi-literacies in students. It will be an investigation of students' understanding and use of key media, information, visual and technological concepts as well as their understanding and use of technology. Mixed-method designs are those in which both qualitative and quantitative aspects of research are combined at one or more stages of a study (Creswell, 2003; Green, Caracelli & Graham, 1989; Johnson & Onwuegbuzie, 2004). Johnson & Onwuegbuzie (2004) indicate that the combination may be in "techniques, methods, approaches, concepts or language" (p.17). Year 10 English students from a local high school will participate in a unit of work that involves analysis, construction and evaluation of various forms media and news related issues. The study will begin with a quantitative pre-test before the students undertake the tasks and engage in the learning environment. This will be followed by qualitative data collection during the implementation of the unit and student use of the environment and will finish with a quantitative post-test after the culminating activity, which will involve the creation of a digital video news item about the school or local community. This research strategy is best described as a concurrent triangulation strategy (Creswell, 2003) where a researcher attempts to confirm or cross-validate findings by using two different methods. Greene et al. (1989) however, may argue that the purpose of the proposed study fits better with their description of an expansion study which, aims to "primarily extend the scope, breadth and range of inquiry by using different methods for different inquiry components." (p.269). They suggest that in an expansion study quantitative methods are typically used to measure outcomes and qualitative methods are used to assess implementation or processes.

Learning Environment Design

The learning environment constructed for the study is based around the process of media analysis, production and reflection. It is expected that as students work through the unit they will move through each stage of this process more than once. This design was chosen because of the range of media that can be used within a media analysis context and the linkages with current school curricula in New South Wales secondary schools. A web-based learning environment is being developed offering support to students and teachers as they work through the Unit of Study



Figure 1 Introductory screen of web-based learning environment

Figure 1 represents the introductory screen of the web-based learning environment offering access to each of the activities and related tasks in the Unit of Study (Table 1) as well as forums, blogging space, background information on the project and a student gallery of current and past news stories.

Table 1 outlines the content and activities for each step in the Unit of Study in which students investigate the process of news creation in the context of multi-literacy. Students are supported with resources that allow them to examine their own media consumption, compare and contrast different news forms across different media, analyse in detail television news processes, construct news stories from prepared resources and then finally develop their own news story and reflect on the outcomes of their work and the work of their class members.

Table 1. Overview of the student tasks and processes in the Unit of Study.

Topic	Summary
1. Introduction	<i>The teacher introduces and outlines the unit of work and students undertake a creative task relating to their understanding and skills in media, visual, information and technology literacies. Students are briefed with the overarching task of this unit of work: finding, shooting and constructing a news story of their own with the support of the teacher and a WIN television expert. This task will be used as a baseline activity to measure where the students are situated prior to the implementation of the unit and learning environment.</i>
2. You and the Media	<i>Students complete a survey to ascertain their habits and perceptions in relation to the media. Aggregated results are compared and discussed as a class.</i>
3. Crossing Media	<i>In pairs, students compare and contrast the presentation of news stories across a variety of media – radio, television, print and electronic (on-line). Responses are discussed as a class.</i>
4. TV Media	<i>In pairs, students compare and contrast the presentation of news stories across two</i>

<i>Topic</i>	<i>Summary</i>
	<i>types of television broadcasts, e.g WIN News and current affairs program, 7:30 Report (ABC TV). Responses are discussed as a class.</i>
5. The News Process	<i>In pairs, students predict the news making process. They then complete three tasks - a drag and drop task to place steps in correct order, read and accept code of conduct and study each step in the process in detail.</i>
6. Wild Vision	<i>In groups of four, students are provided with a model news story in the form of raw footage. They are required to script the story, edit the footage and record a piece to camera to produce a complete 1 minute 20 second news story. Once stories are complete students compare and critique their version with the WIN broadcast version. Students are offered extra support in this activity by way of feedback from field experts.</i>
7. Real Stories	<i>In groups of four, students develop their own news story from scratch. Following the steps in the news process this task requires them to select, pitch, research, script, shoot and edit their own story. . Students are also offered extra support in this activity by way of feedback from field experts.</i>
8. Wrapping It Up	<i>Stories are viewed and discussed and students complete the same creative task, relating to their understanding and skills in media, visual, information and technology literacies, as in the introduction. The results of this task will be compared to the same task undertaken in the introduction to evaluate student progress and achievement of outcomes.</i>

Conclusion

This study is in the early stages of development. The researchers hope to realise the following outcomes as the learning environment is implemented in school contexts.

- An understanding of the potential of innovative programs to support the development of multi-literacies.
- Initial ideas on the types of guidance teachers will need to structure other educational programs to meet similar objectives / outcomes.
- The provision of a tested measure of multi-literacy, adding to the area of standards.
- An additional theoretical understanding the concept of multi-literacy

At this stage in the project the environment has been constructed and initial trailing with students in schools has commenced following a previous pilot study of the concept in schools without the web-based support described in this paper.

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