

Chapter 10

Developing Literate Practices in Design and Technology Education

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ABSTRACT

This chapter reports on research that details the emerging literacy demands faced by both the teachers, and the students who are participating in Design and Technology education within secondary schools across Victoria, Australia. The processes of design are at the centre of the curriculum for Design and Technology education and they are the main content focus of both the teacher's work of developing curriculum and teaching, and for the learner's engagement. In this chapter the field of Design and Technology education is presented and discussed as a site where communication, interpretation and articulation of learning and understanding are inexplicably bound up with texts and literacies. In order to ground the discussion in the specifics of an authentic program, the curriculum and pedagogical practices associated with the current Year 12 Design and Technology program are analysed to illustrate the development and use, (production and consumption) of texts, particularly multimodal texts, within new, emerging and multi-literacies. In this way the chapter acknowledges the significance of literacy development across the school curriculum. This chapter also takes up a point made by Unsworth (2001) that literacy as a social practice takes up numerous and different forms in the various fields across the curriculum, therefore this research analyses explicitly what the development of literate practices specifically look like in the field of Design and Technology education.

INTRODUCTION

This chapter reports on research which looks at the development and use of literate practices by both the

teachers and the students as they engage in Design and Technology education within secondary schools across Victoria, Australia. Design and technology education is conceptualised within Victorian secondary schools as using a curriculum and pedagogical approach to learning that can be summarised as

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designing, making and evaluating. The field uses the mediums of resistant and non-resistant materials, such as metals, wood, textiles, plastics, ceramics, and glass, but in its broadest conception also includes food, electronics, mechanical structures, and electro-mechanical systems. Students learn to use these materials and related processes to solve design problems and issues. Most often these take the form of projects.

As the researcher is also a teacher educator, this study was designed to explore both the teacher and learner experiences and perspectives. To teacher educators, these viewpoints are considered to be complimentary like two sides of the same coin and are represented here as two broad and generic narratives. This first narrative outlines the work of teachers as they design, develop and implement the curriculum and involves teachers producing and consuming texts. This narrative can be further sub-divided into two parts. The first part of this first narrative explains the designing of the official curriculum document. This involves a relatively small and select number of expert teachers utilising literate practices to research, negotiate and produce curriculum documents for broad public consumption. While the second part of the first narrative explains how all the teachers in the field are required to develop curriculum for their own teaching – as they interpret and transform the previously developed curriculum documents, transforming these into enacted teaching programs.

The second generic narrative derives from the learners' engagement with the teaching program. This second narrative is about the students' experience and learning. Like the teachers in the first narrative, this involves students in the consumption and production of texts. While, together these two narratives represent two different viewpoints and two ways of experiencing engagement within this subject area it needs to be acknowledged that each of these narratives represents a generic and idealised form for which there are many further variations. The diversity within each of these

narratives is currently being analysed further by the author elsewhere.

Running through both of these narratives, and fundamental to this field of study, is the development of understanding, and proficiency with the processes of design. These processes offer numerous possibilities of working through a design problem, yet they are often referred to in the singular as 'the design process'. Likewise, for pedagogical reasons a generic design process is often presented to students with the caveat to deviate from this generic process when the working with a specific situation or design brief is enhanced or requires such action. Any model representing the design process is intended to be used as a starting point and allowing for deviation and flexibility.

BACKGROUND TO THE STUDY

In recent times there has been recognition that literacy and numeracy are not restricted to English and Maths classes but rather are embedded in all subject areas across the curriculum. In Victoria the authority responsible for Teacher Registration (Victorian Institute of Teaching – VIT) require all teachers to undertake courses in the teaching of literacy and numeracy within their pre-service teacher education programs. In this way literacy has become every teacher's business. However as Unsworth (2001) notes literacy practices do not appear in the same guise in each and every subject area but instead are subject to variation within each different field of educational study. Hence, there has been the emergence of the notion of subject specific literacies. This research analyses how literacies are involved in the teaching and learning of one specific area across the curriculum – that of Design and Technology education. With a few notable exceptions such as Williams (2009) there is a dearth of research literature on the use of literacies within Australian secondary Design and Technology education programs. Yet,

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