Chapter 1

1 Introduction

In recent years, policy makers, practitioners and academic managers in the higher education sector, as well as those researching the field, have acknowledged the growing importance of flexible learning in meeting the needs of an increasingly diversified student population. Various terms are used in connection with this trend: open and distance learning (Mason and Kaye, 1989; Naidu, 1994; Naidu and Bernard, 1992), online learning (Agostinho et al., 1997; Lockyer et al., 2002; Reimann and Zumbach, 2003; Yang, 2003), networked learning (de Laat, 2006; Goodyear, 2000, 2005; Goodyear et al., 2004a, 2004b, 2006; McAndrew et al., 2006; McConnell, 2000; Steeple et al., 2002; Yang and Goodyear, 2004) and blended learning (Ladyshefsky, 2004; Ellis et al., 2006, 2007; Goodyear, 2006; Gramham, 2003).

This thesis is concerned with a particular approach to flexible learning, one which uses information and communication technologies (ICT) to support and encourage learning which is both flexible and collaborative. It is flexible in terms of the distribution of learning and teaching activity in time and space, but also in terms of the extent to which students’ needs and wants take precedence over a fixed curriculum. It is collaborative in that students learn from each other, as well as from their teachers and from books and other such learning resources. The term ‘networked learning’ has emerged as a working title for this approach. As defined in the terminology section, networked learning uses ICT to strengthen connections between learners, between learners and teachers and between learners and learning resources (de Laat, 2006; Goodyear, 2000, 2004; Harper et al., 2000; Jones & Steeples, 2003; McConnell, 2000; Oliver et al., 2002).

Researchers have made significant contributions to the body of knowledge about networked learning, especially related to areas such as curriculum design, online discussions, material development and relationships between technology and key teaching and learning processes (Goodyear, 1997, 2003a; Laurillard, 2001; Mason & Weller, 2000; McConnell, 2000; Simpson & Harbon, 2004). In the examination of how
students learn in a networked learning environment, research has focused on pedagogical approaches, comparison of differences and similarities between face-to-face and online learning, and how the affordances of technology (e.g. of video conferencing, e-prints or online discussion tools) provide support for teaching and learning. There has been considerable investigation of the content and structure of student discussions (e.g. on bulletin boards), including both academic content and also the forms of online social interaction, collaboration and community practices that compensate, in part, for the lack of face-to-face contact. In recent years the new focus on blended learning has also enhanced understandings of the benefits of using technology to support face-to-face experience in teaching and learning (Alexander & Boud, 2001; de Laat & Lally, 2003; Ellis, 2004; Ellis et al., 2006, 2007; Felton & Evans, 2004; Goodyear, 2000, 2002; Graham, 2003; Hall, 2002; Herrington & Oliver, 2003; McAndrew et al., 2006; McConnell, 2000; Schrire, 2004; Yang & Goodyear, 2004, 2006).

Research on networked learning has also paid increasing attention to the new challenges created by the rapid development of educational technology (Reinking 1998; Reinking et al., 1998; Dalziel, 2003; Goodyear, 2003a, 2003b, 2004, 2005; McAndrew et al., 2004; Snyder, 1998). The new and rich opportunities offered by technology require new ways of organising learning resources, learning environments and learning systems. New ways of building large-scale repositories for sharing ideas and concepts are greatly needed. This includes seeking structured ways of developing reusable, transferable and reproducible learning material and learning objects (Agostinho et al., 2004; Lukasiak et al., 2005; Wiley, 2003). It also includes ways of capturing and sharing educational design knowledge, using the concept of Pattern Languages (Alexander, 1979; Alexander et al., 1977) for educational pattern designs, so that each individual teacher does not have to invent for themselves solutions to common teaching problems or task design problems (Bennett et al., 2004; Derntl, 2004; Goodyear, 2004, 2005; McAndrew et al., 2006; Yang & Goodyear, 2004).

The main practical goal of this study is to contribute to the task of supporting educational design work, especially by finding ways to represent and share educational
design experience and expertise in the context of networked learning in higher education. This practical goal raises a number of difficult and researchable problems. How do we characterise worthwhile learning and teaching activity in the networked learning context? How do students learn through the production and reading of online texts? (The term text is defined in the terminology section and it refers to written text only in this study). How do the texts that teachers produce contribute to students’ learning? In what ways do these texts vary? What are their key characteristics? Is there anything special about texts that are created in the context of collaborative knowledge construction? Not all of these questions can be addressed in a single study.

The thesis of the study is that the theory of Systemic Functional Linguistics (SFL) can be combined with Pattern Language theory to develop pedagogical approach to support and improve teaching quality in networked learning. With this focus the study explores the deep connection between the two theories since both are concerned with the perspectives of social functions and interaction. SFL is centrally concerned with how language is used within cultural and social contexts for communication while Pattern Language theory is concerned with the social functions of the built environment. With this deep connection as a point of reference, the study sets out to prove in the first instance, that it is possible to use these two theories to develop a framework for educational design. It is postulated that this aim can be achieved in a twofold manner: first by using SFL to help analyse and classify some of the material/texts used and produced by students and teachers in networked learning; secondly, principles and the format of design patterns are used to represent findings generated from the empirical research undertaken during the study. Such new knowledge has been coded and modelled in the form of educational design patterns.

Although the theories of SFL and Pattern Languages will be discussed in detail in Chapter 2, a brief summary of both is presented here.

SFL theory was developed drawing on the early work of Malinowski (1923), and the more recent contributions of Halliday (1978), Halliday and Hasan (1976) and Martin (1992). SFL proceeds from the assumption that language is a system of meaning
(semiotic systems), constituted by three metafunctions: the ideational, the interpersonal and the textual (Christie and Unsworth, 2000; Eggins, 1994; Halliday 1978; 1992a; Halliday and Hasan, 1976, 1985; Hood, 2004b; Martin, 1992, Martin and Rose, 2003; Matthiessen, 1995; White, 1998). While these have already been defined in the terminology section above and are discussed in detail in Chapter 2, the concept of each will be briefly outlined here together with the social perspectives of SFL.

*Ideational meanings* refer to the social activities, the participants (whether these be people or objects), processes (actions/happenings) and the circumstances (place and time) of a particular situation. *Interpersonal meanings* characterise the social relationships of the participants and their interactions with and attitudes towards others. *Textual meanings* refer to the organisation of text (a text here denotes a communication, whether spoken or written) which represents both ideational and interpersonal meanings.

For example:

> It was a beautiful day. As usual, John had breakfast and kissed his wife, Mary, goodbye before he left home for work.

The *ideational meaning* of this situation lies in the information conveyed about John. The interpersonal meaning is embedded in the way the writer uses the modality *as usual* to indicate the high frequency of John’s action of kissing his wife before he left home for work. From this it can be inferred that this was a typical day for John. The writer gives the reader factual information which also implies an appraisal of a good relationship between John and his wife.

The *textual meaning*: This is a written text with specific linguistic features, in this case the use of a noun (John), a possessive pronoun (his) and a personal pronoun (he) to create the cohesion of the reference in the account of John’s day. Further analysis of this example will be presented in the Literature Review.

The semantic diversifications of the three metafunctional meanings provide a useful theoretical framework for the study of language, in particular, of academic discourse.
within the educational context. Detailed discourse analysis has proved to be one of the most widely used methods of textual analysis in education contexts (Christie and Unsworth, 2000; Christie, 2002; Drury, 1991; Halliday and Martin, 1993; Hood, 2004b; Hyland, 2002; Lee, 2006; Ventola and Mauranen, 1996).

The concept of Pattern Languages was developed by Christopher Alexander in the field of architectural design and town planning (Alexander, 1979; Alexander et al., 1977). Alexander (1979) defines a Pattern Language as a precise way of describing planning and practice in building construction. A pattern is a solution to a recurrent problem and it is designed in such a way that the solution can be used many times. (A more detailed discussion is given in Chapter 2.) While each pattern has some unique characteristics, patterns also gain meaning from their location in a network of other patterns. The set of patterns used to solve a design problem are known as a Pattern Language. For example a house consists of a set of patterns comprised of the bedrooms, bathroom, corridors and kitchen. Each of these is also comprised of a set of patterns: a bathroom for example contains a bath/shower cubicle, toilet and hand basin. This set of patterns for house construction may be applied to all dwellings, whether large or small.

This study also draws on the design principles of Pattern Languages and recent work on educational design in networked learning (Goodyear, 2000, 2004, 2005; Goodyear et al., 2004; Jones, 2004; Jones & Steeples, 2003; Steeples et al., 2003). In Chapter 7, the study constructs three sets of illustrative design patterns to demonstrate a pattern-based approach for supporting new online teachers as they carry out their teaching programs. The use of the term 'illustrative patterns' indicates that this study is focused on constructing sample patterns to illustrate the model developed, rather than on producing a complete repository of patterns.
Making connection between SFL, Pattern Languages and educational design

Scholars in the fields of SFL, Pattern Languages and educational design have conducted their research in various ways. However, a search of the literature indicates that no connections have been made between these three fields in the context of educational pattern design. To address this lacuna, this study aims to design a framework that links these three areas of research.

The attainment of this goal has also been motivated by the author’s in-depth knowledge of SFL and her newly acquired knowledge in the field of Pattern Languages and educational design. A realisation of the existence of a deeper connection between the three fields which resulted from her literature and data gathering stimulated her to undertake exploratory work into connections between them. The study presents a thesis that a connection between these three lines of research can be created on the arguments that 1) there is a deep similarity between Halliday’s early work on language functions and Alexander’s work on architectural functions: the former seeks to construct a framework to describe language as a system of semiotic meanings and a mode of social interactions while the latter is about how an architect (or other people) creates a system of functional space within which social activities and interactions take place; 2) In theoretical and practical terms, in the study, SFL can provide rich linguistic resources for the description and explanation of how language is used for the social construction of knowledge in the networked learning environment. 3) Also, Pattern Languages provide the pattern principles and format for the encoding of SFL knowledge into design patterns and 4) Educational design theory provides a framework for the design pattern approach to creating reusable and sharable resources that can support new teachers/designers in their design programs.
The significant convergence is graphically represented in Figure 1.1, which illustrates the deep connection between SFL and Pattern Languages and the way in which they share the concepts of social functionality.

Figure 1.1 The convergence of SFL and pattern languages
Overview of research design

The study was designed with three main phases. A graphic representation of these sections is represented in Figure 1.2, and is followed by a detailed description of the components of each key process in the study.

Phases of study

Phase 1: Three sets of data analysis.

1. Academic staff interviews and transcript analysis
   Five academics with experience in the design and delivery of online programs were interviewed. The interviews had two foci. Firstly they aimed to gain an insight into the teachers' perspectives on networked teaching and learning, and
secondly to capture good practices and experiences identified by the interviewees. This interview data provided valuable resources for the coding of the program design patterns.

2. **Online learning tasks analysis**
   The task analysis involved a detailed discourse analysis of three written texts produced by teachers for online discussion tasks. A genre approach was used to identify key schematic structures and language used in the texts within the SFL framework. Distinctive language resources identified in this process provide useful principles and knowledge for the coding of task design patterns.

3. **Student online discussion analysis**
   This process involved using SFL for detailed discourse analysis of selected student online discussion threads generated from the activities of the students when they performed the learning tasks being analysed in point two above. Again, the findings about students’ strategies of using distinctive linguistic resources in their discussions provided the data for the coding of the third set of design patterns for student model text design.

In summary, *Phase 1* formed a cohesive framework for data analysis. It first collected the experience and knowledge of educational design from the teachers’ perspectives through the interview process. The detailed discourse analysis examined the use of texts as a key medium by teachers and students in the networked learning environment. That necessitated an analysis of learning tasks required of students and also the discussion texts which reported how students actually carried out these tasks. This process helped provide an explanation of how texts are used differently in these learning domains. Identified dominant text types and recognised and distinguishable language features used by teachers and students also explained how texts were (and are) used to make connections within the discourse community. In particular, the analysis also highlighted how the difference in the roles of the writers, in this case teachers vs. students, reflected the different deployment of language
resources in the texts. The examination of academic discourse compositions enhanced understandings of how the quality of discourse influences community interaction and practices in knowledge construction. Language resources and specific features identified in these texts provided a data source for coding the patterns of task design and student model text design.

**Phase 2: Representing SFL resources with Pattern Language**

1. *The unity of SFL and Pattern Languages for educational designs*

   The main aim here was to reiterate the thesis that a connection between SFL and Pattern Languages can be made apparent by bringing to light the strong similarity between the focus on language functions in the former and the focus on architectural functions in the latter. In other words, while SFL defines language as a system for creating meaning-making and a mode of social interaction, in Pattern Language theory the architects (or other people) are also seen to be using a system for shaping built space to enhance social activities and interactions. Thus both theories are motivated by a desire to promote social concerns in the activities and interactions which occur within particular cultures and contexts.

   This phase also aimed to illustrate the theoretical and practical application of SFL and Pattern Languages used in the study. In the first instance, the aim was to illustrate how the data sources generated from the detailed discourse analysis of texts conducted in Phase One could be used as linguistic resources capable of being coded into design patterns. It also illustrates how Pattern Language theory was used to devise the principles and format for the encoding of SFL knowledge into design patterns. This process further illustrated the educational design approach to creating reusable and sharable resources to help new teachers/designers in their design programs.
2. The construction of design patterns

The study aimed to construct three sets of illustrative design patterns. The first set was mainly focused on online educational design, drawing on the data and findings from the interviews with academic staff in Phase One. The second set was used for task design. These drew on the findings of the discourse analysis of the teacher-produced texts for online tasks and were used as key data sources for the coding of patterns. The third set of illustrative patterns was similarly based on the discourse analysis findings of student-produced texts of online discussion threads. Here again, key data sources derived from such analysis formed the resource for the coding of patterns of writing model texts to support students' language development in the academic context.

The commonality between these three illustrative design patterns was that they aimed to demonstrate that the pattern-based approach for educational support and the improvement of teaching and learning. This is particularly important, given current concerns about the quality of networked learning and the reduction of resources for teaching (staff time, teaching space, etc).

Phase 3: Validation of design patterns

The validation of patterns involved two main processes.

1. Critique of patterns for improvement

A group of academic staff interested in educational design were invited to participate in a pattern review workshop, during which they discussed their understanding of the concept and application of design patterns and Pattern Languages. They were invited to review the first draft of the design patterns developed in this study. Their feedback was used to improve and modify the applicability and flexibility of the first draft patterns. The modified patterns were used in the second validation process.
2. **Validation for pattern testing**

In the second validation process, these modified patterns were trialed with a group of post-graduate educational design students. They were given a set of pre-reading material in educational design, an evaluation form and a set of the modified and improved patterns generated from the process described in Point 1 above. In chat sessions, the students discussed their understanding of the concept of design patterns and raised questions and concerns about the set of materials they had been given. The students then filled out the evaluation form. Next, they worked in groups of three to develop a design pattern which they selected from the index list.

The final modification of the patterns developed was based on the activities described above, i.e. data collected from the evaluation forms, the chat session and students' design patterns. Feedback collected from both the discussion workshop and the postgraduate program also provided valuable insights into the issues related to pattern learnability and usability addressed in Chapter 8.

In summary, **Phase 1** involved an investigation of teachers’ educational design experience and how teachers and students use texts as a key medium in communication and interaction in a networked learning environment. **Phase 2** focused on the construction of design patterns while **Phase 3** involved the validation and improvement of patterns developed in Phase 2.

The concluding section of this study reviews and reflects on the key findings emerging from the empirical research described above, all of which supported the thesis that SFL and Pattern Language theory can be successfully combined to improve educational design in a networked learning environment. The implications of that finding and its contributions to the body of knowledge in educational design are discussed.
1.1 Aims of the study

The overall practical aim of this study was to provide better support for the work and professional development of teachers in higher education when making use of online networked learning methods. One element of that endeavour is the production of materials which capture good practice in networked learning and teaching. This depends on having ways of understanding and representing the pedagogical approaches that are being used.

The scientific aim then, was to use a combination of analysis and representational methods drawn from work on Pattern Languages and work in SFL. The methodology used was the analysis of examples of successful networked learning programs, including experienced teachers’ perspectives and the written texts of teachers and students. Key elements of the pedagogical approach and good practice that leads to good learning outcomes are represented in the form of educational design patterns.

Informed by these overall aims the study had four main purposes.

1) To explore new research territory by linking the three lines of work of SFL (Halliday, 1978; Halliday and Hasan, 1976; Martin, 1992), Pattern Languages (Alexander, 1979; Alexander et al., 1977) and educational design (Goodyear, 2004, 2005, 2006; McAndrew, et. al., 2006).

2) By linking these three lines of work, to develop three sets of illustrative design patterns to show how they can capture the linguistic resources and strategies deployed in the texts written by experienced teachers and students.

3) To make apparent the pedagogical implications of the argument that the quality of texts being used in teaching and learning can directly impact on the learning experience of students. It is argued that the support of student academic 'apprenticeship' can assist learning and students’ construction of knowledge and collaboration in the discourse community.
4) the most significant purpose of the study was the provision of a modelling framework for developing educational design patterns. This framework embeds educational design theory and covers the three modelling processes as discussed in the three phases of study.

It is contended that this pioneering research provides valuable new insights into these key aspects of networked learning programs, and thus makes a significant contribution to the body of knowledge in the field.

1.2 Significance of the study

The study has the following significance to the research in the field of networked learning.

1. The study uses SFL as a theoretical tool for encoding and scaffolding language resources such as texts, to explain and show how language functions in the construction of knowledge in teaching and learning. Such a theoretical framework also provides a consistent approach to the use of texts for improving the quality of teaching and learning.

2. The findings and implications emerging from the empirical research (with its four components of interview, detailed discourse analysis of written texts, the development of new patterns and the validation of patterns) has generated new insight and knowledge to the field in educational design.

3. It uses Pattern Languages as a system of developing design patterns. The new illustrative patterns developed in the study represent new thinking about the practices of experienced teachers in networked learning and linguistic knowledge derived from the discourse analysis. Such illustrative patterns provide a model for using design patterns more generally (e.g., for capturing and storing teachers’ knowledge and experience)) and linguistic resources to create reusable and sharable resources that teachers and designers can adapt for their own work in design patterns. The pattern-based approach can be used to better support for improving teaching quality and learning experiences in higher education.
4. The exploratory work will provide future researchers with a foundation for integrating the SFL framework into Pattern Language in educational design. (Detailed contributions are discussed in Chapter 9.)

At this point, it will be useful to provide an overview of the structure of the thesis. It consists of nine chapters. Chapters 2 and 3 contain the literature review and an explanation of how the study has been designed. Chapters 4, 5 and 6 describe in detail the empirical research, based on interviews with academic staff from the University of Western Sydney and Lancaster University in UK. They also contain a detailed discourse analysis of texts used in networked learning. Chapters 7 and 8 work on the modelling of design patterns to illustrate the pattern-based approach in educational design and the pattern validation processes. Chapter 9 contains the conclusion and discussion of major findings, implications and key contributions the study has made to the body of knowledge in educational design for networked learning.
Part 1

Literature review and scope of study
Chapter 2

2 Literature review

2.1 Overview

This review covers the literatures which have been used in this study to construct its overall thesis, namely that SFL and genre theory can be used together with pattern languages and design patterns to improve the quality of networked learning.

Educational technology has become heavily involved in many of the social and cultural practices connected with learning in higher education. The affordance of flexibility and mobility of educational delivery has increased the learners’ choices of learning modes, resources and tools. Educational institutions are now making extensive use of the advantages offered by technology to create connections and interaction between learning environments, materials and support systems. Coupled with new shifts in teaching and learning practices in the 21st Century, contemporary learning theory places a stronger focus on collaboration and co-construction of knowledge.

What emerges from the work of these scholars and researchers is that some of the best learning takes place through student interaction and participation in community practices within a supportive learning environment (Bereiter, 2002; Goodyear & Jones, 2002; Lockyer et al, 2002; Maynard, 2001; McConnell, 2000; Lave and Wenger, 1991; Turani, et al., 2005).

It is also clear from the work of researchers such as de Laat (2006), Goodyear (2000, 2002, 2004) Gustafson (2002), Jones & Steeples (2003) that there is an appetite for new pedagogical approaches and theories to describe and capture new research-based principles and practices. These writers stress that it is important to know what new, underpinned knowledge and learning patterns emerge from students’ learning activities and behavior: what they actually do and how they respond to the learning tasks set for them. For example, in networked learning, text is a key medium for communication and interaction. Thus, analysing text (as in this research) will reveal what language
strategies and resources students and teachers actually deploy to achieve different purposes. (For example, specifying a learning task, or, in the case of a student, writing a message on a bulletin board in response to other students’ postings.)

The literature shows that new practices and the shift of focus of teaching and learning have changed the problem space for educational design. Now, attention is focused on the following emerging challenges:

1) the need for a clear conceptualization of networked learning;
2) the need to establish a theory based on structured descriptions and explanations, of how collaborative work contributes to the knowledge construction process;
3) the need for a pedagogical model to enable the collected body of experience and knowledge of networked learning to be represented and shared;
4) the need for a supporting model which could assist new online teachers in their learning design activities.

This thesis contributes to each of these needs. The review of the literature presented in this chapter falls into three main parts: SFL and genre theory, pattern languages, and educational design. The main aim of the review is to help locate the thesis in the broader landscape of SFL, pattern languages and educational design but it also makes contact with the four challenges listed above.

**Networked learning**

This section introduces some key ideas and literature from the field of networked learning. It also introduces some ways of conceptualising the process of educational design for networked learning.

Networked learning, as defined in the terminology section earlier, involves people working together. It has a strong pedagogical focus on connectedness and collaboration practices within a community. ICT provides the medium for such connections between learners and their teachers, and between learners and the many diverse learning
resources that they draw on and create (Steeples & Jones, 2002; Goodyear ET al., 2004).

The idea of using technology to support the formation of communities is not restricted to the educational world. Many major companies now use ICT to help strengthen brand loyalties (Waller and Delin, 2003), to foster the growth of communities of consumers and to promote interaction with and within their customer base (Brown and Duguid, 2000). The role of technology in promoting social networks is currently the subject of much of the commentary about Web 2.0 (Berg et al., 2007; O’Reilly, 2005). This aspect of the use of technology is also of growing significance in schooling. However, much of the history of pedagogical innovation associated with networked learning is strongly associated with higher education (undergraduate and postgraduate). This area of educational practice has generated the great bulk of the literature on networked learning.

Networked learning combines ideas from socio-cultural theories of learning using technology. Technological affordance (Waller and Delin, 2003; Brown and Duguid, 2000) provides the availability and possibility of new ways of doing things. It affords 1) significant time-space independence for learners and teachers (Hara et al., 2000; McConnell, 2000) and 2) learning activity focused on the production and use of shared (online) texts. For example, in online discussion, the flexibility of time and place and communication through digital texts allows students individually and collectively to construct solutions to problems and negotiate differences in their points of view. The virtual sphere is not restricted by the limitations of scheduled class or student response-times (Brown & Duguid, 2000; Bereiter & Scardamalia, 2003; Simpson & Harbon, 2004; Love & Simpson, 2005).

The socio-cultural perspective in networked learning emphasises a pedagogical focus on cultural participation and practices, coupled with a growing sense of oneself as a valued member of the learning community (Lave & Wenger, 1991; Wenger, 1998). In higher education, cultures may refer to academic disciplinary cultures and the professions. The apprenticeship of such culture forms an important process in
developing academic confidence, while also enhancing students’ learning experience in the construction of new knowledge.

Within the field of networked learning, one can discern two broad but distinct pedagogical movements. These differ primarily in terms of the activities their proponents see as central to networked learning. One tradition, drawing largely on the work of Bereiter, Scardamalia, Collins, Ohlsson and Wenger, focuses on ‘knowledge building’ – seen as the production and ongoing improvement of ideas that are of value to a community (Bereiter & Scardamalia, 2003; Morrison & Collins, 1996; Ohlsson, 1995; Wenger, 1998). Within this pedagogical framework, activity is the key and should be supported, although not restricted by learning tasks. An interactive learning environment supported by ICT can also allow meaningful activities to take place (Goodyear et al., 2006).

The other focuses on learning through discussion, emphasising the importance of critical thinking and/or the acquisition of skills in augmentation (e.g. Weinberger & Fischer, 2006; McConnell, 2000; Joiner & Jones, 2003; Marttunen & Laurinen, 2001). This is also the focus in research curried out by Hara et al., Booth and Hulten, de Laat, Simpson and Harbon and Love and Simpson.

In their work on content analysis of online discussion discourse, Hara et al. (2000) report that students participate more actively over time. Booth and Hulten’s research (2003) details the exchanges that are pivotal in setting the direction and focus of a particular topic. The central investigation of De Laat’s PhD dissertation (2006) has contributed important knowledge on how teamwork enhances collective learning. The research of Simpson and Harbon (2004) and also Love and Simpson (2005) on the reflective process of online learning and how different models of school-based online text-response communities compare, has provided insights into the pedagogical design of a school-based online learning community.

The distinction discussed above has some important implications for evaluating ICT-based tools. For example, Bereiter and Scardamalia have developed a collaborative
knowledge-building environment called the CSILE/KnowledgeForum to support the kinds of knowledge-building activities they see as particularly valuable.

Educators in the ‘collaborative argumentation’ or critical-thinking tradition tend to rely on general purpose online discussion environments. More important than technological choices, however, is choice of pedagogical task. The core tasks characteristic of knowledge-building are those associated with the improvement of ideas, represented in the world as conceptual artefacts (Bereiter, 2002).

For the critical/discursive tradition, the artefacts created through online discussion are not particularly valuable in themselves – it is the process of creating and reflecting upon them that is valued, more for its individual cognitive consequences than because of any cultural benefit. As will be demonstrated, this distinction between individual and cultural goals has implications for the way language is used in networked learning (Yang and Goodyear, 2006; Goodyear and Yang, in press).

**Educational design for networked learning**

Even a superficial scan of the literature relating to online learning demonstrates how dramatically the 'affordances of educational technology' have changed the landscape of educational design over the past two decades. This point can most clearly be seen in the work of scholars such as Agostinho (2006), Goodyear (2005), Herrington & Oliver (2003) and Salter (2006), who have highlighted two major changes. First, educational design has become a more complex and diverse process informed by the contemporary pedagogical framework. The concept of learning has shifted towards learner-centred knowledge construction in which the importance of active learning in participation, interpretation and collaboration is emphasised. Learning is a process of personal understanding of context and practices with the support of student based learning resources, flexible tools and a collaborative learning environment. Recent work by Goodyear (2006) and McAndrew et al. (2006) highlights the second major result of the technological transformation, namely the placing of much wider responsibilities and control over the process of learning and teaching on both individual teachers and students.
Networked learning designs require clear connections between learning tasks, activities and outcomes - good learning tasks are meant to generate meaningful activities with better outcomes. Student learning activity is physically and socially situated, so educational design also needs to take into account aspects of the physical (and digital) environment in which student learning takes place. It must also take into account the web of social relationships surrounding a student’s learning activity. As Goodyear has argued (2000, 2003b, 2004, 2005), educational design for networked learning should not generally try to specify in detail the physical and social arrangements within which student learning takes place. Rather, educational design should recognise that the physical and social context is co-produced by the designer and the student. This does not mean that educational designers can abdicate responsibility. Quite the contrary, in Goodyear’s words:

The variability in outcomes is, at least in part, due to variation in the quality of teachers’ design activity. Successful networked learning depends, to a considerable extent, on well-targeted effort at design time – designing good learning tasks, ensuring good access to robust and appropriate technology, and helping create a convivial learning environment (2004, p. 340).

**An educational design framework**

In this study, the modelling of design patterns is based on the model of educational design advanced by Goodyear (2004, 2006). He advocates the use of this model in order to craft a supportive environment in which the affordances of technology stand a chance of enhancing the quality of learning activities, and thence of outcomes. A graphic representation of the model is given in Figure 2.1.
This graphic illustrates how learning activities, guided by learning tasks, can affect learning outcomes. While it is necessary to design learning tasks which develop students’ knowledge and skills required by a specific subject, the key aim of learning tasks is to enhance learning activities and to acquire experience and knowledge that meet students’ learning needs. Also, the designer may suggest a certain way of performing the tasks but it is the students who decide when and how to do these tasks. Same as the use of materials, students usually have the flexibility to determine what materials to use, what to focus on and how to use these materials. For example, they can read materials online, or print them out and read them in an office, a library or even in bed. In this sense, students improvise their study activities and educational technology provides the affordance for students to configure their own learning places and learning relationships. Recognising this autonomy, educational technology has a
more indirect impact on learning. It provides physical/digital and social/organisational resources on which students can draw.

### 2.2 Systemic functional linguistics theory and application

#### 2.2.1 Language, culture and situation

The understanding of the theory of SFL used in this study is based on the seminal work of Halliday (1978) and Hasan (1999), two of the foremost theorists in this field. They postulate that language, rooted in human biology, has evolved through time and been shaped by culture to satisfy human needs. Thus, in terms of SFL, language has an inherently variable meaning potential which changes according to the needs of its users, their culture and their life-situation.

This fundamental premise of the modelling of language and social context is the distinctive feature of SFL theory. Language is conceptualised as a system of meaning constructed within and by cultural contexts and situations (Halliday, 1994; Hasan, 1999; Martin, 1992). In SFL terminology, realisation denotes the relationship between language and context, the distinctive process used by humans not only to communicate with each other, but also to create the social context of their everyday life. At the same time, cultural conventions also contribute to the patterning of language and social interaction. As argued by Martin (1993), such realisation forms a dynamic semiotic system which operates within its social system (Martin, 1993). This concept can be visualised as in Figure 2.3 below:

![Figure 2.2 Language as the realisation of social context (Martin, 1993, p. 142).](image)
This model demonstrates how the use of language as a communicative medium is strongly influenced firstly by the context of situation (the particular situation in which language is used) but also and just as importantly, by the context of culture in which the communication takes place. The two are sometimes conflated in the term social context because the same context of situation may result in very different understandings in the context of different cultures. For example, if a woman of strongly traditional Chinese background were to visit a male doctor trained in Western medicine in his surgery, cultural differences would probably mean that the interchange of patterns of language and the choice of words would be interpreted in widely differing ways by doctor and patient. A request that the woman undress in order to undergo a breast or internal examination, which the doctor and western woman patients would regard as routine and standard practice, would probably evoke a shocked refusal from the Chinese woman. This is because this particular context of situation (a consultation in the doctor's surgery) is also influenced by the context of culture.

As metaphorically explained by Halliday (1991), the situation in context is specific while the cultural context is more abstract. Thus, for instance, a distinction could be made between the climate of a specific geographic region which is a long term condition, while the weather describes a short term patterning (e.g., the weather this week). If we compare this to situation and culture, the weather is more like the situation while the climate is like the culture.

The concepts of the three metafunctions of ideational, interpersonal and textual meanings explained in the next section, together with the contextual variables of field, tenor and mode, provide a fuller understanding of the interrelationship between context of situation and context of culture.

2.2.2 The three metafunctions: ideational, interpersonal and textual meanings

The three most influential contributions to understandings of the concepts in SFL are Halliday & Hasan’s *Cohesion in English* (1976), Halliday’s *Introduction to Functional*
Grammar (1994) and Martin’s English Text (1992). These three complementary works are the main theoretical resources on SFL applied in this study.

As briefly explained in the terminology section above, the three metafunctions in SFL are the ideational, the interpersonal and the textual. Ideational meaning is related to the construction of social activities, involving participants, process and circumstances. Interpersonal meaning denotes social interactions within the social context and social situations, embracing complex negotiations of power, status, attitudes and values. The textual is concerned with the mode of communication, whether it is face-to-face, spoken or written, how text is organised structurally and the choice of use of language (Christie and Unsworth, 2000; Halliday, 1994; Halliday and Hasan, 1985; Hasan 1999; Martin, 1992).

The textual example used in Chapter 1 can again be used here:

As usual, John had breakfast and kissed his wife Mary goodbye before he left home for work. (John’s morning text 1)

Here, the ideational meaning is the information given about John’s typical day before work (he had breakfast, kissed wife and left home for work). The interpersonal meaning lies in the way the writer has provided the reader with factual information about John’s action by using the modality of as usual to indicate a high frequency of such behaviour on John’s part (giving his wife a kiss). The textual meaning is derived from the fact that this is a written text. The writer deploys the lexical cohesion in the text by using the words: breakfast, wife, home for John’s morning and variation of nouns, such as John (noun), his (possessive noun) and he (personal noun) when describing what John usually does before leaving home. The sequence of these events/actions (had breakfast, kissed wife and left home) is created by the conjunctive link: before.

To unpack the ideational meaning we also look at the participants (John), the processes (had breakfast, kissed wife, and left home) and the circumstances (as usual, home). Textually, we use the linguistic terms to refer to John as a noun (a personal noun), had
and *kissed* are verbs (in the past tense) and *as usual* and *home* are adverbs (time, and place).

How do these analyses affect the understanding of language? The argument here is that SFL provides a framework and a vocabulary which helps to explain and unpack the different dimensions of a text - what it is about, who are involved, how the text addresses its reader and what medium is being used. Such analysis also advances four main theoretical claims about language. 1) Language use is functional; 2) Language is used to make meaning – semantic; 3) Language meanings are contextualised within culture and situation; 4) Making language meanings is realised by making language choices – semiotic. In SFL, such analysis of text is known as the *functional-semantic* approach (Eggins, 1994; Halliday, 1994; Halliday & Hasan, 1976; Martin, 1992).

Further examination of *John’s Morning Text 1* establishes a deeper understanding of the relationship between *John* and his *wife* from the text itself about the characters. It can be argued that the words *kissed goodbye* denote that John loves his wife, or at least that his relationship with her is a good one. If this text was used in a Chinese cultural context, that argument would be much stronger as in a normal family situation, a Chinese husband rarely kisses his wife goodbye before leaving home for work; if he does so, that would denote an exceptionally loving situation. Nevertheless, since *John* and *Mary* are English names, a reasonable deduction from this text is that John and Mary are not Chinese and that they live in a western culture where it is nothing unusual for a husband to kiss his wife goodbye before leaving home for work. However, without further textual evidence, it is not possible to establish the degree of intimacy between husband and wife.

This example illustrates the importance of contextualising language interpretation, since as illustrated above, the same texts can operate differently within different cultural and social contexts. Without knowledge of the social context of a text it is difficult to discover its true meanings. This SFL principle will be particularly important when, later in this study, it is applied to detailed discourse analysis of teacher and student texts used for networked learning.
The operation of this principle can be seen and can be used re-arranging John's Morning Text 1 as follows:

As usual, John ate his breakfast, kissed Mary, his wife, goodbye and left the house for work (John's Morning Text 2).

The ideational meaning here may be changed. It is very unlikely that this sentence simply recounts a typical day for John. It may be part of a description of an investigation of John’s movements of that particular day before something happened. The focus is shifted towards what John did that morning before he left home for work. There is nothing unusual about his behaviour before he left home. The interpersonal meaning here is that the writer offers factual information about John and has made no demand on the readers for action. However, textually, it uses *ate breakfast* instead of merely *had*, *kissed Mary his wife*, instead of *kissed his wife, Mary*. It also uses the conjunctive link *and* instead of *before*. The word *ate* denotes just one instance but *had* to some extent denotes a habitual behaviour. Having the name *Mary*, before *his wife* indicates that the text is focused on who he kissed before he left. The mention of *his wife* is only to clarify who Mary is. The focus here is not on the relationship between John and Mary as in *Text 1*; Here, his wife is mentioned before the name Mary. In addition, the change of the conjunctive links *before* to *and* also indicates the narrative is only concerned with what John did that morning, but *before* again indicates a sequence of events in a typical day. Such choice of words shows the power of language and the social purpose embedded in our choice of words.

These two examples support Halliday’s claim with regard to the meaning potential of using language in achieving social functions in different dimensions through the three metafunctions. This will again be particularly important for the detailed discourse analysis of how students use texts to construct social interactions in online forum discussion contexts, as discussed in detail in Chapter 3.

Two more key concepts in SFL that are particular relevant to this study are: genre and register, discussed in the next section.
Genre

Genre theory is derived from accounts of the contexts of situation and of culture. It is concerned with the schematic structure of texts and reflects staged, goal-oriented social processes (Eggins, 2000; Martin, 1997; 1992). Lemke asserts that genres are “social constructions, the products of conventional social meaning–making practices that belong to a community’s system of intertextuality” (1999, p. 1).

In less technical terms, genres can be interpreted as recognisable social activity types in a particular culture (Eggins, 1995; Paltridge, 2000). For example, in our everyday life, the individual may go shopping (which involves the activities of buying and selling), see a local doctor or telephone a friend. In the academic context, there are activities of attending lectures, making presentations, writing essays and reports and so on. These are familiar activities with a social purpose which through time establish a patterning of recognisable structure or which demarcate the steps in which language is used in such interactions. For example, an essay consists of the stages of writing the introduction, the body (at least 5-6 paragraphs) and the conclusion. Such a schematic structure is recognisable in an essay genre.

Genre represents a recognisable social activity with a predictable schematic structure, which often also embeds recognisable language features in a text. These language features can be grammatical features of sentence patterning, tenses and the use of lexical items.

In an educational context, discourse members (members who share the same disciplinary/field of interests with a common goal) deploy genres to share their expertise and disciplinary knowledge (Paltridge, 1997; Swales, 1990). In academic discourse studies, genre theory provides a framework for detailed discourse analysis, focusing on the schematic structure of a text and its text types, for example, an essay, a report, a journal article or research paper. Coupled with schematic structure analysis, language features displayed in text types are also an important linguistic resource for the understanding of how a text is written to realise its social purpose (Ellis, 2004;
Hood, 2004a, 2004b; Lee, 2006; Swales, 1990). In academic literacy development, there is a considerable literature on how students need to develop their knowledge about the explicit use of genres and language forms in their field of study. It is also widely agreed that 'apprenticeship' in academic literacy benefits from dialogues and social interaction with more experienced members in a supportive learning environment (Lemke, 1989; Martin, 1993; Unsworth, 2000, 2001; Yang & Goodyear, 2004).

SFL theory on metafunctions and the concept of genre is particularly useful in the analysis of how students learn in the networked learning environment and in Chapter 7 for the development of student model text design. There has been a good deal of relevant research on this issue, such as Hood’s study of experienced vs. inexperienced students involved in academic writing (2004b) and Lee’s study of different learner groups of native vs. non-native language students (Lee, 2006). While there are useful and extensive analyses of comparisons between writers (Chen and Foley, 2004; Gruber, 2004; Hyland, 2004), these works do not cover the areas which form the focus of this study, namely how existing SFL theory can be used as a theoretical tool to capture good examples of language use for design patterns. The orientation of the detailed discourse analysis is to collect data for the coding of educational pattern design with an end product of patterns to support teachers’ teaching programs. This is discussed in detail later in the methodology section in Chapter 3.
Register

Register is concerned with the relationship between language and context of situation. It is the realisation of genre. In a broader sense register refers to three contextual variables: field, tenor and mode (Halliday, 1978; Martin, 2001, 1992a). These variables are glossed as: a) what is happening – field; b) what social relations exist between those involved – tenor; c) what semiotic system is being deployed – mode (e.g., spoken or written).

Martin defines field as culturally recognized activities, those who participate in them, and also the processes and circumstances which these activities involve. In his own words, he explains field is about “what people are doing and what people are doing to it.” (2001, p. 152). Thus, making experiential choices in such social activities and the familiarity with the field are important. Linking this concept to the academic context, Swale (1990) argues that in a discourse community, students are not only required to develop their subject specific knowledge, but that it is also important for them to develop a language repertoire to be able to use the genre and language resources (e.g., terminologies) shared within a discourse community. To some extent the ease of comprehension and construction of specific disciplinary discourses depends on the degree of familiarity with the genre and technical terms used in the texts (Yang & Goodyear, 2004).

Transferring this concept to the current research, it can be said that while the development of specific disciplinary knowledge students are required to learn is an important consideration, the key investigation will be of the genres and specific language resources deployed by teachers and students in their texts for academic activities. This investigation is conducted by applying the discourse analysis method for selected texts used within the context of networked learning (as is detailed in chapter 3, which deals with research methodology).

Tenor refers to social relationships within the social activities involved (Eggins, 1994; Halliday, 1994; Martin, 1997, 2001). It is concerned with two key factors: status and formality. Status refers to power relations while formality is closely related to contact.
Contact here refers to the frequency of communication and interaction between members who are involved in the situations (e.g., a family or a group or community). According to Martin, (1997, 2001) power and solidarity shape all the social relations we enact. Lemke (1989) extends this concept further; he believes that people’s status also restricts the level of their access to meanings. People of equal status access the same kind of meanings while those of unequal status make semantic choices of different kinds. For example, a patient may not have the same access to the kind of meanings of medical knowledge as their medical doctor. When discussing their illness with their doctor, the patient is unlikely to use medical terms to explain their problem. Conversely, the doctor is likely to be aware of this and the need to use less technical terminology in order to be understood when communicating with the patient. Also, the patient and doctor relationship may be improved through regular contacts over a period of time (e.g., building a trusting doctor-patient relationship). This situation is often apparent in an online discussion group as students build social bonding with each other.

The concept of tenor can be exemplified in the context of higher education at the interpersonal level in empowerment relationships between teachers and students or writers and audience (Hood, 2004b; Swales & Linderman, 2000). This is particularly important in this study, which explores how teachers can empower students by, for instance, encouraging them to take more responsibility for their own learning and more initiative in their studies. It also helps to understand how students can negotiate their personal attitudes and philosophical beliefs with fellow students in their learning group. Also under investigation is how lecturers can encourage students to share their prior knowledge and experience in the learning community to enhance the richness of networked learning.

Mode refers to communication channels and the semiotic distance (e.g. face-to-face or online delivery). Martin (1992, 1997, 2001) encapsulates the concept of mode by stating that it is concerned with the effect of other semiotic resources available and deployed in communications between speakers and listeners. For example, the body language used in face-to-face conversation, the tones used in aural and visual contacts and the absence of all these elements in written texts.
As Martin further explains, mode reflects a strong concept of contextual dependency:

As language moves away from the events it describes, and the possibility of feedback is removed, more and more of the meanings a text is making must be rendered explicit in that text if they are to be recovered by a reader, no matter how well informed (2001, p. 159).

In other words, mode determines the way communication occurs and also delineates the semiotic distance between speaker and listener or reader and writer. If a face-to-face mode is adopted, instant feedback is available and this may enhance the effective understanding between all parties. If another mode such as online communication is the option, then the absence of a shared physical environment makes it vital to provide complementary contextual information to enable students to understand the message being communicated.

For networked learning, the concept of mode is relevant to two key concerns. 1) The lack of face to face elements in communication and interaction should be supplemented with well-designed task specifications and well-chosen learning materials. Text is a key medium for such communication and thus it plays an important role in teaching and learning; 2) The material used for networked learning needs to be adapted to suit this mode of learning as it is often criticized that for some institutions, their networked learning delivery means simply putting printed resources on the Internet or WebCT without adaptation to the networked learning environment (Steeples et al., 2003).

This study is, in part, designed to address the quality of written texts used in networked learning through detailed discourse analysis. The chief methodology used to realise this aim is firstly to apply text analysis (using genre theory) to online texts used and produced by both teachers and students. Secondly, the study uses the metafunctional approach to capture good examples and principles emanating from the data analysis. New knowledge obtained from text analysis will be embedded into design patterns to create a resource which can be used to support new teachers in their task and other design practices.
**Summary of ideas from SFL**

A text cannot be understood without knowing something about the context in which it has been produced and in which it is used (Malinowski, 1923; Martin, 2001). From context the three metafunctional components: ideational (field), interpersonal (tenor) and textual (mode) are examined. The following diagram depicts the relation between genre, register and language involving a broader examination of how field, tenor and mode are positioned in this context. It provides a more meaningful explanation of how genre, register and language are realised by one another.

Figure 2.3 Relation between genre, register and language

The review provides an insight into how language is used to make meaning potential and how language is used as a semiotic resource in the realisation of social purposes. This theoretical approach provides a useful tool in the modeling of patterns of how teachers and students use language to achieve their teaching and learning goals in the networked learning environment.
2.3 Pattern languages and design patterns

2.3.1 Pattern languages

The idea of pattern languages emanates from the work of the British architect, Christopher Alexander and his colleagues, who were concerned to improve the quality of life and social interactions through good architectural design. In his classic book on this topic, *The Timeless Way of Building* (1979), Alexander argued that the construction of buildings that violated human social functions could seriously damage their occupants' psychological and emotional balance, resulting in poor performance of daily tasks, social malaise and/or the abandonment, or avoidance of bad buildings and spaces.

He and his colleagues thus reacted negatively to trends in contemporary architecture. Writing about the massive engineering architectural designs of the mid-twentieth century Alexander stated:

> Most often the physical and social spaces are incongruent. Modern constructions—a form of construction most commonly practiced in the mid-twentieth century—usually force social spaces into the framework of a building whose shape is given by engineering considerations (Alexander et al., 1977, p. 941).

The designs of especially those buildings with giant columns or steel beams and huge glass windows, were not conducive to social functionality or appropriate to the psychological needs of their occupants (Alexander et al., 1977).

To encourage the construction of socially functional spaces, Alexander and his colleagues devised *a unitary pattern of activity and space which repeats itself over and over again, in any given place, always appearing each time in a slightly different manifestation*” (1979, p. 181). In works such as *A Pattern Language: Towns, Buildings, Construction*, (1977), they set out 253 architectural patterns which incorporated design principles and problem-solution based guidelines which could be used on either a micro- or a macro-scale. These patterns provided a basis for socially and emotionally functional designs for anything ranging from a single room, to a house, to a town or a
Each pattern is a rule. It describes what you have to do to generate the entity which it defines' (1977, p. 182)

The aim of a design pattern is to provide solutions for recurrent problems in particular contexts. A pattern consists of a core solution to the problem which can be used many times with creativity and flexibility (Alexander et al., 1977). With a standard format, Alexandrian design patterns are intended to help ordinary people who are not architects and communities to construct their own buildings and improve their living space.

Alexander further explained that the quality of buildings is understood as the “character of place which is created by patterns of events” (1979 p. 54). Even though these events are not necessarily “human events…, for example sunshine shining on the windowsill, the wind blowing in the grass” (p. 54), they affect the occupants just as much as social events. Another example was that of “a stream bed gouged in the rock outside a house which fills each time it rains” (p. 67). He argued that the non-human event of a stream bed filling and emptying outside a house has a powerful effect on the character of the environment and thus also on the lives of the occupants of a house.

The foregrounding of social functionality in Alexander’s work shares a deep similarity with Halliday’s work on SFL (1994) and its three metafunctions in language use. Both Alexander and Halliday address fundamental principles in the interpretation of cultural and social contextualisation. According to Halliday, cultural and social contexts are the most important considerations in the interpretation of how language is used to construct meanings.

Moreover, the importance of the right patterning of human and non-human, social and non-social events, also applies to the networked learning environment. For example, well presented course material with good quality images, sound and other multimedia elements are conducive to learning. The opposite is likely to be true of a situation in which the sound of audio materials is distorted or unclear, visual materials have to be viewed on tiny or jerky video screens and e-resources suffer from broken links. Another example of a poor learning environment given by Goodyear (2004) is that
endured by students who may have to travel through congested traffic after a day’s work and rush to a hot and badly ventilated classroom shared with hundreds of others. Such non-human and social factors can have serious effects on the quality of teaching and learning. And as Simpson and Harbon (2004) argue, face-to-face teaching in that kind of environment compares badly to an online learning situation because it does not permit flexible use of time and space or opportunity for the kinds of interactive learning provided by an online discussion board, for example.

2.3.2 Design patterns

The usefulness of Alexander’s concepts in networked learning is that it constitutes an environment as it were, with characteristics that are very similar to the structure of architectural patterns. Learning activities from the bottom-up are structured around learning tasks, while learning tasks are structured around the goals and objectives of a course. At the same time, from the top-down level, learning objectives may be achieved by well-designed tasks which generate meaningful and constructive activities. Such objectives are achievable if guided by well established learning principles and theory. Those who create learning tasks need to consider the design of the environment to make it possible for students best to perform learning activities. This patterning of relationships forms the foundation of the application of pattern languages in educational design.

Familiarity, consistency and predictability of design patterns

Standards facilitate and enhance the adaptation of reusable resources (Bennett et al., 2004; Lukasiak et al., 2005). The standard format used by Alexander in his architectural designs provided the consistency which enhances users’ familiarity with the pattern contents of key elements (see sample of design pattern in Figure 2.6). Familiarity and consistency in pattern design also enhance predictability. For example, when using Alexander’s patterns, the context section addresses a particular situation while the problem section is closely linked to the solutions. When users are familiar with such consistency they can also predict what elements are addressed in the patterns. Such predictability helps users develop confidence and skill when selecting the patterns and making comparisons between patterns in order to select the patterns appropriate to
their situation. Standard formats in pattern design also enable users to scan through the patterns starting from the context, problem and solution to decide if the pattern is relevant. After a pattern is selected, users can then read the details of the contents. Another advantage with consistency in pattern format is that it enables marked up metadata to search and automate the index of patterns. This is particularly useful for a large scale pattern repository and community-based sharing of knowledge and practices. This is discussed in more detail in Chapter 8. Figure 2.5 below provides an example of an Alexandrian design pattern.

The conventional abstract structure of a design pattern

| An introductory paragraph setting the context for the pattern |
| (explaining how it helps to complete some larger patterns) |

- - -

(to mark the beginning of the problem)

A headline, in bold type, to give the essence of the problem in one or two sentences

The body of the problem

(its empirical background, evidence for its validity, examples of different ways the pattern can be manifested)

The solution, in bold type. This is the heart of the pattern – the field of physical and social relationships which are required to solve the stated problem in the stated context. Always stated as an instruction, so that you know what to do to build the pattern.

- - -

(to show the main body of the pattern is finished)

A paragraph tying the pattern to the smaller patterns which are needed to complete and embellish it.

Figure 2.4 Internal structure of a design pattern (after Alexander et al., 1977, p. 96)

Figure 2.6 below is an example of a group discussion pattern which illustrates how a design pattern can be applied to a particular networked learning activity. This pattern addresses the organisational form (how to organise a discussion group) for promoting collaboration in group learning.
Example of a design pattern in use

**Discussion group**

This pattern is mainly concerned with the establishment of appropriate organisational forms for knowledge-sharing, questioning and critique. It is a way of helping implement the patterns LEARNING THROUGH DISCUSSION, COLLABORATIVE LEARNING and NETWORKED LEARNING PROGRAMME.

Discussion groups are the most common way of organising activity in networked learning environments. The degree to which a discussion is structured and the choice of structure, are key in determining how successfully the discussion will promote learning for the participants.

Discussions can be relatively structured or relatively unstructured and they may also change their character over a period of time. It is not uncommon for a teacher to set up a discussion in quite a formal or structured way, and for the structure then to 'soften' as time goes by – for example, as the participants take hold of the conversation, opening up and following new lines of interest.

The structure of a discussion should be such that it increases the likelihood of:

a) an active and substantial discussion, with plenty of on-task contributions
b) the students coming away from the discussion with a good understanding of the contributions made
c) contributions being made by all members of the group and ‘listened’ to by all other members of the group.

Unstructured discussions run the risks of (for example)

- not getting going properly within the time available
- dissipating into a number of loosely related strands that fail to engage effectively with subject being studied
- dissolving into monologues or two-way conversations that fail to involve the whole group (Wertsch, 2002).

Pilkington & Walker (2003) have demonstrated the value of assigning explicit group roles in online discussion groups. Some writers, for example, McConnell (2000) are not sure about the validity of the teacher setting specific structuring devices, preferring to make the group itself responsible for determining how it wants to discuss things, or carry out its work more generally.

Therefore:

Start any online discussion by establishing its structure. Make the rules and timetable for this structure explicit to all the members of the group. Where there is little time available to the group for the discussion, and/or the members of the group are inexperienced at holding online discussions, the teacher/facilitator should set the structure. Where the students are to set their own structure, the teacher/facilitator should give them support and ideas about how to do this, and encourage them to do so in a fair and timely way.

Patterns needed to complete this pattern include: DISCUSSION ROLE, FACILITATOR, DISCURSIVE TASK

Figure 2.5 Example of a design pattern in use (after Goodyear, 2005)
In this pattern, as explained by Goodyear (2005), the first paragraph introduces the context (higher level patterns). The use of upper-case letters for LEARNING THROUGH DISCUSSION in the pattern points to the location in which this pattern is situated. The last paragraph after the three black diamonds indicates this pattern is closely related to the other patterns of DISCUSSION ROLE, FACILITATOR & DISCURSIVE TASK. That is, learning through discussion in the context for discussion role, facilitator and discursive task.

**Application of design patterns in networked learning**

Researchers and writers such as Goodyear (2004; 2005) McAndrew et al. (2006) and Yang & Goodyear (2004) have emphasised that the pattern-based approach in educational design has a number of qualities which in combination, give them the potential to be a useful way of sharing experience. A pattern is a solution to a recurrent problem in a particular context. The contextualisation helps constrain and communicate the nature of both problem and solution, which avoids over-generalisation. Also, a pattern teaches and helps the reader to understand enough about a problem, its context and solution to enable them to adapt the pattern to meet their own needs. These patterns can be seen as a way of bridging the gaps between theory, empirical evidence and experience and the practical problems of design.

The use of patterns to share experience, good practice and a common interest in the design community has also created a language for collaboration and community interaction. These patterns enable designers/teachers to use a standard format to create a repository for sharing ideas, values and interdisciplinary understanding of different domains. Dialogue within the design community evidences designers’ philosophical and pedagogical approaches and thus helps new designers draw on successful solutions as they go about creating their own new context-specific experiences.
2.3.3 The unity of learning design, instructional design and pattern design for the support of teaching and learning

Contemporary learning theory has strongly influenced the development and representations of the three key design areas. These are: educational design (Derntl, 2004; Goodyear, 2004; 2005; Goodyear et al., 2006; Goodyear and Yang, in press; McAndrew et al., 2006; Wakkary, 2003), instructional design (Barrese, et al., 1992; Borchers, 2000; Goodyear, 1994; 1997; Gustafson, 2002; Lyardet et al., 1998), and learning design, which includes learning objects (Agostinho, 2006; Boyle, 2003; Freschi & Calvo, 2006; Oliver et al., 2006; Lukasiak et al., 2005; Zhang et al., 2006). This section sets out a basic understanding of the key concepts of these three design approaches and discusses the usability of these approaches; what common ground they share in the designing process and importantly, what are seen to be the most challenging issues related to these areas.

Conceptualisations of different design approaches

The use of terminology in this study was set out on pp. 9-12. Here it is useful to recapture the key concepts of the framework of design approaches and the nature of work in the design field. The approaches under discussion here are: educational design, instructional design, and learning design. Sometimes it is impossible to draw a clear line between them as they are intertwined and may overlap at some points. However, recapturing their key concepts provides a clear picture of how they fit into the bigger picture of the design landscape in education. This is illustrated on the next page in Figure 2.7.
### Overview of different lines of design work

<table>
<thead>
<tr>
<th>Educational design</th>
<th>Instructional design</th>
<th>Learning design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design approaches</strong></td>
<td>In search of conception of design to enhancing understanding of teaching and learning</td>
<td>In search of new development of technological resources to support activities and management.</td>
</tr>
<tr>
<td><strong>Design areas</strong></td>
<td>A systematic approach to planning learning tasks, learning environments, and organisational forms</td>
<td>Develop appropriate media, tools, services and management systems to help learning and effective knowledge construction</td>
</tr>
<tr>
<td><strong>Supporting functions</strong></td>
<td>A supporting environment for student based learning and community collaboration and practices</td>
<td>Affordance to support learning and teaching</td>
</tr>
<tr>
<td><strong>Supporting functions</strong></td>
<td>Creating resources to support learning and teaching performance</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2.6 Overview of different design approaches**

As illustrated in the overview in Figure 2.7, *Educational Design* covers a broad spectrum of the design field. Grounded in the philosophical assumptions of student-based learning, it aims to create a socially situated individual learning environment. It provides a systematic approach to planning learning tasks, learning environments, and organisational forms (Goodyear, 2000, 2004, 2005; Goodyear and Yang, in press; McAndrew et al., 2006). Drawing on the affordances of technology, educational designers work to craft a supporting network for student-based learning involving greater choice of learning activities, tools and resources and the design of individual learning places.
**Instructional design** involves the development of appropriate media, tools, services and management systems to help learning and effective knowledge construction (Borchers, 2001; Goodyear, 1994). It is a field historically and traditionally rooted in cognitive and/or behavioural psychology. Here, it is appropriate to map instructional design under the umbrella of educational design with the main purpose of supporting learning performance and outcomes.

In the last decade, a wide range of learning programs, learning tools, resources, management systems and services have become available. These facilities and materials enable students to be more actively involved in a supportive learning environment (Barrese, et al., 1992; Borchers, 2000; Goodyear, 1994; 1997; Gustafson, 2002; Lyardet et al., 1998).

A learning design (such as learning object) is a representation of teaching and learning practice documented in some notational form which can serve as a model or template that can be adapted by a teacher to suit his/her context (Agostinho, 2006).

According to Agostinho, learning design is the process of capturing a theoretical framework embedded in good practices of teaching and learning. Such knowledge and practices are in turn represented in the form of design models of learning tasks, learning resources and learning support to help teachers effectively to design high quality teaching and learning (Herrington & Oliver, 2003; Oliver et al., 2002; Agostinho, 2006).

Here again, learning design is a specialised area which has recently branched out from educational design, with greater focus on the content design of resources such as learning objects, for the support of teaching.

However, the author strongly prefers the term ‘educational design’ when discussing design work in general in this study. The following quote from Goodyear and Yang’s recent work (in press) explains this preference.
Design is different from development – the practices of turning these representations into real support for learning (materials, task specifications, tools, etc). Much of the literature talks about ‘instructional design’, but we prefer the word ‘educational’ because it avoids some of the narrow connotations of ‘instruction’. The term ‘learning design’ has much currency, partly because it foregrounds learning rather than teaching or instruction. But like the cruder talk of ‘delivering learning’ it subtly suggests that we can help learners abdicate their responsibilities for learning. We can’t. Therefore we stick with ‘educational design’, even though we mean it to stretch well beyond the normal confines of formal education. (p. 2)

Recent work in the area

Those working in educational design, instructional design and learning design, share the common aim of capturing and sharing good practice and also designating effective resources, tools and support services. The goal is to maintain and improve the quality of support for teachers and designers or ‘teachers-as-designers’.

However, one of the questions raised by the use of the different design approaches concerns their interoperability. There is a need for an interactive system which might enable designers to communicate and share resources, tools and services. (Agostinho, 2006; Borchers, 2000; Boyle, 2003; Filho and Derycke, 2005; Goodyear, 2006; Goodyear and Yang in press; McAndrew, 2004, McAndrew, et al., 2006). With this focus, a number of authors have explored the relationship between the three fields and developed some valuable pioneer projects.

The Learning Design project reported in Agostinho’s work (2006) developed extensive web based resources, consisting of learning design guidelines, software tools and contextualised learning design exemplars. These exemplars are sequenced chronologically with visual symbols to assist more easy use of the embedded tasks, content resources and student support strategies and tools (Agostinho, 2006).
McAndrew (2004) examined the possibility of using a meta-data scheme of vocabularies for sharable terms, explanations and resources within a system which also represents hierarchies and relationships. Another example of such work is that of McAndrew and colleagues (McAndrew et al., 2006) in which they attempted to unify the approaches of learning patterns, learning design and educational modelling language and learning activity management system (LAMS).

Filho and Derycke (2005) also propose the unity of pedagogical patterns with learning design as they saw these two representations as having a strong theoretical commonality but having different practical applications. Pedagogical patterns represented by text denote pedagogical strategies, guidelines and design principles for solutions to a particular problem. Learning design denotes models of learning tasks, learning resources and learning supports for unit of learning (Agostinho, 2006; Herrington & Oliver, 2003; Lukasiak et al., 2005).

**Usability**
The final area to be discussed here is concerned with the usability of patterns and other designs. In recent years researchers have begun using meta-data to establish a support system for learning object reusability (Agostinho et al., 2004; Lukasiak et al., 2005; Oliver et al., 2006). There is a potential for design patterns to use the same methods of meta-data to support the pattern design application process.

Learning object and pattern design share some similarities and principles which can be used to create a repository in order to share reusable resources. A learning object is digital or non-digital resource consisting of an autonomous pedagogical unit of educational material that supports learning (Agostinho et al., 2004). The characteristics of a learning object can be summarised as the aspects of reusability, interoperability and searchability in content design. A learning object is created to be reused and customised to meet the specific needs of a learning community (Agostinho et al., 2004; Lukasiak et al., 2005, McDonald, 2006). Each learning object is represented by individual metadata and rights protection to facilitate the sharing and storage in large educational repositories. Metadata indexing helps identify the content of learning
objects and their access and location in resource repositories similar to book catalogues in a library (Agostinho et al., 2004; Lukasiak et al., 2005; Oliver et al., 2006). Due to criticism about the lack of theoretical connections (Freschi & Calvo, 2006; McAndrew et al., 2006; Wiley, 2003) recent research has focused on connecting learning objects with learning design and instructional design (Agostinho, 2006; Agostinho et al., 2004; Bennett et al., 2005; Lukasiak et al., 2005). The key argument in doing this is that the learning object aims to provide quality learning content and plays an important part in ensuring the reusability and creation of quality learning resources in the support of learning. Such integration is becoming imperative in order to increase its usability and application in the flexible learning environment (Agostinho et al., 2004; Freschi & Calvo, 2006; Oliver et al., 2006; Wiley, 2003).

This study identifies some common properties shared by learning objects and design patterns in relation to usability issues. (See Chapter 7, 7.3) Both approaches aim to create a repository of reusable resources for teaching and learning supports. While learning objects contain sharable learning resources, design patterns share good practice and principles for educational design. There is a need to find common ways of categorising and indexing such resources for easy location and selection. On a larger scale, they also need to help users find and make known what resources are available and how to best use them to help their work. Since learning objects have already developed some strategies and mechanisms for usability, this study assumes that some of these strategies may be applied to design patterns. For example, the metadata indexing for searching and locating could be used for pattern searches. Some tools for assisting users adapt learning objects are also applicable to design patterns.

In terms of usability, a major consideration is how to allow a specified user group to achieve their goals with efficiency and flexibility and in a user-friendly manner. It is important that users be willing to use the resources and be satisfied with the process and outcomes. This principle applies to both learning objects and design patterns.
2.3.4 Making a connection between SFL and Pattern Languages

The connection between SFL and Pattern Languages is based on the shared interest in social functionality of these two theories. Table 2.1 below presents a summary of this connection.

<table>
<thead>
<tr>
<th>Theory</th>
<th>Theoretical orientation</th>
<th>Convergence</th>
<th>Application in study</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFL used for the study of language</td>
<td>Language is a means for social interaction within cultural and social context</td>
<td>Language and living space evolve through time of human activities and are rooted in cultural convention.</td>
<td>The three metafunctions in SFL provide a useful tool for the explanation and analysis of how language is used in the networked learning context. This is through detailed discourse analysis (e.g., to capture experienced writers’ language strategies and resources displayed in the texts).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The shift is from formal and rigid to functional and social.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>For example: SFL has shifted its attention from rigid structural grammar to functional grammar of language.</td>
<td></td>
</tr>
<tr>
<td>Pattern languages used for architectural design</td>
<td>Living space is designed to enhance social activities and human well beings. It is also shaped by the patterns of cultural and social activities.</td>
<td>Pattern languages focus on the problem created by modern engineering framework of architectural design. The shift is from neglecting human needs to the improvement of quality living space for social function and interaction.</td>
<td>The standard format used in pattern design is used to model illustrative patterns which encode the good examples and resources identified through discourse analysis.</td>
</tr>
</tbody>
</table>
Any search of the literature available in the areas of networked learning, SFL and genre theory and of pattern languages, will indicate much work has been done. One lack is a firm theory relating to structured descriptions of how social interaction takes place in the knowledge-construction process (Goodyear 2000, 2003a; Goodyear and Jones, 2002; Steeples and Jones, 2002). The literature also points to shared ideas and knowledge in the networked learning community which could support new teachers in their learning design (Goodyear, 2004; 2005). Within this context, SFL and genre theory have the potential to address these key issues and so help to fill the gap in this field of knowledge. SFL provides a theoretical framework and useful tools for the study of the process of knowledge construction in networked learning from the perspectives of the ideational, interpersonal and the textual meanings. SFL also provides the
linguistic resources for describing and explaining how text is used as a medium of communication of knowledge and interaction, to enhance learning and teaching. At the same time, pattern languages provide a means of representing such knowledge of language function as sharable and re-usable resources which can be used better to support new teachers. Such complementary role is illustrated in Figure 5 which graphically portrays the connection between these important resources for networked learning. On the next page, Figure 2.9 shows how SFL can inform the process of creating design patterns and pattern languages.
### Application of SFL and Pattern Languages

<table>
<thead>
<tr>
<th>SFL for discourse analysis</th>
<th>Pattern modelling process</th>
<th>Design patterns and pattern language</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SFL theory</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Scaffolding linguistic knowledge</td>
<td>Encoding &amp; translating linguistic resources into pattern languages</td>
<td></td>
</tr>
<tr>
<td>• Conceptualising patterns of discourse</td>
<td>Construction: Drafting, validation and rendering</td>
<td></td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysing and describing how language is used in realising social goals, examining:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Social context</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Discourse patterning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Language features</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Supporting students’ learning</strong></td>
<td>Educational focus: students’ learning to teachers’ support</td>
<td></td>
</tr>
</tbody>
</table>

*Pattern Languages*

- Encoding and translating linguistic knowledge into patterns
- Conceptualising experience and expertise in educational design as sharing knowledge

**Process**

- Constructing design patterns
- Drafting, validating and rendering useful patterns in educational design

**Supporting teachers’ program design**

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Figure 2.8 Connection between genres and pattern languages (adapted from Yang, 2005).
Chapter 3

3 Research design

3.1 Research purposes

There has to date been no work linking SFL and research on pattern languages even though, as argued in the literature review, there is a deep connection between these two bodies of work. This study aims to fill this gap in order to find new ways of conceptualising practices in networked learning. The specific central investigation focuses on two key areas: 1) the use of SFL to conduct detailed discourse analysis of selected texts used by teachers and students and 2) the development of a model for the construction of design patterns using data generated from this SFL-based text analysis.

The central investigation of the study has been motivated by a review of some key identified research needs which are re-stated as follows: 1) In networked learning, it is important to understand how teachers and students construct their academic discourse. In this regard detailed discourse analysis of texts can provide an insight and point of reference for the design of educational patterns better to support teaching and learning; 2) SFL and genre theory provide a valuable tool for discourse deconstruction and analysis to explain what and how language strategies and resources are used to make meanings for communication and interaction; 3) The understanding of how language functions to assist networked learning is insufficient in itself unless such knowledge is coded and transformed into a resource which can be shared and re-used among the members of the networked learning community. Pattern languages offer a structured method for coding and transforming these resources. 4) The convergence of SFL and pattern languages makes it possible to develop a framework for the modelling of design patterns. Useful linguistic knowledge from text analysis is encapsulated in design patterns which constitute reusable resources for the support of this discourse community (i.e. those interested in networked learning).

The main thrust of this study involves the development of a model for the coding of design patterns using the linguistic knowledge generated from the text analysis. This
model is then used to develop three sets of illustrative design patterns for the pattern coding and development process. Finally, the draft patterns are validated by academic staff and postgraduate students before being presented as completed patterns in the study.

3.2 Research questions

Question 1
The first question investigated and guided the study’s focus on issues related to educational design in the context of networked learning. The question was formulated as follows:

*What are the tutors’ perspectives in networked learning and educational design?*

This question is informed by the following investigations:

1.1 What are the key issues in task design?
1.2 What are the key issues in learning resource and environment design?
1.3 What are the key factors contributing to the success of networked learning?
1.4 What are the key problems that may occur in network learning?
1.5 What are the online interaction patterns between tutors and students?
1.6 What are the interaction patterns among students in a networked learning environment?
1.7 What are the key issues in new online teacher support?

The investigation of Question 1 involved interviews with five academic staff who had taught two postgraduate online programs. Data collected from the questions listed above provided an insight into the problem space of educational design. In addition, good practice and experience generated from these questions was integrated into the first design pattern index of network program design.

Question 2
This second question investigated how teachers and students use written texts in joint constructions of knowledge in networked learning. This investigation was informed by SFL and genre theory. The question was formulated as follows:
**How can SFL and genre theory be used to analyse texts being used by teachers and students in networked learning?**

This question is informed by the following investigations:

2.1. What are these text types?
2.2. How do these text types function differently to achieve social purposes?
2.3. What are the language strategies and resources used in these texts?

Investigation of this question involved detailed discourse analysis of selected texts in the following areas: social context and social functions, audience and purposes, patterns of meaning, text schematic structure, sentence patterning and other language features.

**Question 3**

The third question was concerned with how to provide better support for new networked learning teachers in higher education. It examined how to construct design patterns drawn from pattern languages and recent work on educational design in networked learning. The question was thus formulated as follows:

3. **How can pattern languages be used to capture the experience and knowledge of teachers already in the field in order to support new teachers in learning design?**

This question raised the following supplementary questions:

3.1 How can design patterns capture the knowledge of experienced teachers in program design?
3.2 How can design patterns capture the key text types identified in Question 2 to support educational design?
3.3 How can language functions be interpreted as principles for design patterns?
3.4 How can language choices in meaning-making be translated into guidelines and solutions in design patterns?

In short, **Question 3** aimed to make a connection between language functions and educational design. Drawing on SFL, the knowledge of how language is used to make meanings and to achieve social functions was coded and framed into patterns. These
patterns provided instructions, guidelines and rules for designing learning tasks and student model texts to support learning.

**Question 4**
The fourth question addressed issues about how design patterns could be tested so as to improve their quality and usability and was formulated as follows:

4. **What methods can be used for pattern validation?**
Supplementary questions:

4.1 What user groups should be recruited for validation?
4.2 What are the best methods and tools (e.g. questionnaires, evaluation forms) that can be used for validation?
4.3 What is the focus of validation? For example, in what ways are these patterns useful? What elements in a pattern need to be added, removed or modified? Are the patterns designed in a way that users find easy to understand and use?

**3.3 Methodology**

3.3.1 **Research context**
Two postgraduate online programs were selected for this study. The first, the **Australian Wines** (AW) program, was developed in 2002 to “study the operation of the Australian Viticulture and Winemaking industries, the wine regions involved and the types and styles of wines produced” in Australia (Australian Wines Course Guide, p. 3). This program was being taught out of the University of Western Sydney. The second program, **Advanced Learning Technology** (ALT), taught out of the University of Lancaster in the UK was selected because it was well established and importantly, had progressively evolved from the early 1990s, when it was founded at the very beginnings of online delivery, to the present. Most of the students attracted to this program were already in the field of learning technology, working as educational designers, online course consultants or online professional trainers.
In contrast, the AW program was selected because it had only very recently been devised by a program development team consisting of a curriculum designer, a project co-ordinator and two very experienced teachers who also taught the first year of the program. Participants from this program were used only in the interview phase of this study because the intensity of the work involved in discourse analysis made it impossible to focus on more than the small selection of texts and for reasons which will be discussed shortly, these were drawn from the ALT program.

The chief advantage of recruiting interviewees from the AW program was that its staff were highly experienced and that the data collected from them was therefore valuable for the development of program design patterns. The author became aware of the success of the AW program because of the positive feedback from students who had completed this course in the University of Western Sydney, where she teaches. It was also felt that the fresh and unconventional approach of the program could provide new insights into current issues in program design.

The ALT is a well established professional program which, as pointed out above, has been operating in UK since 1989. Although it has been redesigned since it was started, it has maintained the key characteristics of its original structure. Some staff involved in the initial development of the program were still teaching on it at the time they were invited to participate in the interview phase of this study, while several of their written texts were selected for use in the discourse analysis phase. Their participation was particularly valuable because their long experience of issues in networked learning provided unique perspectives into the evolution of a rapidly developing area in education. Moreover, the two staff members recruited for interviews had conducted extensive research in the field of networked learning over the last 10 years. Their broader views of issues related to networked learning and program design provided extremely valuable resources for the coding of program design patterns.

The decision to select texts from the ALT program in preference to those from the WA was based firstly on the fact that the ALT was a professional program with a stronger academic focus representing most of the postgraduate courses in the fields of study mentioned above. Secondly, ALT was a well established program with a mature course
structure. Texts produced by teachers (for example, learning tasks) had been well crafted and tested through the years by different learner groups, which meant that data generated from the analysis of these texts could be confidently used for the coding of design patterns. The same applied to selection of student texts from the ALT program. The selected texts from the same program enabled connections to be made between how for example, students used learning tasks to guide their activities in their forum discussions.

**Description of AW and ALT programs**

As already noted, *Australian Wines* was designed and delivered entirely online using internet-based learning (WebCT). This vocational program had attracted many students, many of them successful professionals who had a passion for and shared a strong interest in Australian wines and who also had a broad range of prior knowledge in the field. Their strong motivation for learning more about the Australian wine industry was a key factor contributing to the success of the program.

The six-month long efforts of the team of education designers and lecturers described above, resulted in the *Australian Wines* course having the following characteristics: 1) the contents were well planned and sequenced; 2) there were clearly stated learning objectives and outcomes; 3) there were well sequenced assessments and learning tasks, 4) students were well informed of expectations before the course commenced.

As shown in their online discussion threads, students made regular postings to the discussion board, many of which went beyond and outside assignment-related topics. For example, at one stage they actively debated about how an essay should be written and presented. They thus used this forum as a learning site as well as for sharing material, ideas and information. Students also helped one another in solving technical problems such as how to access online material, access library resources and create active links on the forum. The existence of such collaborative work indicates that AW is a good example of a well-designed program which successfully combines theory and practice and provides plentiful opportunities for student interaction. This feature was elaborated on by the program development team in the interviews.
From the point of view of this study, a useful difference between the two programs was that while the AW program mixed people with hobby and vocational interests, the ALT program was professionally-based. Thus, while students in the AW program were drawn from different walks of life ranging from legal practice to finance and hospitality and had only their interest in the wine industry in common, the work experience of those in the ALT program was in the same field and they thus could make connections on the basis of their professional occupation. These contrasts provided a broader view of the issues surrounding the development of a variety of learning programs.

3.3.2 Research methodological framework

According to O'Leary, methodology refers to paradigmatic assumptions researchers use to guide their methods of research (2004). This study applies qualitative methods, including interviewing teaching staff, detailed discourse analysis of texts, constructing and modelling design patterns and the use of empirical work to test new patterns. The tools used include questionnaires, tape recordings and video recording of interviews and workshop discussion groups, as well as feedback survey questionnaires used in the empirical work.

Due to its in-depth inquiry component and the complexity of the research, this study also applies triangulation of multiple research methods. Triangulation crystallises the in-depth, complex and multi-faceted nature of the real world (Denzin & Lincoln, 2000; Flick, 2002; Janesick, 2000). In this study, three types of triangulation are deployed, these being: theory triangulation, method triangulation and data triangulation. Theory triangulation involves the use of SFL, pattern languages and networked learning theory. Method triangulation involves a combination of interviews with teachers, discourse analysis of texts and surveying participants for validation of design patterns. Data triangulation draws on various sources of data, for example interview transcripts, selected texts used in the ALT program and survey feedback from participants who participated in the pattern validation workshop and training sessions. The use of triangulation enables the study to capture and reflect on the in-depth and complex nature of networked learning in the real educational settings.
### Methodological framework of study

#### Methodology: Qualitative Research

<table>
<thead>
<tr>
<th>Phase</th>
<th>Purpose/s</th>
<th>Methods</th>
<th>Techniques</th>
<th>Tools</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>1) Investigate experienced teachers’ beliefs, thoughts, concerns and factors for success in networked learning. 2) Generate data source for Phase 2 program design patterns.</td>
<td>Interview and transcript analysis Grounded theory to generate general principles and good practices.</td>
<td>Interviews</td>
<td>Open-ended questionnaires, cassette recorder</td>
<td>Interview transcripts</td>
</tr>
<tr>
<td></td>
<td>Investigate how language/text is used by teachers and students for construction of knowledge in the context of networked learning: 1) Identify text types and other language resources displayed in the texts 2) Generate useful resources for design patterns of learning tasks and student model texts.</td>
<td>Detailed discourse analysis using SFL, examining texts used by teachers and students in the <em>ALT</em> programs</td>
<td>Textual structure &amp; language features are coded for analysis.</td>
<td>Within SFL theoretical framework</td>
<td>Selected texts from the <em>ALT</em> programs: 1) learning tasks written by teachers/designers 2) student forum postings related to performing tasks being analysed.</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Construct three sets of illustrative design patterns: 1) program design 2) learning task design 3) student model text design</td>
<td>Modelling, transferring &amp; interpreting from one form of knowledge to another, e.g. text types to design patterns.</td>
<td>Modelling design patterns using Alexander’s design pattern model.</td>
<td>Format of design patterns generated from pattern languages</td>
<td>Results of phase one data (interview and text analysis)</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Modify and improve design patterns generated from phase 2.</td>
<td>1) Workshop discussion with teachers/designers to modified first draft of patterns 2) Training sections/validation with postgraduate students for second draft modification</td>
<td>Empirical research: 1) discussion group 2) student training programs</td>
<td>1) Video for discussion group 2) Questionnaires and feedback forms for both groups</td>
<td>Data collected through feedback forms and questionnaires, notes taken during video reviews</td>
</tr>
</tbody>
</table>

Table 3.1 Methodological framework of study
3.3.3 Multi-faceted methods of data analysis

As a result of the increase in research interests in online discussion forums over recent years, there has been a stronger focus on knowledge construction and collaboration (Felton & Evans, 2004; de Laat, 2006; Weinberger & Fischer, 2006; Schrire 2006; Laat & Lally, 2003; Booth & Hulten, 2003). The concept of community practices, engagement and dynamics is central to the study of online learning (Goodyear, 2006; Booth & Hulten, 2003; de Laat, 2006; Love and Simpson, 2005). Such studies have focused on the social construction of knowledge and meaning-making (social-constructivist theory), the function of context and environment in which learning takes place (situated learning) and the social interaction in learning (socio-cultural theory).

Given the complexity of online interaction in the construction of knowledge and collaboration in community practice, researchers are facing new theoretical and methodological challenges in developing a framework in order to provide adequate tools for the analysis of different aspects of the learning processes (de Laat, 2006; de Laat & Lally, 2003; Goodyear and Jones, 2002). In recent years, researchers (Hara, 2004; de Laat, 2006; de Laat & Lally, 2003; Schrire, 2006) have raised concerns about the lack of detail in quantitative research, in particular research that analyses messages such as numbers of logons, postings or word counts. Although qualitative studies may be limited to small data sets, they do provide useful data that can offer a more in-depth understanding of the essence of the learning experience.

de Laat's (2006) study was based on the argument that no single research method was capable of providing a holistic account of the complexity of the online discussion process. He therefore applied a multi-method approach, using content analysis, critical event recall and social network analysis (SNA) in his empirical work. The synthesis of these methods enabled him to examine the nature of the interaction patterns within a networked learning community and the way its members shared and constructed knowledge together. An important focus of his work was an exploration of how SNA can profitably be used in combination with other methods to advance the study of online teaching and learning.
de Laat emphasised that when tutors and students assessed the quality and contribution of discussion to the online forum, it was difficult at a glance, to determine who the participants in a collaborative learning task were or the level of participation of the individuals involved. He demonstrated that SNA adds a new dimension to the analysis of how participatory patterns are formed and changed over time. It identifies patterns of relationships between people who are connected, the information flow among the discussants and how resources are exchanged among members. His central investigation focused on the aspects of exchange of messages and interpretation of the nature of the relationships between participants.

SNA is complemented by content analysis methods (Booth & Hulten, 2003; Hara, 2004; de Laat 2006; de Laat & Lally, 2003; Schrire, 2006) which focus on the content of communications being exchanged between members and the kind of collaborative tasks that they have set out to achieve. In addition, content analysis reveals information and interaction patterns to be found below the surface of the transcripts (Schrire, 2006). Booth and Hulten (2003) apply a phenomenographic research approach with detailed discussion of individual student’s postings. They see students’ learning of the subject matter has a direct connection with students’ practical experience and their background in education, culture and language. The phenomenographic method enables them to draw pedagogical determinations of the variations and characteristics of students’ learning experience.

The critical event recall interview (de Laat, 2006; de Laat & Lally, 2003) provides reflective accounts from tutors which capture the key moments in the development of the discussion dynamic of the group. The tutors' recollections illustrate how they reflectively analyse their own facilitation of the students’ discussion. This method has the potential to access aspects of learning and tutoring that are not directly available in discussion transcripts.

With a similar line as that taken in de Laat and Lally’s work (2003; 2006), using a multi-method approach to account for the complexity of online collaborative learning and teaching, this study proposes the use of SFL as a theoretical tool for detailed
discourse analysis of teacher and student texts. This choice of method is based on evidence about the effectiveness of this well-tested and widely used approach in educational settings, in particular the studies of discourse community and academic discourse analysis (Hood, 2004b; Lee, 2006; Swale 1990, 2004). In contrast to the benefits of providing more reliable outcomes from detailed discourse analysis, Swale’s critique of corpus linguistics (2004) is the lack of contextual interpretation of the meaning in the text.

Computer searches for significant findings involves working from small stretches of surface forms, but lack of clarity in pattern or lack of appropriate contextual interpretation caused most initially promising lines of inquiry to be aborted (p. 97).

**Discourse analysis**

While not discarding or rejecting any of the methodologies described above, the discourse analysis approach was adopted for this study because it has proved to be such a powerful tool for explaining and describing at an in-depth level, how language functions in educational contexts. It has been particularly useful for analysing academic discourse in higher education. This is well reported in the work of Hood (2004a, 2004b), Hyland (2002, 2004), Lee (2006), Lemke (1989), Swales (1990) and Yang and Goodyear (2004, 2006). Drawing on the work of these authors, this study applies discourse analysis to texts used within the networked learning context, precisely because written texts (e.g., texts of learning material and texts of student discussion postings) form the central mode of communication in online collaborative learning and thus act as a medium for the construction of meanings.

Within the SFL framework, discourse analysis for the study of texts and how language is used for making meanings in social interactions and education, foregrounds depth over breadth. The in-depth description and explanation of how language is used to make meaning through different strategies and language choices deployed by experienced writers enable the study to unpack a text from the three metafunctional perspectives. For this reason SFL has been widely used for conversational analysis (Eggins, 2000; Eggins and Slade, 1997; Sacks, 1992; Schegloff, 1981; Taylor and
Cameron, 1987), analysis of children's language development (Hasan, 1985, 1996, Painter, 1984, 1989; 2000; Rothery, 1990) and academic discourse analysis (Ellis, 2004; Halliday, 1993a; Halliday and Martin, 1993; Hood, 2004a; 2004b; Hyland, 2002, 2004; Lee, 2006; Lemke, 1989; Thompson, 2001; Unsworth, 2001; Swales, 1990). The two most important principles that have guided these research works are the concepts of context and meaning (Christie and Unsworth, 2000; Lemke, 1989; Martin 2001; Swale, 1990; 2004). A text is highly contextualised by its specific cultural and social context when it is written (Halliday, 1994, Hasan, 1999; Martin, 1992). This contextual dependency principle should be applied at all times when examining a text. Also, a text is about making meaning (Lemke, 1998; Martin and Rose, 2003) and that should be the key interest of investigation. Discourse analysis is all about finding out how meaning is created by deploying linguistic resources and strategies in a particular cultural and social context. In order to interpret the meaning of a text, the discussion of cultural and social context often provides a point of reference for a text analysis.

In addition, as argued by Lemke (1998) and Swale (1990; 2004), discourse events (e.g., communicative activities) are characteristics of discourse community practices. Specific genres and language resources (e.g., terminologies) are used by community members and experts in a specific field to share ideas, beliefs and new knowledge. The application of discourse analysis facilitates in-depth understanding of how exactly texts (spoken or written) are used to achieve such social functions in the discourse community.

In his discussion of protocols and the problem of applying discourse analysis methods for the interpretation of verbal data, Lemke (1998) particularly addresses the protocol of ‘the essential context-sensitivity of meaning-based phenomena’ (p. 11). He warns of the risks run by researchers who construct artificial task activities that are different from real life situations since it is always important to explain the difference between the artificial and the actual phenomena of interest. The discourse analysis conducted in this study is set within Lemke’s context-sensitivity protocol and all text data is selected from authentic material both produced and used by teachers and students in the ALT program.
Purposes of inquiry
Lemke (1998) and Swales (2004) assert that before the commencement of any exercise in discourse analysis, it is necessary to determine exactly what such analysis will seek to find and explain. This means that the questions being investigated must be very clear, in other words, that the purpose of the inquiry must be known. The main investigation of this study is guided by the research questions formulated and defined in the supplementary questions under Question 2 above. Thus, the purpose of inquiry is motivated by a desire to capture the knowledge displayed in the texts of experienced writers in order to generate data for the modelling of design patterns. This purpose is unique to text analysis and distinguishes the research undertaken in the present study from the work of other authors. This study does not end at the point of merely establishing the results of textual analysis, but goes on to outline how the knowledge generated from this process can be used to encode patterns as useful and reusable resources to support educational design.

Analysis of discussion interaction
The text analysis of discussion postings draws on Bakhtin’s concept of dialogism (the multiple meanings) (Bakhtin, 1981) and Kristeva's research (1980) into the concept of intertextuality. In broad terms, intertextuality refers to a text meaning which is based on or transformed by or borrows from previous texts (White, 1998).

The multidimensional characteristics of dialogism and intertextuality are very relevant to this study, which follows the model put forward by researchers such as White (1998, 2000) and Hood (2004b). It involves using the ideational perspective for construing ideas and concepts represented in activities shared in the discourse community. Further, different activity types are often presented or documented by different text types with their own specific professional terminology. These texts build on previous texts and pre-knowledge shared by a particular culture and community members (Bakhtin, 1981; Kristeva, 1980). This concept has been widely used in language studies and discourse analysis. For example, White (1998, 2000) used it for media texts, Hood (2004b) for examining the techniques employed by authors to engage readers, while Lee (2006)
used it to compare high grade and low grade results in undergraduate essays written by native English-speaking students with those written by students from a non-English speaking background.

According to Hood’s research (2004b), a writer’s readership may affect the ways in which they engage with their audience to establish social relationships. This forms the characteristic of the interpersonal domain, in which the writer incorporates acknowledgment of the audience in his/her writing. This finding is supported in Hyland’s study (2004) of the explicit use of various interpersonal strategies in academic discourse which are used to bring readers into the dialogue. He argues that the information and text are structured to evoke engagement from other members in the community through anticipating readers’ expectations, responses and participation in the virtual dialogue. In his view writers, in order to project their perceptions and interests, treat their audience as active participants rather than as mere observers or receivers of knowledge.

Drawing on the concept of intertextuality, the work of Hyland (2004) is used as a model to demonstrate how a writer needs to enable the audience to achieve a better understanding and interpretation of the new knowledge presented. This includes use of the audience’s pre-knowledge, including background and existing knowledge of earlier texts.

In addition, Hyland argues that to express his/her views, the writer also needs to draw on recognised and appropriate genres by means of stance and engagement. Stance refers to the way in which writers use their personal authority and beliefs explicitly to intrude into the discourse (2004). Hyland argues that ‘the writers annotate their propositions to convey epistemic and affective judgements, opinions and degrees of commitment to what they say’ (p. 6). Stance is also interested in how writers express their claims, attitudinal value or truthfulness in the construction of their credible academic identities. (In contrast to stance, engagement addresses a situation in which ‘writers intervene to actively pull readers along or position them, focusing their attention, recognising their uncertainties, including them as discourse participants and
guiding them to interpretation’ (p. 6). According Hyland, the difference between stance and engagement is often a fine one. The distinction is mainly between the different use of rhetorical and linguistic resources and the attention these receive from tutors in the apprenticeship of new writers in their academic writing. Hyland identifies five most commonly used interactive features that writers employ to engage their audience in the negotiation of the authorial voice. These are 1) using interrogatives; 2) inclusive first and second personal nouns and items that directly refer to readers; 3) directives, including imperatives, obligation modals referring to actions of the reader (must, ought, should, have to, need to), and adjectives that control a complement to-clause which directs readers to a particular action; 4) references to shared ideas and 5) asides addressed to the reader, marked off from the ongoing flow of text (2004, p. 7-8).

The use of modality

Modality is about projection and proposition in exchange information (Eggins, 1994; Halliday, 1994; Martin and Rose, 2003; White, 1998). According to Eggins (1994, p. 179), ‘Modality is a complex area of English grammar which has to do with the different ways in which a language user can intrude on his/her message, expressing attitudes and judgements of various kinds’. In SFL, modality is within the mood system, expressing the degree of certainty and usuality (e.g., low, median and high). The following examples, based on Eggins' model of degree (p. 180), illustrate how modality is used in the negotiation of information and judgements.

Examples of the use of modality

<table>
<thead>
<tr>
<th>Degree of certainly and usuality</th>
<th>Possibly</th>
<th>Usuality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>The cat <em>might have drunk</em> the milk</td>
<td>The dog <em>sometimes</em> sleeps outside.</td>
</tr>
<tr>
<td>Median</td>
<td>The cat <em>could have drunk</em> the milk.</td>
<td>The dog <em>usually</em> sleeps inside.</td>
</tr>
<tr>
<td>High (certainly)</td>
<td>The cat <em>must have drunk</em> the milk.</td>
<td>The dog <em>always</em> sleeps inside.</td>
</tr>
</tbody>
</table>

Table 3.2 Examples of modality
More examples of degree of certainty

1. The cat certainly drank the milk (High).
2. Our cat alone could not possibly drink all the milk (High).
   (It is possible that the neighbour’s cat drank the rest).
3. John probably didn’t come home last night after the party (Median).
4. John possibly might not come back by Sunday (Low).
5. The cat never sleeps outside (High).
6. The dog did not usually sleep outside (Medium).

In the discourse analysis undertaken in this study, modality is used to indicate how experienced writers (teachers and students) negotiate their attitudes and judgement in their texts. (e.g., you may want to …, it is possibly to use ….). In the second instance, as is extensively demonstrated in both Chapters 5 and 6, students also use modality to negotiate their positions in online discussions. One example which can be cited here, is the way in which, when defining the concept of learning, they made extensive use of modality to project their views on learning, e.g., the potential may not be realised until …, Reflection is always prompted by …

The orbital principle of textual organisation

The analysis of student discussion texts is also based on White’s model (1998) for analysing narrative texts in daily news reports. The writers of these reports, who are journalists, tend to engage interpersonal meanings in the lead sentence and slowly shift the focus of the news items. The opening combines the headlines and first sentence to act as a main theme for the remainder of the text. He calls this particular patterning the ‘orbital’ principle (Martin, 1994) of textual organisation in which ‘a central, textual dominant nucleus enters into a distanced relationship of dependence with a set of textual sub-components’ (p. 247).

White further asserts that the textual relationship between the lead sentence and the remainder of the text is realised by elaboration, contextualisation, explanation and appraisal. That is to say, the role of the remainder of the text is to refer back to the nucleus (the lead sentence). Such a two dimensional construction of rhetorical
meanings realised by textual organisation is typical of general communication patterns, as well as those found in the students’ postings to online discussions which is discussed in Chapter 6.

**An SFL approach to discourse analysis**

In this study, discourse analysis is informed by SFL for the key purpose of unpacking how texts are used in the networked learning context to communicate meaning. It centrally investigates what text types are most evident in two sets of text data: learning tasks and student online discussion discourse.

Drawing on the work of Martin (1992, 2000) and Martin and Rose (2003), a semantic model of text analysis is used for the discourse analysis in Chapter 5 for the analysis of learning tasks and in Chapter 6 for the analysis of student discussion texts. A close examination of discourse semantics beyond clauses (the meaning across the whole text) is conducted in order to describe and explain how different resources are integrated with one another as a cohesive unit across the whole text. This examination also draws on the three metafunctions of SFL and genre theory and uses Eggins’ model, which can be graphically detailed as shown in Figure 3.1.

![Figure 3.1 Lexical-grammar, discourse-semantics and context](Adapted from Eggins, 1994, p. 113)
The use of this model for discourse analysis involves the unpacking of the three metafunctional meanings displayed in a text. Thus in the first instance, there is an examination of the social context in which the written text has been produced and what social purpose it aims to achieve (genre), the topic of concerns (ideational), the social relationship created with the audience (interpersonal) and what mode it is used (textual: written or digital). A more detailed discussion of the in-depth text analysis is provided on the next page in Table 3.3, which illustrates the intensity and steps of the process.

<table>
<thead>
<tr>
<th>Step</th>
<th>Work involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Establish cultural and social context of the texts in which they are used (e.g., a learning task which was designed within the educational context to suit a particular learner groups with a specific learning focus).</td>
</tr>
<tr>
<td>Step 2</td>
<td>Identify the text type based on the social function and context discussed in Step 1.</td>
</tr>
<tr>
<td>Step 3</td>
<td>The text is deconstructed into sections (units) to identify key components and schematic structure.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Identify key sentence patterns and language features in the explanation of its textual organisation.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Original text is presented and coded to show examples.</td>
</tr>
</tbody>
</table>

Table 3.3 Process involved in the discourse analysis

A more detailed discussion of discourse analysis is set out in Chapters 5 and 6.
Research data

As indicated in Table 3.1 the methodological framework of this research involved triangulation of three data sets. These data were collected from various sources: interview transcripts, texts used in the ALT programs and data from the empirical research of pattern validation. Each of these is discussed below.

Interview data

With the approval of the Ethics Proposal by the Ethics Committee of the University of Sydney these data were drawn from interviews with five academic tutors. A questionnaire (see Appendix 1) and a tape recorder were used during each interview. Interviews were conducted in informal settings to fit in with the participants’ availability. One was in the researcher’s office, three in the participants’ offices and one was conducted by means of a telephone interview. Interview times ranged from one hour to one and-a-half hours. All five interviews were transcribed, the total number of transcript pages amounting to 51 pages with single spacing and font 12 size).

The interview transcripts formed the first part of the research data used for the coding of the principles of program design patterns.

Text data

The second bloc of data was based on selected texts created in the ALT programs. These texts were selected from course modules and student online postings on the discussion board. Due to the scope of the study and the scale of work involved in detailed discourse analysis, together with the focus on complexity rather than generalisation, the study necessarily restricted the size of the data sets. As already discussed in the research context section, the texts were selected from the same program to provide connection and consistency of the analysis within the program context in order to build links between tasks and students’ actual performance when completing these tasks. Table 3.4 below contains details of text selection process and criteria.
# Text selection

<table>
<thead>
<tr>
<th>Texts</th>
<th>Source</th>
<th>Texts selected</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher texts</td>
<td>ALT learning tasks for the first two weeks at the beginning of the course:  1) two tasks for forum postings  2) one for reading research papers</td>
<td>1) Texts that are used to cover a specific moment of a course (e.g., the beginning).  2) Texts that represent a specific or multi text types based on Genre Theory.</td>
<td>New knowledge gained from the task analysis will be used for the modelling of task design.</td>
</tr>
<tr>
<td>Student texts</td>
<td>Forum postings selected from the first two  weeks of the program.  1) A summary of all 98 postings to provide an overview of the first two weeks of discussion  2) A total of 11 student postings for detailed discourse analysis</td>
<td>Postings that represent key moments of interaction, in this case, how students performed their learning tasks at the commencement of the course</td>
<td>Connection between teacher and student texts is created by  1) what teachers want students to do  2) how students actually perform the tasks set (i.e. tasks vs. activities)  3) although a much larger number of student texts were analysed than teacher texts, this was necessary in order to present a fuller picture of how students perform tasks. In this case, an important sequence of five texts of students using metaphor to discuss a particular learning concept, was selected  Again, new knowledge gained is used for the modelling of student model text design patterns.</td>
</tr>
</tbody>
</table>

Table 3.4 Text selection and criteria
Text data from both teacher and student texts was selected in order to examine and explain how different power relationships are created by different writers and how this can affect the ways linguistic resources are used to address a readership (Hood, 2004b). For example, how teachers address students and how students address their peers, is likely to differ significantly. Such analysis also provides an insight into the relationship between learning tasks and student performance. It can also indicate the extent to which learning activities are collated with learning tasks or rather, how learning tasks may control or allow flexibility of learning activities and interaction.

**Summary of data analysis and the modelling of design patterns**

The data analysis and modelling of patterns was based on the following rationales:

1. **Teacher interviews**: These were undertaken to provide a background in networked learning from the perspectives of experienced teachers. The interviews further identified good practices and principles which could be used to model patterns for program design.

2. **Text analysis**: Two sets of texts selected from the ALT program were used to identify experienced writers’ knowledge and strategies for the construction of meanings in networked learning. Such knowledge and framework was used to code language support design patterns for academic literacy design.

3. **Modelling of design patterns**: This process involved using data collected from the teacher interviews and text analysis to develop three sets of illustrative patterns as follows: (i) patterns of program design (ii) patterns of task design and (iii) patterns of student model text design.

4. **Pattern validation**: This process involved the empirical evaluation of the usability and validation of the patterns developed in terms of Point 3 above.

**Interview data analysis**

Interview data were transcribed and analysed in order to identify, from the teachers' perspectives, key characteristics and also both successful factors and problem areas in networked learning. The outcomes of this analysis provided valuable resources for the coding of educational design patterns for the next phase of study. The key method used was based on the grounded theory approach to data analysis and the development of
categories of conceptions (Charmaz 2000; Flick 2002). Concepts were gradually deduced and built up through progressive stages of data coding and analysis. Each stage took a theoretical concept to a higher level with a larger scope for the integration and connection of theory and categories emerging from the data analysis. The analysis aimed to provide in-depth understandings and explanations for experienced teachers’ perspectives of networked learning program design and good practice in teaching and learning.

**Text data analysis**

Text data analysis involved detailed discourse analysis of selected texts from the ALT program. The text analysis itself involved detailed discourse analysis of the design of learning tasks set for the first two weeks of the course and also analysis of some selected student texts posted on the discussion forum. As illustrated in Table 3.3, discourse analysis requires five key steps to be followed in order to identify the social context in which the text was written, the text type, the deconstruction of the text, the patterns of languages resources used and the coding of the original text.

**Modelling of illustrative design patterns**

The modelling of illustrative design patterns involves the transformation of data collected from interview analysis and text analysis into Alexandrian patterns as described previously. Although constraints on the length of this study make it impossible fully to develop a comprehensive set of pattern designs, some illustrative patterns have been set out and these indicate how one form of knowledge can be transformed into design patterns to form a reusable resource. In this case, interview data outcomes have been used to devise program design patterns, while linguistic knowledge has been used to devise task design patterns and patterns for the design of student model texts. These patterns are set out in Chapter 7.

**Validation of design patterns**

In the final phase of the study, the design patterns generated in Phase 2 were tested. As discussed previously, pattern design involves detailed crafting, evaluation and modification of the patterns before they can be rendered as useful resources. Such a
development process also requires collaboration between experienced program designers and teachers in order to exploit their experience and accumulated knowledge in the field (Goodyear, 2005).

**Pattern validation process of study**

**Stage 1** Two workshop discussions focussed on pattern improvement were conducted to seek feedback on the first draft of the patterns. Participants were recruited from researchers and academics interested in pattern languages and educational design. First draft patterns were modified and redrafted to form the second draft, for the stage 2 validation.

**Stage 2** *Testing of patterns by students.* These improved second draft patterns were tested by a group of 20 students from an education design post-graduate program. The outcomes of their testing and general feedback were then used further to improve the second draft patterns. The third draft (final draft) of patterns is rendered as supporting resources for new online teachers in their design work. The details of the pattern validation process are set out in Chapter 8.

In summary, this chapter has detailed the methods used in the study which is centrally based on the qualitative approach. It also uses the triangulations of research methods, consisting of 1) interviews, 2) discourse analysis, 3) the modelling of design patterns and 4) follow up validation sessions with teachers and students.

The advantage of detailed discourse analysis is its scope for yielding in-depth understanding, rather than generalisation. This is very important as outcomes of such analysis are used for the modelling of design patterns.

The complex research design described in this chapter enables the study to make critical decisions on each crucial step in the research process, including the interviews, the discourse analysis, the development of illustrative design patterns and the pattern review processes.
Part 2

Empirical research
Chapter 4

4 Tutors’ perspectives of networked learning

4.1 Interview transcript analysis

Background

As mentioned in Chapter 3, five academic teachers were interviewed during the empirical research phase of this study. Three were from the Australian Wines (AW) program and two from the Advanced Learning Technology (ALT) program. These were all experienced teachers and the interviews aimed to capture their experience, knowledge and pedagogical approaches. The key focus and methods of the interviews are briefly recounted here.

Focus of study

The interviews were designed to elicit the teacher’s perspectives on essential issues related to networked learning and teaching as well as their experience and involvement in the field. The interview questions also invited teachers to explain the elements which they believed contributed to the success of their programs, such as student profiles, learning environments and available resources. The following questions encapsulate the key areas of investigation.

1. What was the teachers’ experience of and involvement in online teaching?
2. What elements contributed to the success of the online program? For example, these could include the careful recruitment of students, the suitability of the course to the students' expectations and needs and the design of the program, the learning tasks and assessments.
3. What problems did the online format of the program raise? These might have related to learning resources, assessment criteria, student and staff attitudes and lack of skills in certain areas.
4. What were the best ways to help new teachers develop necessary knowledge and skills?
Methods of research

The interviews aimed to distil the characteristics of teaching practice that achieved successful online learning in terms of the criteria advanced by Goodyear (2004, p. 340) quoted above. Such practices included the provision of good learning tasks based on well-targeted design effort, supported by 'good access to robust and appropriate technology' and a convivial learning environment.

The questionnaires administered to teachers focused on key areas of interest relevant to this study, such as their experience, their perception and practice in program design and the way they managed student/tutor relationships. The questions allow interviewees with flexibility to talk about these topics and to add anything else which they thought might be of value to the research. They were encouraged to express their points of view and explain their understandings of, and approaches to, networked learning design and course development. The key elements being sought included their approaches to task design and the effective use of the online discussion board as a method of enhancing learning through discussion.

All interviews were conducted in informal settings in the participants’ offices, except for one which had to be conducted by telephone because the interviewee was in Lancaster University in England and thus a face-to-face interview was impossible. The duration of each interview was between one hour and one-and-a-half-hours and was recorded with a digital voice recorder.
Profile of interview participants (pseudonyms are used)

<table>
<thead>
<tr>
<th>*Participants</th>
<th>Teaching program</th>
<th>Position at the time of interview</th>
<th>Online experience</th>
<th>Average of teaching time spent online</th>
</tr>
</thead>
<tbody>
<tr>
<td>David</td>
<td>ALT</td>
<td>Academic</td>
<td>Seven years with extensive experience in online teaching and research.</td>
<td>About 25%</td>
</tr>
<tr>
<td>John</td>
<td>ALT</td>
<td>Academic</td>
<td>15 years with extensive experience in online program design and research.</td>
<td>50% online</td>
</tr>
<tr>
<td>Sara</td>
<td>Australian Wines (AW)</td>
<td>Educational Program Adviser</td>
<td>Three years as a member of the education advisory and design committee</td>
<td>Not directly related to teaching</td>
</tr>
<tr>
<td>Sam</td>
<td>AW</td>
<td>Academic</td>
<td>Three years with extensive experience in face-to-face group discussion.</td>
<td>Approximately 40%</td>
</tr>
<tr>
<td>James</td>
<td>AW</td>
<td>Academic</td>
<td>17 years with extensive experience in online teaching, program and material development.</td>
<td>4-5 hrs a week</td>
</tr>
</tbody>
</table>

Table 4.1 Profile of interview participants

*Names here do not necessarily denote gender for anonymity reason.

To provide a context in which the tutors work, Table 4.2 presents a summary of comparisons between the two programs.
<table>
<thead>
<tr>
<th></th>
<th>ALT</th>
<th>AW</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of students</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Length of program have been running</td>
<td>Since 1989</td>
<td>New program established in 2007</td>
</tr>
<tr>
<td>Student recruitment</td>
<td>• Designed to cater for students who live at a distance from the university and for whom travelling to the campus could be difficult  &lt;br&gt; • National audience, from all over the country  &lt;br&gt; • Residential sessions not compulsory for overseas students</td>
<td>• Groups of people interested in wines who want intellectually to engage with different aspects of the industry, such as winemaking, wine consuming and wine tasting.  &lt;br&gt; • A diversity of successful professionals who have the means to pay full fees.  &lt;br&gt; • Busy people out in the workplace who have no time to study face-to-face.</td>
</tr>
<tr>
<td>Student profiles</td>
<td>• Specialists in IT &amp; education, ranging from development, learning technologists, instructional designers, academics, teachers from technology industries, the corporate sector, small e-learning companies, public sector organisations, higher education and high schools.  &lt;br&gt; • Job responsibilities involve developing e-Learning resources, course material for training purposes and support of staff.</td>
<td>A diversity of students who are successful professionals drawn from an eclectic mix of backgrounds, including lawyers, judges, physicians, accountants, financial consultants, academics, researchers, wine makers, the hospitality industry, tele managers, restaurant owners and marketing.</td>
</tr>
<tr>
<td>Learning needs</td>
<td>• Students with significant &quot;hands-on&quot; experience but with a need to gain formal qualifications.  Other students feel a need to develop skills or have an opportunity to improve their job performance and gain a better understanding of advances in ideas and research. The courses were therefore conceptualised as a bridge between the world of practice and the world of academic research.</td>
<td>People who work in industries associated with wines and people who want in pursuit of a career change, are wanting work related to the wine industry or investments</td>
</tr>
</tbody>
</table>

Table 4.2 Comparison of the ALT and AW programs
When interviewees described the profiles of their students with regard to background, education and professional experience, there was universal agreement that selecting students with suitable profiles was crucial to the success of the courses. One of the ALT tutors pointed out that the development of dynamic teams during their courses was due in part to the students being mature professionals, working in both large and small business, educational institutions, private consultancy firms and software consultancies and training sectors in higher education.
4.2 Capturing experienced tutors’ knowledge and good practices

This section presents some key issues and factors identified by the interviewees as contributing to successful online teaching practice. Table 4.3 presents some highlights of design practice and principles which were generated from the detailed analysis of transcript from the tutors’ interviews. These are then illustrated with more detailed transcript samples.

**Highlights of design practice and principles generated from tutors’ interviews**

<table>
<thead>
<tr>
<th>Elements/practice/principles</th>
<th>Description and essential criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>A strong program development team</td>
<td>Besides teaching staff, program development teams ideally consisted of a project officer or co-ordinator, technical and administrative support staff and a program developer. Although developing a spirit of teamwork was important, it was equally essential clearly to delineate the roles of individual staff members.</td>
</tr>
<tr>
<td>Strong commitment and motivation from staff</td>
<td>Staff were committed and highly motivated and willing to invest large amounts of time and energy in their teaching.</td>
</tr>
<tr>
<td>Collaboration/team work</td>
<td>New online and experienced teachers worked together so as develop trust and teamwork. New teachers were willing to learn from experienced teachers and to try out new ideas. They were not afraid of exposing their work to review.</td>
</tr>
<tr>
<td>The target audience</td>
<td>Careful recruitment of students enhanced the success of these online programs. Factors in the selection of students included geographic distance and their performance in specialised courses. In addition, to enhance the quality and richness of the courses, attempts were made to ensure that students were recruited from a diversity of professions and job responsibilities, and also from people with a variety of interests and background knowledge/pre-knowledge.</td>
</tr>
<tr>
<td>Student collaboration</td>
<td>Students helped each other with individual problems. While the students worked well together they also developed strong social bonds during the course and these in turn greatly enhanced group dynamics and the quality of discussions.</td>
</tr>
<tr>
<td>The learning environment</td>
<td>In the design process it was necessary to consider issues such as access to library resources, access to computers and the internet, and also to technical support and learning space.</td>
</tr>
<tr>
<td>Residential school</td>
<td>Residential schools formed an indispensable component of online programs, providing an opportunity not only for students to get to know each other but also for lecturers to explain in the classroom situation, the different pedagogical</td>
</tr>
</tbody>
</table>
approaches to online and face-to-face learning, so that students had a better understanding of what to expect from the program.

Residential schools were also designed to enable students to familiarise themselves with the online environment and how to use the resources, the expectations of teaching staff and how to access them. In addition, residential school activities were designed to encourage students to develop initial trust and friendship among themselves.

| Resource development | There needs to be a balance of printed and digital texts, although copyright issues relating especially to digital texts and Internet resources, should be carefully checked. It could be expensive to pay for digital licence fee. Also all digital resources and material put on the Internet needed to be accurate and regularly updated since online resources were very much open to public scrutiny.

Resources needed to be relevant and meet the needs and interests of students. When adapting existing resources, teachers needed to have a good understanding of online pedagogical approaches. |
| Task design | Good task design could make a difference to students’ engagement since they most valued material that was relevant and of benefit in the development of skills and understandings of how to work better and to broaden their ideas. |
| Assessments | A variety of assessments was needed, with a balance of content such as quizzes, online knowledge tests (to give slower students more opportunities for multiple attempts) essays and group projects. It was good idea to allocate a percentage of marks for online discussion participation in order to provide some incentives for contributions. Also, assignments may include some flexibility but it is important to set strict guidelines/requirements to maintain standard of educational quality. |
| Program information | At the outset there needed to be a clear overview of the program, its objectives, outcomes and assessment criteria so students know exactly what they are required to do and also to assist them to plan their study schedules. Program notes need to contain information about copyright and plagiarism policies. |
| New teacher support | Ideally, new teachers should not be expected to teach a course on their own. Teamwork was needed to offer opportunities for new teachers to learn from more experienced colleagues. "Apprenticeship" for new teachers could be organised by showing examples of teaching models. Ideally, new teachers should have requisite technical training so as to calm any trepidation they might feel about their responsibilities. |
| Potential problems | Initially these could include technical problems, keeping internet material up to date, finding the right balance in the amount of time spent on teaching and on feedback and guidance for group discussion. Another initial problem was the reluctance of students and staff to participate in online discussions, and the tendency of some students to post mini-essays rather than short contributions to bulletin boards. |

Table 4.3 Principles and practices in networked learning
Table 4.3 offers useful background data gathered from the interviews. As will be seen, these examples are put forward in categories according to the sequence of questions presented to the interview participants. In order to give a better sense of the participant’s direct response to the questions, excerpts from the interviews are presented below. Pseudonyms are used throughout because it was important to give each participant a name in order to demonstrate how the same question sometimes elicited very different answers. The pseudonyms moreover, help to show the consistency of each participant’s point of view throughout the interview.

**Summaries of key points presented by interview participants**

1. **Average time spent on online teaching**

   All participants found it difficult accurately to calculate the average amount of time they spend on online teaching. This was because the time demands of online teaching were fluid and tended to vary depending on the week of the course. This is illustrated in the following excerpts:

   **David:** It is difficult to estimate the exact amount of time as there is no clear division of time as in face-to-face teaching. In online teaching I access the material and discussion board at various times. I have taught four modules online in the ALT program ... plus marking, researching and managerial work. The online component tends to vary from time to time, but on an average it is roughly 20-25%.

   **Sam:** It is difficult to say, but far more hours were spent online than the workload allocated. Because conscientious students post many comments and writings to bulletin boards, I spend a lot of time typing responses and answering e-mails or requests. This interaction takes much more time than a face-to-face course and amounts to about at least 40% of my working time.

2. **Factors and suitability of running an online program**

   When participants were asked what factors made for the successful online delivery of courses, they specified the following:
1. That students, some of whom were moving from full time face-to-face teaching situations to an online mode, were initially given an opportunity to undergo a 'hands-on' experience of online learning. In the words of one of the interviewees: 'We argue that we need to provide students with direct experience of online learning if they are to learn about online learning!'

2. That there were means of recruiting students nationally because regional or local populations of interested people were generally too small to justify the running of the courses in smaller areas.

3. That students were provided with the training and means for online interaction with each other to counteract the effect of their being widely separated geographically. Such interaction proved to add value and educational quality to the courses.

4. That sponsoring institutions provided online programs with adequate managerial support and also financial support for advertising and promotional activities.

3. **The roles of program team members and the importance of support staff**

*John:* We had a course director (myself), an administrative staffer, one part time technical support expert and eight academic staff. A team of two teachers taught per module and all academics were involved in teaching and course design.

*Sam:* The role of the lecturer was to keep an eye on the course in relation to material modification and to help students with the contents.

*Sara:* The co-ordinator provided lots of ongoing support and encouragement for staff and students. He also helped students solve problems, including technical problems, as he was so good at it.

The job of the project officer/course co-ordinator was to hold things together as the preparation of a new online course is very time consuming. He also helped students with some of the problems which tutors were unable to deal with, such as managing their computer systems, breakdowns of servers and access to library resources.
James: It was our co-ordinator's job to motivate staff and make sure that work was carried out to a high standard. He was able to help one of the staff members who was lacking in motivation and commitment to online teaching. We also had a curriculum support officer from the Education Development Centre to help us development the syllabus. She spent lot of time helping one staff member to design more structured online material, as that person had no structure in his approach to teaching.

Sam: We had a graphic designer to design the graphics for the website and other components.

4. Key elements that have contributed to the success of an online program

Being highly motivated themselves and willing to put a great deal of time and energy into the course, the interviewees stressed that hard work and high level of commitment from staff was indispensable.

All interviewees agreed that collaborative learning and teaching by team members was important; working together enabled new and experienced online teachers to develop trust and created openness to suggestions for improvements. New teachers were generally willing to learn from experienced teachers and to try new ideas and were also not afraid of exposing their work to review. On the other hand, everyone was clear about their role in the team and did not try to impose their ideas on others.

David: The program developed an organic culture. It is an advantage that a course has been running for a long period of time. That the program provided various entry points for students to join the course meant that existing students could induct newcomers to help them join in the activities and learn what the expectations were.

John: Good task design makes a difference to students’ engagement as they feel they are constructing worthwhile tasks that will benefit them in terms of developing skills and understanding how to work better.
Sara: Our program, including contents and material, is well developed and designed. We used a simple table as the format for developing modules for contents, objectives, assessments and resources. The program had a clear overview which provided students with knowledge of the learning progress and helped them have a clear idea of what they were doing so they could plan their study.

John. However, in recent years, when the number of new students has been low it has been difficult to maintain the dynamic nature of the organic culture as there can be an imbalance between old and new students that breaks the pattern down. When the overall number of students is small the online space can be quite empty and students may engage in more private or one-to-one communication which leads to an overall lack of online communication. Having enough students can be a pre-condition for creating a rhythm of online communication.

5. The importance of residential sessions
The residential face-to-face component of the courses was seen by the interviewees to be invaluable, providing good opportunities for explaining particular aspects of pedagogy and helping get the students together as a dynamic group. While it was not felt necessary for students to attend all residential schools, for motivational purposes attending at least one residential was important. In each module the effect of residential school attendance was visible in the activity of online participants following the face-to-face interaction.

6. Student recruitment and contribution to courses
One recurrent and noteworthy feature of the interviews was the way in which participants mentioned their students’ profiles. They clearly believed that the group dynamics which developed during a course was strongly influenced by the students' motivation, background knowledge and experience of collaboration. To be able to participate actively in the course, students also need good communication skills
Sara: The motivation of students was also very important. In our course, most students have a long interest in wines. They love wines and like to talk about wines.

Sam: The student group was made up of successful and professional people with different job backgrounds, including a lawyer, a judge, a doctor, an accountant, a financial consultant, an academic, researcher, a wine-maker, a hotel manager, a restaurant owner and a marketing executive.

Students were able to use their professional knowledge and pre-knowledge about wines to contribute to the discussion. For example, a student with a legal background was able to comment on legal aspects of alcohol issues. The hospitality industry people were able to comment on demand for wines of a particular type in Australia and overseas while the wine maker supplied useful information on technical issues in wine-making techniques. The knowledge these and other students contributed to the course made it more interesting, relevant and in depth.

(Sam’s discussion here strongly supports Laurillard’s (2001) argument that the pre-knowledge a student brings to the course may affect how they deal with the new knowledge being taught.)

Materials were kept up-to-date and contents were modified along the way during the course. That meant that the course contents met the needs and interests of the students.

Another important "success factor" was that students were very helpful in assisting one another with individual problems, such as with Internet access or simple, basic technical skills (e.g., how to add a link in the message, how to find a particular resources from a given URL or retrieve digital data). They also helped one another with academic writing issues, for example how best to present an assignment, the differences between writing an academic essay and an informal online discussion, the most suitable length for a discussion and so on.
While the students worked well together, they also established good social bonds during the three-month course. Those in the AW course for instance organised a very successful and enjoyable social occasion at its conclusion which most attended. Although the lecturers were unable to go, claiming that at $180 per head it was too expensive, some students travelled long distances to attend the dinner and reported they all had a wonderful time, and particularly enjoyed the good quality wines. These are not trivial points; the success of this occasion indicates the development of a very positive group dynamic among the students during the course.

7. **Issues and problems related to online teaching and learning**

Both Sara and James reported on technical problems at the beginning of the course. Other problems are specified in the excerpts from interviews below:

**Sara:** New teachers very often have poor conceptual understandings of online teaching. This applied to one staff member in particular, whose development of course objectives and assessment of online projects was so bad that his teaching contents and assessments never matched each other. In the initial stages students requested a great deal of lecturer feedback and guidance which took too much of the teacher’s time. Thus the teachers set guidelines about how often they would respond to students’ questions and also set down how much time they could give to individual students.

**Sam:** An initial problem was student’s reluctance to contribute quality messages to the bulletin board. And when they did post messages, these very often had a lack of good content. Only 5-6 (28%) of the students put in contributions with real substance. We need research into how online learning can be used to build confidence so that students know how to write good online contributions.

**James:** Internet resources update to fix broken links. Initially students had problems going about online discussions as they seemed to feel obliged to write mini-essays rather than allowing a conversation to
develop. Some students were also discouraged by the unwillingness of some staff (not including Sam) to be involved in online discussions.

8. The quality of learning resources

The quality of learning resources is considered as an important issue in online program. The term quality here can be summarised as interesting, relevant, and engaging with multimedia elements and real life examples if possible. The combination of printed and digital texts is also an effective way of cutting down cost as the conversion of printed texts to digital requires attention to complex copyright issues and intensive labour cost in adapting printing texts to digital mode. Also, digital resources have to be updated regularly to reflect changes. Digital resources are available to a wider audience which is also subjected to the scrutinies by the public. So quality is a key consideration. These issues are discussed in detailed by the participants.

David: In terms of resources, we need to integrate written texts and digital forms. Digital resources raise the issues of copyright and cost. The transition from using printed texts to digital text is complicated as it involves licensing and potentially more cost. The UK has an agreement that covers printed material so that the cost of sending hard copy is only the cost of printing it. At times it is cheaper and administratively easier to use printed as opposed to online digitised text. Also it is still the case that some students prefer using printed texts.

For the ALT course, there is a combination of Lancaster University in-house printed material and online material either digitised for the program or available through the library. There are also external printed texts, including complete books, on some modules.

Sara: Online resources have to be interesting and engaging enough to excite and engage the readers. They need to look attractive with photos, colour plates, quotes of famous people and feature funny stories.
Students need to be provided with clear descriptions of how assignments are to be assessed and also good guidelines and clear objectives.

_Sam_: As far as the quality of online material is concerned, the contents need to contain current and up-to-date information which is open to public scrutiny and criticism.

Materials need to meet students’ needs and interests and be relevant within the general guidelines of the course contents and curriculum. We have some videos of interviews with wine makers at a Hunter Valley Winery, which enabled students to watch real wine makers talk about the issues we discussed in the forum. They thought it was absolutely fantastic. The quality of relevance was great.

_James_: Quizzes are a good way of getting students to practise as they allow multiple attempts to get the answers right, especially undergraduate students. Slower students have lots of time and opportunity to get the answers right and score good marks. Online assessments provide self-evaluation, assessment and feedback and save the lecturers time.

9. Issues related to assessments

Assessment is considered as one way of measuring learning outcomes. However, to some participants, it is also an effective way of helping students learn. Flexibility of assessment that reflects on students’ needs and interests is also important and a variety of assessment methods should be explored. One of the participants has made use of the online quiz function and finds it a very useful way of helping students learn new concepts and terminology. It is particularly useful for students with a slower learning pace as they can learn with repetition in their own pace in a private domain, such at home with their own computer.

_James_: Different knowledge tests use different assessments. Some online assessments are more suitable than others. For example, for science subjects in which it is necessary to remember terminology (e.g., botanical terms) knowledge tests and quizzes are good.
David: Personal negotiation with the tutor was possible to work out relevant assessment topics related to workplace responsibilities in order to improve job tasks or create connections between theory and practice.

Sara: Online tasks need to be explicit and clearly indicate how they are to be assessed. They should be carefully worded and have good guidelines and clear objectives. In an online program we don’t have the opportunity for checking and correcting as in face-to-face teaching.

James: A good balance of assessment tasks will include online quizzes, knowledge tests and online discussion contribution from students. Some students really need motivation and encouragement and many opportunities to practise.

We allocate 10% of marks for online discussion contributions. We need to keep the balance of student online time and make students feel they are part of the group. As far as discussion forums are concerned, encourage students to write short postings (100 – 200 words), not mini-essays.

The postings can add to the quality of discussion. For example, when a solicitor contributed his professional knowledge in explaining issues related to the Trade Practices Act, various other legal determinations and the consequences of the plethora of international agreements, this was of benefit to the whole class and therefore scored good marks. Tutors need to set criteria to assess the depth of contribution which makes the effort contributing the postings worthwhile.

Lecturers need to give guidance and set mutual expectation levels (lecturer’s expectations of students and vice versa), at the same time allowing flexibility and not being too restrictive.

10. Developing and maintaining positive relationships with students via the online mode

In general, all participants enjoy the positive relationship they have established with the students through the online mode. This includes the use of online discussion forum and electronic communication through email list and private emails to individual students.
**James:** Use a student-centred approach. Allow time delays to encourage particularly those students who are a bit shy and slow to contribute to the discussion. Also, build on students' knowledge as if they were mature and experienced and able to bring perspectives we don’t have in order to encourage them to contribute they knowledge and expertise.

**David:** In general, as the program progresses over time and the students make more personal progress, the tutors get to know the students better. We need to get to know where they "are at", their strengths, weakness and needs. Sometimes through the final assessment in a module, you get to know the students well enough to be able to signal aspects of the students’ performance to the next new tutor.

Social engagement with students is equally important. The difficulty may be that academic staff usually do not have enough time to do this. It would be of great benefit to the program to have a member of staff able to look into the aspect of social engagement with students as a whole and create links between different modules or programs.

**John:** Personally, I don’t feel that it is harder to maintain and develop a positive relationship with online students than it is in a face-to-face situation. Online I have more extended outside-class time in which to get to know the students better both socially or academically.

**Sam:** Create a common language with the students in your postings. I want students to feel that they can freely talk about things if they have a problem. I always encourage students to say what they think and make them feel I am approachable. I try to create a pattern of interaction with them.

**James:** A lot of principles of good face-to-face teaching ... apply to online teaching. For example, a teacher needs to get to know the students, to learn about their background knowledge and expectations of the teachers (e.g., when they can access time online and how much time and input they would want from the teachers).
But I always encourage students to learn from each other and not just to rely on
the teachers.

**Sara:** Do not set yourself up as the fountain of information. Instead, let students
develop links with each other. Otherwise if they rely on teachers to do
everything, online delivery will be boring and lack variety and richness.

Another issue is forms of social engagement. For example, how I present myself
online will depend on the program.

**Sam:** Giving students feedback in the early stages is important so as to set the
standard and requirements that all students need to meet in their work. This is
particularly important for those students who had not been in a university
environment for more than 15 years.

You need to be firm about things such as word limits for essay submissions and
assignment deadlines. The students should meet the postgraduate requirements
of the university. Their assignments should also meet the required academic
standards.

11. **Advice about new teachers who have not previously taught an online program**

All participants are in agreement that a new teacher should not be put into a
situation that he/she has to teach a new program on their own. However, if this
is the case, peer support and mentoring is very important. In the following,
participants have suggested some very useful ways of providing ongoing
support to new teachers.

**David:** New online tutors need to have some notion and understanding of what
it is like being an online learner. The best way to do that is to themselves
experience being online as a learner. If they don’t have that experience it is
beneficial for them to gain some direct experience of online learning, such as
taking an online course or workshop or something of that nature.

Time management skills and the developing the ability to manage their own
time are also important. Some tutors construct for themselves artificial time
periods, like one hour a day to logon to the discussion board and this can help
regulate the time commitment. Some lecturers either engage in too much
interaction online or spend too little time. If you don’t engage in enough time
online you are not aware of what is going on but if you engage in too much time
online, then students can tend to become dependent on you and this may create
an atmosphere in which the lecturer exercises too much power and influence.

**Sam:** It is important that new online teachers know how to develop material
that is absolutely accurate and thorough. It’s a good idea to check what you
have already got for accuracy and currency.

New teachers also need to know how to access and make good use of library
resources, and also how to set up access to resources because as soon as you
put materials online and tell students they are available, they will check them
out.

New teachers also need to have the necessary technical skills which can be
obtained through University in-house training workshops. Mastery of the
technical skills could remove a lot of fear.

**David:** Ideally, new staff should not be expected to teach an online program
without support. They should at least experience online learning before
teaching in that environment.

New staff should familiarise themselves with online learning environments and
issues and be clear about pedagogical issues, such as the implicit and explicit
approach to tutoring and what it means to teach online. Lots of common sense
that applies to face-to-face teaching is also relevant to online teaching and
learning.

**John:** New teachers need to learn ...through an "apprenticeship" by working
alongside experienced teachers and by observing and looking at the current
modules. Experienced teachers can support new teachers through example,
passing on to them principles and suggestions, by sharing literature or through
team teaching.

**James:** About 'apprenticeship' – introduce new teachers to enthusiastic and
experienced staff who want to help new people set up online programs. Show
them different materials and aspects of online programs, such as different
topics, the sequence of subjects and examples of what is required.
12. Differences between undergraduate and postgraduate programs

While a comparison of undergraduate and postgraduate programs is not the main focus of the research, interestingly James often brought this element into his interview because his key research is on face-to-face group work among undergraduate students. He made some useful points which can relevantly be included here.

**James**: Undergraduate students need face-to-face small group and project work or discussions to build up their self-esteem and become confident enough to grow. Undergraduate students need more incentive to learn and to read. It is very difficult for undergraduate students to get involved in online discussions as they lack life experience and are not used to expressing opinions. They need to base their knowledge on reading, by working through issues and simply by experiencing life.

**David**: We assume that postgraduate students will be more independent and self-reliant and their progress will increase their level of independence. For these students I adopt a more passive and responsive role. While understanding your students is important in the postgraduate ALT program academic engagement is more important than social bonding. However, I tend to spend more time with undergraduate students in order to know their capacities. I send short social messages to undergraduates which indicate that I am ready to support them online. I also e-mail more to individual students.

**Sara**: In the Australian Wines program, postgraduate students are more mature and confident. They have been very successful in another part of their life.

**Conclusion: Making the best use of findings from the interview data**

The interviews provided invaluable data of teaching practice and principles shared by experienced tutors. The perspectives and identification of factors which contribute to the success of online learning generated from the interview data will be used to provide guidelines and points of reference for coding program design patterns in Chapter 7.
Figure 4.1 illustrates how such data sources have been used in this study for the modelling of program design patterns for networked learning.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews with experienced staff</td>
<td>Deduction of teaching practice and principles from interview data</td>
<td>These practices and principles are used to model program design patterns in Chapter 7. Design patterns in turn provide general guidelines and instructions which address problems related to networked learning.</td>
</tr>
</tbody>
</table>

Figure 4.1 The use of interview data source for design patterns

The significant difference between this study and other research in this field lies in the use of interview data. This data is used as resources for the modelling of design patterns to provide teacher support materials. By doing so, it creates a pedagogical link between practice and pattern design.
Chapter 5

5 Detailed discourse analysis of online tasks

5.1 Overview of the tasks selected for analysis

This first set of text analysis has been applied primarily to texts written by teachers. These were selected from one of the components of the ALT program, focusing on the first four weeks of the course. According to the literature, this is a crucial period in online learning when efforts to create a group dynamic need to be initiated through the establishment of social relationships between teachers and students and also between the students themselves (Goodyear, 2000). Salmon and Giles’ model postulates that the development of dynamic interaction in online learning (2000) requires setting tasks which encourage a collaborative and co-operative group spirit leading to the development of a learning community through group work and discussions which promote self-confidence and respect for different points of view. Moreover, according to Swales (1990), it is important to "apprentice" students into the genres of academic discourse by introducing them to research articles and journal publications in the field.

In the light of these theoretical formulations, it is significant that during the first four weeks of the ALT program, students were required to: 1) introduce themselves in writing to the other students; 2) post a definition of their concept of learning and the ways in which they could determine whether the learning-process had been successful; 3) describe one of their current projects or tasks which involved helping others to learn; and 4) read a set of research papers and journal articles in the field of networked learning design.

The importance of early week task design

In Chapter 4, factors put forward by teachers for the success of the ALT program were discussed. Here it is useful to reflect on these factors to provide the context of the
design of the tasks for the first online assignment. For example, one of the lecturers interviewed said:

...I think there were two critical success factors, one of those being that we realised the importance of designing good tasks. What really made the difference to students’ engagement with what we were doing was the construction of tasks they felt were worthwhile and beneficial in terms of development of their practical skills, their understandings of how to improve their work and also in terms of broadening their ideas. Task design is therefore very important.

The other critical success factor was building up of a culture within our course environment which helped new students to integrate quickly into the program. The tasks in the early weeks typically would be of kinds that would work for new students as well as existing ones, asking them to think about some key ideas and areas covered by the course and then tell us how they interpreted those ideas in the context of their own work. So, for example, in the course I taught about theories of learning, we would ask them to talk about the ways in which learning is understood in their organisation and the way they and their colleagues set about determining whether somebody had learned something. So the early task would have the aim of inducting all students into a new domain of thinking and discussion. Now, having said that we would be providing an induction pack for new students, we provided them with an opportunity to look at existing online discussions, to get to know people who were already participating in the course and to create social spaces, like a café environment, in which they could talk to each other in private (Lecturer: John).

From the excerpt above, it can be seen that learning tasks set during the early weeks of an online course address two key issues. They first tasks were designed to help students develop their practical skills and broaden their ideas and knowledge in the field. The second set of tasks were focused on what might be called the "cultural aspect" of the course, in which the aim was to develop a group dynamic, by for example, providing new students with examples of the previous postings of older students to the bulletin board to help them integrate into the existing organic and collaborative culture among
older students. This is very important, since new students can learn through modelling and also about what is expected of them and so begin to be part of the group dynamic.

In the first task set for the ALT course, the lecturer gave some guidelines on how to find the discussion site. He then advised students on how to construct their texts independently and post them to the discussion board. However, he warned students against launching into premature discussions of the ideas of other students before most or even all had made postings. The ALT interviewee stressed that it was essential to include this kind of information in the first task and that it was a mistake to assume that students would or should know about it or that it was merely common sense.

**The structure of Assignment One**

There were two main components in the first phase of the ALT program. The first set out the overall aims of the course while the second component consisted of written assignments and readings. There were clear and concise statements as to what was expected in these assignments, the aim of which was to help strike a balance between individual flexibility and group coherence; thus students were asked not only to write individual submissions, but to post these to the discussion site where other students could read and react in writing to them. Another aim was to help students balance their experience, expertise and interests against their conceptions of what is worth knowing in their field of work. This was through requiring the students to read papers and articles, and to react to some of them on the discussion site.

**The four tasks of Assignment One**

**Task 1**  
Students were required to post the following to the discussion site:  
Task 1.1  Their definition of learning  
Task 1.2  Their ideas on how learning takes place  
Task 1.3  A description of their work areas  
Task 1.4  A description of a recent specific task related to helping others to learn. New students were encouraged to post a short profile of themselves on the café space and also a photo on the web-page.
**Task 2** Students were required to read two articles and make notes with respect to their implications about learning. They were asked optionally to add an entry if the readings had changed the concept of learning they had given in Task 1.1.

**Task 3** Students were required to read another three articles, take notes and make connections to own work practices. They then had to post a message (200 words maximum) discussing what they saw as the central elements of these articles and their application and implications. They were further required to post a second message (100 words maximum) discussing what might be missing in the approaches suggested in the articles.

**Task 4** Here they were required to read and make notes on six articles, although no postings about these were required.

The above brief overview of the components of the Assignment One tasks shows that these were clearly structured and logically sequenced. The amount of text required for each of the written components was reasonably short, except for Task 1 for which they had to write 350 words in eight short paragraphs. Approximately 150 words in 3-4 short paragraphs were required in the texts of Tasks 2, 3, and 4. Postings written by students to raise discussion points were also limited to 200 words for the first posting and 100 words for the second.

Apart from being of similar length, the last three tasks were also similar in substance. For each, students were required to read several academic articles followed by various activities, such as taking notes with a particular focus, summarising and contrasting different authors’ ideas and implications to the topics discussed earlier in Task 1.

The theoretical literature advises that in this phase of the course, instructions on how online tasks and postings are to be written should be precise, clear and easy to understand and also that the word length should be appropriate to the weight of the
task. That all of these stipulations were incorporated in this first phase of the ALT course, is evident in the fact that there was a very smooth and positive start to the forum postings and discussions, as will be demonstrated later in the analysis of postings in Chapter 6.

5.2 An SFL framework of register, genres and task design

The theory of SFL was discussed in detail in the literature review in Chapter 2. However, in this section, the detailed discourse analysis of the texts of the selected ALT tasks, makes it necessary sometimes to recap on some key concepts which underpin the analysis.

Language functions

According to SFL theory, social functions and purposes are realised by language choices. In what follows, a detailed discourse analysis informed by SFL and genre theory indicates how the learning tasks were designed to communicate effectively with students. The following analysis examines the task context, goals, textual structure and the deployment of key linguistic features, such as sentence patterns and grammatical items. This in-depth analysis aims to help the understanding of how tutors can effectively communicate with students through texts in task design.

Register, genres and task design

In SFL, register signifies the relationship between language and social context. If two texts share the same context of situation, they will share the same register. For instance, if consultations in the surgeries of two doctors were to be transcribed, the texts are likely to be very similar since they involve the same participants, the doctor and the patient, and to produce the same patterns of interaction (Hasan 1999; Thompson, 1999). Typically after initial greetings and in response to the question: "And what seems to be the problem?", the patient will describe and discuss their symptoms, the doctor will make a diagnosis before writing a prescription or referral letter, and then give advice on medications or issues related to follow ups. Finally the patient thanks the doctor and
says goodbye. While there will be variations in the content of the interaction or staging, within the same social context the broad patterns of interaction will be predictable.

However, the social context in a doctor’s surgery is quite different from the context at a fast food restaurant, such as a McDonald’s outlet, which forms a typical example of a simple goods and services genre (Hasan 1999; Thompson, 1999). Here the interpersonal contact is less personal and intimate and the staging of the activity is less complex and thus the text is likely to have fewer variations than that in a surgery. Genre is the realisation of register. It is concerned with patterns of meaning and social staging in achieving goals to get things done (Martin & Rose, 2003). These recognisable patterns of meaning and social staging in turn reflect on the schematic structure and language features deployed in the construction of different types of texts.

In terms of the concept of register, it should be noted that apart from the occasional residential sessions, the ALT program was delivered entirely in an online mode, all communication being in the form of written texts. This characteristic of online programs makes the clarity and efficiency of the different text types being used and produced by both teachers and students extremely important. Analysis of the tasks (represented in written texts) produced by course designers and teachers sheds light on how such texts were constructed within the framework of genres.

**Genre: Division of text according to social goals of the task**

(See appendix 3 for the full text of Assignment One)

It is possible to perceive in Assignment One, three distinct components, each of which appears to have a specific goal of educational process. In order to be consistent with the term "text types", we refer to these as three texts as three separate documents: Part 1 is referred to as Text 1, Part 2 as Text 2 and Part 3 as Text 3. That division is based not on the sequence of page numbers, but rather on the goals (or educational process) set for each section. The different learning process in turn results in their distinctive schematic structure and language features in each of these texts (documents). Thus, Text 1 addresses the overall aims of the assignment; Text 2 (relates to Task 1) and Text 3 includes Tasks 2, 3 and 4 (see Table 5.1 for such division).
There are two ways of analysing these distinctive texts. One is to treat the three texts as a whole and apply Martin’s macro genre approach (1994) while the second treats each of the texts as a different genre (Martin, 1999, 2000, 2001). The first approach examines the text as one genre with one main social instance as the nucleus, with "satellite" variations in its theme development and with variations of schematic structure within each satellite as illustrated in Figure 5.1: *Macro genre of ALT tasks*. The second approach examines each text as a separate social instance with its own independent schematic structure. This is discussed later under the subheading: *Genres of online tasks*.

Both approaches are used to illustrate the different methods of analysis. The benefit of using both is that they show different aspects of how the whole task has been organised. The macro genre approach unpacks the thematic structure of the entire text while the genre approach, by analysing the schematic structure of individual texts, contributes to the delineation of text types.

**Macro genre of the first online assignment**

![Macro genre of the first online assignment](image)

Figure 5.1 Macro genre of ALT tasks
The thematic development of the macro genre of the tasks set in Assignment 1 is presented in more detail in the linear structure presented in Table 5.1 below:

<table>
<thead>
<tr>
<th>Nucleus (Title): Tasks for Phase One</th>
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</thead>
<tbody>
<tr>
<td><strong>Text 1</strong></td>
</tr>
<tr>
<td>Summary of what the tasks aim to achieve</td>
</tr>
<tr>
<td><strong>Text 2</strong></td>
</tr>
<tr>
<td>Task 1: To be completed by 19th May</td>
</tr>
<tr>
<td>Task 1.1. Add an entry to define learning</td>
</tr>
<tr>
<td>Task 1.2. Describe ways of determining how learning takes place (limit &gt;200 words)</td>
</tr>
<tr>
<td>Task 1.3. Describe the kinds of work that students do or the kind of work students would like to do (limit less than 200 words)</td>
</tr>
<tr>
<td>Task 1.4. Describe a recent project related to helping other people to learn (limit less than 200 words)</td>
</tr>
<tr>
<td><strong>Text 3</strong></td>
</tr>
<tr>
<td>Task 2: To be completed by 26th May</td>
</tr>
<tr>
<td>Read the three texts related to the concepts of learning, take notes and contrast ideas and concepts</td>
</tr>
<tr>
<td>Task 3: To be completed by 2nd June</td>
</tr>
<tr>
<td>Requirements similar to those of Task 2</td>
</tr>
<tr>
<td>Task 4: To be completed by 8th June</td>
</tr>
<tr>
<td>Requirements similar to those of Task 2</td>
</tr>
</tbody>
</table>

Table 5.1 Thematic development of the first online assignment

As indicated in Table 5.1, the thematic development (sequence of the tasks) is chronological. This is because tasks are designed and organised for learning activities in line with the learning stage of the program. However, the sequence of the four smaller tasks in Text 1 is based on the functionality and purpose of the tasks. Interestingly, in Text 3, Tasks 2, 3 and 4 are organised in two distinctive ways - first, in the sequence of dates and second, in the order of the complexity and density, the aim here being to test students’ familiarity with the concepts of the articles as explained in these tasks. This ordering is summarised in Table 5.2 below.
Genres of Task 1

As mentioned previously, the first assignment consists of three parts and each part represents a different type of text. In what follows, each text is analysed separately while in the final stage, the three texts are re-assembled to construct a detailed macro-genre framework.

In the analysis of each text, the use of distinctive language resources is examined from the perspectives of social function and purpose, schematic structure and grammatical features. The areas drawn on will depend on characteristics such as length and the complexity and density of the text. Towards the end of each analysis, the original text will be presented with highlights to mark the features being discussed, for example, words or sentences will be underlined, or typed in bold or italics to show how they are used in the text.

Analysis of Text 1

Social context

*Text 1* introduces the tasks set for the first online assignment. It aims to provide students with an overview of the program and inform them about the focus of the tasks.

<table>
<thead>
<tr>
<th>Chronologically</th>
<th>Functionalities and purposes</th>
<th>Complexity and intellectual demand</th>
</tr>
</thead>
</table>
| Organised by dates/stages of the course | Order of functionality  
- Discussion of ideas/concepts  
- Applying ideas/concepts to work practices. | Density  
Technical difficulty  
Students’ familiarity with ideas/concepts |

Table 5.2 Sequence of tasks
**Social goals**

This overview informs students of the focus of the tasks. Drawing on past experience and adaptations of and improvements to the program, the text elaborates the shifts in its pedagogical approaches. Since the main communication purpose is simply to provide information, this can be seen as an informational text.

**Discourse analysis**

In the discourse analysis the minimum unit is based on a clause complex, or a sentence consisting of multiple clauses. In Halliday’s words, “… a sentence can be interpreted as a clause complex: a head clause together with other clauses that modify it. There is the same kind of relationship between sentence and clause….” (1994, p. 215). Both terms, i.e. clause complex and sentence are used in the analysis below and both refer to the same features.

**The text**

The following is the original text which is presented with original format and punctuation.

**Overview of tasks**

The summary of what the course aims to achieve reads as follows:

The ALT programme is first and foremost a programme for continuing professional development. It offers opportunities to reflect on, and improve, the way you work. It does this primarily by providing opportunities for you to create bridges between your professional experience and interests (on the one hand) and ideas, evidence, concepts, methods and theory in the research-based literature (on the other).

We have been running the ALT programme, in various forms, since 1989. 1999 saw the biggest overhaul of the programme since its foundation. We used this opportunity to restructure and broaden the whole programme and to switch emphasis in two important areas:

We shifted the balance between (a) individual flexibility and (b) group coherence.
• In the past, we tried to offer the maximum flexibility to each person on the program, especially with regard to deadlines for assignments and the degree of participation in online activities. In consequence, we found that many people built up impossible backlogs of assignment work and that we did not always get a critical mass of participation in online work. Now you will find us rather more directive about both of these areas. You will find a strong expectation that you will participate in the online environment (coupled with guidance from us about how to do this). You will find that you cannot progress to the next module in the program unless you are up to date with assignments.

• We have shifted the balance between (a) your experience, expertise and interests and (b) our conceptions of what is worth knowing in any field.

• In the past, we started each new module with a residential session in which the tutors marked out the boundaries and key ideas of the module, prescribed the syllabus and presented you with a stack of readings. We encouraged you to tell us about your experience and interests (but didn’t encourage or guide you enough). We encouraged you to do an assignment which bridged between your world and ours, but we didn’t always help you with the tricky engineering work this could involve. In consequence, much of what we did learn about your professional interests and experience remained hidden away in assignments and was unavailable to other participants in the program. Much of what we felt was useful in the readings remained unused, or was exploited in a superficial or tactical way ('playing the academic game'). Now you will find us trying to create opportunities for a more shared exploration of ideas and experience. This happens at a number of levels, but primarily through the tasks we propose in Phase One. In some ways, our teaching approach has become firmer, because we haven’t seen sufficient educational benefits flowing from a more laissez-faire approach (ALT01, 2003, p. 3).
The distinctive use of ‘we, you, it’ in the text

In the first paragraph, the use of subjects in the three clause complexes is distinctive. Apart from the first clause complex that used *programme* as the subject, the word *it* was used for the other two clause complexes. In the second paragraph the subjects were shifted to *we* with one exception: *1999* was used metaphorically as a participant (in SFL, a participant is not necessarily a person, but could be an object or a noun) in the account of the history of the program.

As it develops, the text interestingly uses two full sentences as subheadings to introduce the focus of the program; and here, again the pronoun *we* was used in both sentences as the subject. The two following paragraphs contain 13 clauses. The word *we* was used five times as a participant, while *you* was used four times as a subject. The remaining three clause subjects use *Much of what we learn ..., Much of what we feel ..., this* (the opportunity to share exploration of ideas and experience) and *our teaching approach*. In total, the pronoun *we* was used nine times in the text, while *you* was used three times as subject and twice as an addressee in the last paragraph.
Illustration of the use of pronouns in the text

<table>
<thead>
<tr>
<th>Components of task</th>
<th>Examples of it, we, you used in the sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>A summary of what we are aiming to do</td>
</tr>
<tr>
<td>Program overview</td>
<td>Paragraph 1: ….the program….., It offers, It does</td>
</tr>
<tr>
<td>Paragraphs 1 &amp; 2</td>
<td>Paragraph 2: We have been running…, 1999 saw, We used…</td>
</tr>
<tr>
<td>Subheading 1</td>
<td>We shifted the balance between (a) Individual flexibility and (b) group coherence.</td>
</tr>
<tr>
<td>Elaboration of subheading 1</td>
<td>We tried to offer…, we found…, you will find…, you will find a…, you will find ….</td>
</tr>
<tr>
<td>Subheading 2</td>
<td>We have shifted the balance between (a) your experience, expertise and interests and (b) our conceptions of what is worth knowing in any field</td>
</tr>
<tr>
<td>Elaboration of subheading 2</td>
<td>We started…, we encouraged you …, much of what we did…, Now you will find us …, this happens …, our teaching approach…</td>
</tr>
</tbody>
</table>

Table 5.3 The use of pronouns in Text 1

Negotiation of social relationship between tutors and students

In the discourse community, different writers have different readerships and deploy different approaches in negotiating their social stance with their readers (Hood, 2004b). In task design, tutors were assigned to act as facilitators and administrators to assist students’ learning. Conversely, the students were assigned to be learners in a subordinate role. In terms of their professional responsibilities, the tutors set tasks and directed students as to what they were required to do. This power relationship created the use of we and you as demonstrated in the text. However, interestingly we and you were also used in the text to negotiate an interpersonal relationship between tutors and students. Apart from the first paragraph, we and you were used throughout the text to establish a less formal environment. Hyland (2004) argues that 'you is the most interactive device in the writer’s repertoire as it explicitly acknowledges the reader’s
presence’ (p. 12). In the task, the tutor uses this you to recruit students into the learning community and bring them into the dialogue with the text by acknowledging readers’ (you) presence.

**Temporal significance**

Another interesting application of linguistic resources in the text is the use of tenses to signal the development stages and improvements made to the program. The title is in present continuous tense to signal what ‘we are going to tell you’. The overview is in present tense (e.g. the program is ...) providing students with information about the program. However, past and future tenses are used to contrast what happened in the past, and what students are expected to do or to find in the present program. In this, we (the lecturers) was used as the subject of sentences in past tense (with the one exception of the title) while you was used in the sentences in the future tense. For example:

A summary of what we are aiming to do (The title)

- We *used* this opportunity to ....
- We *shifted* the balance between individual flexibility and group coherence.
- We *tried* to offer ....
- In consequence, we *offered* ...
- In the past, we *started* ...
- We *encouraged* you to... 
- Now you *will find* us ...
- You *will find* a strong expectation ...
- Now you *will find* that...
- Now you *will find* us...

As illustrated in the examples, the text uses *we* and *you* with the tenses of present and past to constantly negotiate the meaning of past experiences and improvement of the program and expectation of the present and future. Here, the ownership of responsibility has also shifted to the ‘you’ (students) as their activity is in the future where the ‘we’ (the teachers) were active the past.

In textual meaning, the cohesion of the text is construed by using conjunctive links, such as unless, but and because. These are used to set conditions, (unless), contrast (but
was used 3 times), and explain reasons (because). The writer was able to use these conjunctive links to organise information logically across the whole text.

Another distinctive feature is the repetition of the phrase you will find. The high frequency of the use of this kind of linguistic resource raises the following questions: does it demonstrate a conscious effort to achieve the communication goals or is it a subconscious application of the resource in order to achieve a separate goal? Is this a personal style of writing or is it a meaningful application of language techniques in effective communication?

It is argued that whether intentional semantic choices or subconscious applications of linguistic resources has been deployed, the text has effectively achieved the social functions of informing, contrasting, persuading and explaining and setting expectations, guidelines and rules.

It informs by providing an overview of the program. It contrasts by using the past tense to recount what happened in previous programs and the future tense when setting up new expectations, guidelines and rules. It persuades by providing evidence of what has been identified and changed to improve the program and it explains the changes by addressing what happened in the past and why the changes are necessary. From this point of view, the overview has reinforced the evolution of the ALT program and its constant changes and improvement through the years to reflect the local and global changes in higher education and the demands of new knowledge in the workplace.

In addition, the overview was written to cater for the ongoing nature the program which was structured so that it could be entered at several different points every year. This allowed new students to join others who had already been in the course for a few months or even a couple of years. The overview therefore had the double function of inducting new students and at the same time, re-orientating older students.
Schematic structure

The schematic structure of this text consists of the title, an overview of the program written in present tense (the first paragraph), a short recapitulation of the program in past tense (second paragraph), while elaboration of two main points consists of two subheadings and two paragraphs. In the elaboration, different tenses are used to contrast improvements in the program to what had gone before. The past tense is used to recount what happened prior to the current course and the future tense is used to show improvements in the program and to set expectations, guidelines and rules. These stages are summarised below:

### Summary of Text 1 genre

<table>
<thead>
<tr>
<th>Schematic structure (staging)</th>
<th>Distinctive participants (subject)</th>
<th>Distinctive language features (tense)</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td></td>
<td>Present continuous tense: intention</td>
<td>Introducing the topic</td>
</tr>
<tr>
<td>Overview</td>
<td>program, it</td>
<td>Present tense</td>
<td>Introducing the program</td>
</tr>
<tr>
<td>Recap</td>
<td>we</td>
<td>Past tense</td>
<td>Recap of program</td>
</tr>
</tbody>
</table>
| Elaboration of point one      | we, you                           | past and future tense               | • Contrasting differences  
|                               |                                    |                                     | • Using future tense to set expectation and guidelines |

Table 5.4 Genre of Text 1
Overview of tasks

A summary of what we are aiming to do

The ALT programme is first and foremost a programme for continuing professional development. It offers opportunities to reflect on, and improve, the way you work. It does this primarily by providing opportunities for you to create bridges between your professional experience and interests (on the one hand) and ideas, evidence, concepts, methods and theory in the research-based literature (on the other).

We have been running the ALT programme, in various forms, since 1989. 1999 saw the biggest overhaul of the programme since its foundation. We used this opportunity to restructure and broaden the whole programme and to switch emphasis in two important areas:

We shifted the balance between (a) individual flexibility and (b) group coherence.

- In the past, we tried to offer the maximum flexibility to each person on the program, especially with regard to deadlines for assignments and the degree of participation in online activities. In consequence, we found that many people built up impossible backlogs of assignment work and that we did not always get a critical mass of participation in online work. Now you will find us rather more directive about both of these areas. You will find a strong expectation [that you will participate in the online environment (coupled with guidance from us about how to do this)]. You will find [that you cannot progress to the next module in the program unless you are up to date with assignments.]
• *We* have shifted the balance between (a) your experience, expertise and interests and (b) our conceptions of what is worth knowing in any field.

• In the past, *we* started each new module with a residential session [in which the tutors marked out the boundaries and key ideas of the module, prescribed the syllabus and presented you with a stack of readings]. *We encouraged* you to tell us about your experience and interests || (but didn’t encourage or guide you enough). || *We encouraged* you to do an assignment [which bridged between your world and ours], || *but we didn’t* always help you with the tricky engineering work this could involve. || In consequence, *much of* [what we did learn about your professional interests and experience] remained hidden away in assignments and was unavailable to other participants in the program. || *Much of* [what we felt] was useful in the readings remained unused, or was exploited in a superficial or tactical way ("playing the academic game"). || Now *you will* find us trying to create opportunities for a more shared exploration of ideas and experience. *This happens* at a number of levels, *but* primarily through the tasks we propose in Phase One. || In some ways, *our teaching approach* has become firmer, || *because we haven’t seen* sufficient educational benefits flowing from a more laissez-faire approach.

### 5.2.1 Analysis of Text 2

*Text 2 described the first of the four tasks set in Assignment 1. (Tasks 1.1. to 1.4)* Students were required to do these tasks according to the instructions given in the text. As this was the first written assignment of the course, more information apart from instructions, is included in the text. For example the second paragraph includes a reminder (e.g. *remember you will find* ...), a suggestion (e.g. *we suggest that*...), and two requests in the last paragraph (e.g. *Please add a brief profile, please try to* ....).

The use of modality is also evident in the text (e.g. *We’d like you to*..., *you should prepare* ....). The text began with the words: *We’d like you to prepare a number of small pieces of text and paste them into the online space*. This was later reinforced by the words: *You should prepare the following and paste them into the online space*. This
reinforcement implies the authority of the lecturer over the students and there is no
negotiation on this point. However, in the first and last paragraphs the lecturer used if
several times to indicate that some of the requirements were negotiable (e.g. … if you
really want to, If you aren’t currently in a job ..., If you are new to the program ..., If
you can’t get one (photo) taken ...).

The use of the imperative voice is the most distinctive feature in this text. For example:
... read a few examples before ..., But be aware that ..., be as specific as you can,
Then spend some time ..., Make a note ..., Comment on at least ... While most of the
instructions used the imperative, the action verb should was also used twice (e.g. This
should be consistent with ..., ... and should be as precise as possible.) Here, although
action verbs were used to direct activities, the use of should was also used to emphasise
the necessity for consistency of content and quality. The use of imperative will be
discussed in more detail later in the analysis of Text 3.

An examination of the four tasks under Task 1 indicates they contain the following: a
description of learning (concept), a description of ways of determining whether
learning has taken place (methods), a description of a job (nature of profession), a
description of a task recently undertaken (job responsibility and involvements). Such a
sequence is not based on time or stages of learning and there is no temporal relationship
between these tasks. Instead they occur in the order of concept, interpretation and
application. Such an interrelationship between each task is based on a pedagogical
approach which is consistent with the aims of tasks stated in Text 1. In other words, the
task focuses on the balance between the students’ experience and expertise and
concepts that are worth knowing in the field.

The schematic structure in this text consists of the title (e.g. Task 1.1.), the date the task
needs to be completed, instructions on where to post the message and the best ways of
participating in the discussion, four smaller tasks, instructions on preparations which
should be made before responding to others’ ideas, and inviting new students to post a
profile.
Table 5.5 Genre of Text 2

Text 2: Coding of original text

In the text, the following notations are used to highlight different linguistic features in the text.

|| denotes clause boundary
Underlining denotes the imperative voice
Italic denotes conjunctive links
Bold italic denotes modality
Bold denote suggestions and requests
[ ] denotes embedded clauses
**Task One**

This needs to be completed by the Monday 19th May [(which is two working weeks after the beginning of the module)]. |

We’d like you to prepare a number of small pieces of text and paste these into the online space. || **Remember** [you will find this space at http://notes.lancs.ac.uk/ed-rsrch/alt01.nsf ]|| **We suggest** [that you prepare your pieces of text independently, then paste them in and then read what others have written.] || By all means **read** a few examples **before** committing your own thoughts to posterity || *if* you really want to. || **But be Aware** [that we think this task will work best || *if* we don’t launch into a premature discussion of each other’s ideas. ||

You **should** prepare the following and paste them into the online space:

1) A definition of ‘learning’ [which is appropriate to your normal working context] (no more than 50 words, || **expressed** as precisely as you can).

2) A description of one or more ways [in which you can determine whether learning has or has not taken place.] (This **should** be consistent with your working definition of learning and should be as precise as possible.) || No more than 200 words.

3) A broad-brush description of the kind of work [you do]; the kinds of tasks, projects etc [you typically undertake]. || **If** only part of your job relates in any direct way to other people’s learning, || **focus** on the learning-related part. || **If** you aren’t currently in a job [that is concerned with other people’s learning], || **tell** us about the most recent job that did, || or tell us about the kind of work [you **would** like to do]. No more than 200 words; in everyday language.

4) A description of a specific task [you’ve undertaken recently which has been concerned in some way with other people’s learning]. || No more than 200 words; **be** as specific as you can.

You **can** find some examples in the Appendix. ||

Then **spend** some time reading [what others have written]. || **Make** a note of anything [that stands out], such as definitions [which seem very different from each other], or
people [who seem to be doing work that resembles your own]. || Comment on at least one other person’s contribution in the online space.

*If* you are new to the programme, or have not already done so ||, *please add* (in the Profiles section of the online café space) a brief profile about yourself and your reasons for joining the ALT programme. || *Please try* to provide a photograph of yourself for the web-page. || *If* you *can’t* get one taken or scanned || you could send a paper photo to us in C-SALT. || You’ll find the ALT Café at [http://notes.lancs.ac.uk/ed-rsrch/altcafe.nsf](http://notes.lancs.ac.uk/ed-rsrch/altcafe.nsf)

### 5.2.2 Analysis of Text 3

**Background to Text 3**

*Text 3 consists of Tasks 2, 3 & 4*. By the time students need to complete these tasks, they have already completed *Task 1* and posted discussions on the forum to introduce themselves to other students (new students to the old and the old students to the new). They have also completed their discussion of the concept of learning and how to determine if learning had taken place. Further, they have posted messages describing a current work project which involves helping others learn and completed the task requiring them to discuss concepts and issues related to their practical experience of the real world. It can be assumed that having become more familiar with the other members of the group, the networked learning environment and the online facilities and protocol, they are ready for the reading tasks which will introduce them to more theory-based academic discourse in the field. The negotiation of the real world of work practice and the academic world of theories is through the process of reading current research literature in the field and the reflection on real life experience to re-examining concepts and beliefs in order to validate and make adjustments and modification for improvement.
Text analysis

The text analysis in this section focuses on Task 2 as a key text since it is very similar to Tasks 3 and 4. The schematic structure in Task 2 consists of the title, the date the task needs to be completed and four instructions on how to complete the tasks. Instructions 1 and 2 include a brief description of the intellectual demands of the reading activities and an explanation of the focus of the reading.

The first three instructions involve reading academic papers and note-taking while Instruction 4 is about adding an entry to the forum. In these instructions, imperative sentences are used (e.g. Read the article..., Make a few notes ..., Add an entry to ...). According to Hyland (2004), in academic pedagogy, imperative statements are commonly used to direct participants to perform an action because they not only lay performance obligations on the students, but also underline status difference between students and their teachers. The use of the imperative in Task 2 signals this relative power and subordinate social relationship as well as instructing students to complete the task. In this context it reinforces the conventional relationship between lecturer and students.

In setting the task the lecturer uses words like difficult, demanding to describe the intellectual demands of the articles. These predicative adjectives express both the lecturer’s judgement of the reading texts and the students’ initially more limited capacity to understand them. The reading material is therefore logically sequenced according to its intellectual demands and the students’ familiarity with the reading context and pre-knowledge required.

In the explanation of the task, the choice of terms such as shouldn’t..., need not… is significant, indicating the expectations of the lecturer with regard to the students' capacities. These words occur in sentences such as: It shouldn’t take more than an hour to read it. You need not try to understand everything. The first sentence indicates probability (in fact the lecturer is saying ‘it will probably take you an hour to read this’) while the second sentence contains an explicit requirement that the students understand as much as possible. These two sentences thus focus on both probability and obligation.
Another distinctive feature is the use of embedded clauses like *focus on what he seems to ...*, *what he might claim ...*, *about what learning is*, *...implications about how learning should be investigated*, *chapters that you think...*, *to rethink what you wrote ...*. These embedded clauses are used to direct students to the focus of their reading by explicitly defining and explaining what they need to look for.

Adding an entry in **Task 2** and **Task 4** is optional while in **Task 3** it is compulsory. In **Task 3**, two entries are required. The first has a 200-word limit and the second 100. Apart from using the imperative voice to give instructions, in general the lecturer is quite flexible about what the students should actually do, using phrases such as *if you feel...* rather than 'you must'.

Within each Task, reading material is placed in order of complexity, technical density and difficulty and the students’ likely familiarity with the concepts discussed in the articles. The three reading tasks focus on the theoretical understanding of the psychology of learning. They are well sequenced, the knowledge development process from **Task 1** to **Task 4** being guided through a process of discussion of ideas and concepts to conceptual understandings of abstract learning in theories of academic discourses.

These tasks 'apprentice' students into the discourse community through the development of their learning skills and confidence. The tasks provide them with a framework and an opportunity to practice how to project ideas and opinions, how to develop conceptual understandings of academic papers and in particular, how to extract main ideas. They also develop the academic skills of contrasting and comparing, and also of summarising and synthesising concepts and arguments.
Summary of Text 3 of Tasks 2, 3 & 4

<table>
<thead>
<tr>
<th>Schematic structure (staging)</th>
<th>Distinctive language features (patterns of sentence)</th>
<th>Functionality</th>
<th>Implication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task title</td>
<td>Identification of task (e.g. Task 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of completion</td>
<td>Setting deadline</td>
<td></td>
<td>Not negotiable</td>
</tr>
<tr>
<td>The task/tasks</td>
<td>Imperative sentences: e.g. Read the article,..., Make a few notes on ..., Add an entry ...</td>
<td>Giving instructions about how to complete the task.</td>
<td>Students are obliged to do these tasks</td>
</tr>
<tr>
<td>Description of reading material</td>
<td>Descriptive words ‘difficult, demanding’.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation of task</td>
<td>Embedded clauses: e.g. focus on what he seems to ...., what he might claim ....,..., about what learning is, ... implication about how learning should be investigated, chapters that you think ...., to rethink what you wrote ....</td>
<td>Explaining, giving guidance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Modality ‘shouldn’t’</td>
<td>Predicting probability &amp; providing alternatives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conjunctive link of if</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.6 Genre of Text 3

Text 3: Coding of original text

In the text, the following notations are used to highlight different linguistic features in the text.

|| denotes clause boundary  
Underlining denotes the imperative voice  
Italic denotes conjunctive links  
Bold denote suggestions and requests  
Bold italic denotes modality  
[ ] denotes embedded clauses
Task Two

This needs to be done by 26th May.

Read the article by Jacquetta Hill and David Plath on learning to become a shellfish diver. || The article isn’t technically difficult || and it shouldn’t take more than an hour to read it || and make a few notes. ||

Then read the article by Stellan Ohlsson. || This is more demanding ||, but you need not try to understand or evaluate everything [he says]. || Rather, focus on (a) [what he seems to think learning is ](b) [what he might claim to be a proper way to investigate learning]. ||

Make a few notes on the main contrasts between the two papers, with respect to (a) their implications about [what learning is] || (b) their implications about how learning [should be investigated]. ||

Add an entry to the appropriate place in the ALT01 on-line space || if you feel reading either of these articles has caused you to rethink [what you wrote about learning in Task One]. ||

Task Three

This needs to be done by 2nd June. ||

Read the article by Tom Shuell. || Make some notes about (a) the main features of Shuell’s account of learning (b) any elements of [what he offers in this chapter] that you think [you could make practical use of in your work], (c) any parts of the article with [which you strongly disagree].

Read the article by Mike Hannafin and Susan Land. || Make notes on whatever you feel [this article has to offer], over and above [what you gained from Shuell’s article].

Add an entry to the appropriate place in the ALT01 on-line space [that summarises] ||
a) what you feel to be the central elements, of the approach to understanding the psychology of learning, embodied in the articles [you’ve read so far] (200 words max.)

b) what you feel is missing from this approach (100 words max).

**Task Four**
This needs to be done by 8th June (that is, just prior to the Residential). It doesn’t involve on-line activity, just reading, thinking and making a few notes. You could do it on the train?

Read the article by Timothy Koschmann, then the article by Jim Greeno, Allan Collins and Lauren Resnick. The article by Jim Greeno et al is dense, but most of the ideas should by now be familiar. Write some notes or produce a mind map to represent the key ideas in these two articles.

Finally, read the article by Ton de Jong and Monica Ferguson-Hessler. This is quite technical, but we merely want you to get an idea of [what they were setting out to do]. Write a few notes on their main conclusions. If any of these seem applicable in your own work, make a note of which (and how they might be of value).

The consistency of repeated patterns of schematic structure and the use of imperative sentence and embedded clauses in the above three tasks are distinctive. It can thus be argued that these three texts form a distinctive genre for this type of task.

**Macro genre of Text 1, 2 and 3**
The macro-genre structure was presented at the beginning of the text analysis section. This structure and the individual text analyses form the groundwork for assembling these components in Table 5.7: The Macro Genre of Text 1, 2 and 3.
## Macro genre of text 1, 2 and 3

### Nucleus (Title): Tasks of Assignment One

**Text 1 genre: Informational text**

<table>
<thead>
<tr>
<th>Schematic structure (staging)</th>
<th>Distinctive participants (subject)</th>
<th>Distinctive language features (tense)</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td></td>
<td>Present continuous tense: intention</td>
<td>Introducing the topic</td>
</tr>
<tr>
<td>Overview</td>
<td><em>programme, it</em></td>
<td>Present tense</td>
<td>Introducing the program</td>
</tr>
<tr>
<td>Recapitulation</td>
<td><em>we</em></td>
<td>Past tense</td>
<td>Recapitulation of program</td>
</tr>
<tr>
<td>Elaboration of point one</td>
<td><em>we, you</em></td>
<td>past and future tense</td>
<td>Contrasting differences</td>
</tr>
<tr>
<td>Elaboration of point one</td>
<td><em>we, you</em></td>
<td>past and future tense</td>
<td>Contrasting differences</td>
</tr>
</tbody>
</table>

**Text 2: Instructional text**

<table>
<thead>
<tr>
<th>Schematic structure (staging)</th>
<th>Distinctive language features (patterns of sentence construction)</th>
<th>Functionality</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task title</td>
<td></td>
<td>Identification of task (e.g. task 1)</td>
<td></td>
</tr>
<tr>
<td>Date of completion</td>
<td>Passive voice (e.g. <em>need to be completed</em>).</td>
<td>Setting of deadlines</td>
<td>Compulsory (not negotiable)</td>
</tr>
</tbody>
</table>
| General instructions & guidelines | Suggestive voice  *We’d like you to*  
|                               | *We suggest that*...  
|                               | But also imperative voice *e.g., remember, read a few, be aware, etc.*) | Giving suggestions and instructions | Negotiable |
| The task/tasks               | Modality *‘should’*  
<p>|                               | Directive realised by using imperative sentences (e.g. <em>read articles, make notes</em>) | Giving instructions about how tasks should be performed, stating requirements | Students are obliged to perform these tasks |</p>
<table>
<thead>
<tr>
<th>Conjunctive link</th>
<th>Predicting probability &amp; providing alternatives</th>
<th>Negotiable</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optional activities or other issues</th>
<th>Imperative, e.g. <em>spend some time, make notes, etc.</em></th>
<th>Giving instructions</th>
<th>Negotiable</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>If ...</em></td>
<td><em>Please ...</em></td>
<td><em>Making requests</em></td>
<td></td>
</tr>
</tbody>
</table>

**Text 3: Instructional text**

<table>
<thead>
<tr>
<th>Schematic structure (staging)</th>
<th>Distinctive language features (patterns of sentence)</th>
<th>Functionality</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task title</td>
<td>Identification of task (e.g. task 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of completion</td>
<td>Passive voice (e.g., <em>need to be completed</em>).</td>
<td>Setting a deadline</td>
<td>Not negotiable</td>
</tr>
<tr>
<td>The task/tasks</td>
<td>Imperative sentences (e.g. <em>Read the article..., Make a few notes on ..., Add an entry ...</em>)</td>
<td>Giving instructions about how the task should be performed</td>
<td>Students are obliged to do these tasks</td>
</tr>
<tr>
<td>Description of reading material</td>
<td><em>This article is/isn’t ... Descriptive words difficult, demanding</em></td>
<td>Describing</td>
<td>Projecting judgement</td>
</tr>
<tr>
<td>Explanation and elaboration of the task</td>
<td>Embedded clauses (e.g. focus on <em>what he seems to..., what he might claim ..., about what learning is, implications about how learning should be... investigated, chapters that you think... to rethink what you wrote ...</em>)</td>
<td>Explaining, giving guidance</td>
<td>Required</td>
</tr>
<tr>
<td></td>
<td><em>Modality shouldn’t... Conjunctive link of if</em></td>
<td>Predicting</td>
<td>Probability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Providing</td>
<td>Optional</td>
</tr>
</tbody>
</table>

**Table 5.7 Macro genre of Text 1, 2 & 3**
Findings emanating from analysis of texts (tasks)

The analysis in this chapter is necessarily limited to the texts in Assignment 1 due to the amount of detail needed. It is argued however, that this data set for the discourse analysis has provided valuable insights into how tasks have been constructed and sequenced to best facilitate learning. The following is a discussion of some of the findings that could be useful for the chapter dealing with the modelling of task-design patterns (Chapter 7)

As illustrated in the task analysis, different information has been written for each task setting out requirements and instructions as to how that task should be completed. Such differences can be construed by the application of text types with distinctive staging in the schematic structure and language resources. This supports the claim made in SFL theory that genre is about how to get things done using goal-oriented staging to achieve social purposes (Christie and Unsworth. 2000; Eggins 1994; Martin, 1993; Martin and Rose, 2003). Using detailed analysis, the key schematic structures of each of the three tasks have been identified, these being the informational text, the instructional text and a macro-genre approach with a mixed structure comprised of both informational and instructional text in one task.

By applying these different schematic structures and linguistic resources to different tasks, Assignment 1 has achieved four key social functions. 1) Establishing social and interpersonal relationships between tutors and students; 2) creating a discourse community and a form social solidarity among the group members; 3) engaging students in effective forum discussions by giving them space to express their own views while acknowledging and accepting differences; 4) 'apprenticing' students in the development of critical skills by reading research papers and also how to apply theory to their own practices in the workplace.

A more detailed account of the key findings follows:

1. Before the actual tasks are set out, students are provided with information about the objectives of the course, expectations and requirements for assignments,
where useful resources can be accessed and how to seek help. This helps to achieve two social functions: firstly, ensuring that students are well informed and thus avoid the frustration and anxiety that usually occur when starting a new course. Such information is necessary to induct new students into the course while it also informs existing students of any changes which might have been made to the course. It also reminds students not to respond to other students’ postings before most or all or the students have contributed their postings. Text 1 demonstrates good examples of how the text uses an informational text for the overview of the program with clearly articulated information on various issues.

Secondly, the background information helped to establish a professional and friendly social relationship between the tutors and students. The pronouns we and you had the function of establishing a sense of interaction between students although the tutor's professional authority was also established by the exclusive use of you when referring to the students. This sense of intimacy created by the use of 'we' and 'you' effectively shortened the distance between the tutor and students and thus helped to create a friendly and non-threatening learning environment.

2. The tasks set in Assignment 1 also helped create a discourse community and the building of social solidarity within the learning group. This was achieved by engaging students in forum discussions focused on developing students’ skills in the expression of their views, the presentation of arguments and the ability to make connections between theoretical and workplace practice. For example, as demonstrated in the analysis of Text 2, through the co-construction of the definition of learning and ways of identifying how learning takes place, the students learned to acknowledge and respect different views. By asking students to talk about their workplace responsibilities and any recent projects they might have undertaken to assist others’ learning, the forum created a space for social interaction in which students could get to know each other.
The creation of a discourse community at an interpersonal level at an early stage is also essential as it enhances further collaborative work between tutors and students and also between the students themselves. In addition, asking students to perform seemingly minor tasks such as posting messages about themselves and about their work or recent projects, can generate meaningful interactions which allow students to bring their prior knowledge, experience and beliefs into the discourse community. The sample task moreover, encourages students to reach a consensus about the concepts being discussed. This kind of online dialogue creates a sense of solidarity among the students and thus can help them feel more confident, comfortable and safe in sharing their views and professional interests with their peers and tutors.

3. The reading tasks used various language resources, such as directive terms and imperative sentences, to guide students through the various reading activities. Reading academic discourse forms an important component of a postgraduate program in order to initiate and enhance students’ conceptualisation and interpretation of research papers. The aim of having students read the research papers therefore, was to gain academic skills in how to annotate bibliographic resources, how to extract the main ideas and the concepts and arguments from a scholarly paper, how to summarise and contrast different authors’ theories and thus to synthesise key concepts. Such skills, which are crucial to critical reading and writing in academic discourse, were a key component of the tasks set in Assignment 1.

4. Finally, the tasks set in Assignment 1 had two very important functions. Firstly, they encouraged students to link theory and practice. That link was created by inviting students to discuss their conceptual understanding of issues related to learning and talk about and reflect on their daily work and current projects that involved learning. After this they were introduced to the reading tasks which dealt with research papers and theoretical issues. The logical and well-crafted sequence of the tasks made it possible to associate professional practices and theory.
The second important role of the tasks was assisting students to negotiate any distance between their preconceptions of educational design issues and the new ideas, concepts and theories presented in the prescribed readings. Such negotiation could synthesise a new form of knowledge or invoke further discussion and debates about those concepts. (See more discussion in the next chapter on the analysis of student online postings).

**Implications**

The findings in this chapter help illuminate some of the characteristics of how the expression of tasks in texts is intended to connect with the learning experiences of students and their learning outcomes.

Although the data set is necessarily limited on assignment one of the first two week tasks, the detailed discourse analysis above constitutes an example of how use of the principles of SFL can reveal a deeper level of meaning in the texts. SFL is a useful tool for examining task-construction from the language functional perspective, providing insights into how a well designed task is constructed by the ideational, interpersonal and textual levels of language function. The ideational was realised in the focus of the information and knowledge provided in the text; the mobilisation of the interpersonal or social relationships is evident in the way students were encouraged to participate in their learning in a non-threatening new environment, while the textual indicates how the text was structured schematically by using lexical and linguistic resources to make its meaning clear and logical. And importantly, different text types were used to construct different tasks.

These explications of language features have been set out in some detail because they support the key proposition of this study, which is that SFL provides a powerful tool for understanding how tasks are expressed in text.

The pedagogical implication is that appropriate support should be given to novice tutors to help them understand the importance of designing good learning tasks and
learning task descriptions. In chapter 4, some general support mechanisms were suggested by interview participants, for example, providing peer support by having experienced tutors as mentors or through short course training programs or workshops. However, it is argued in this study (in Chapter 8) that the development of a set of illustrative task design patterns can also provide components of a powerful support system. The patterns put forward embody the use of linguistic principles and resources as reusable and shared material so new teachers can use these resources to model their work and teaching, without the need for constant efforts by their mentors.
Chapter 6

6 Detailed discourse analysis: student online discussion text

6.1 Overview of ALT student online participation

This chapter presents texts selected for discourse analysis from the discussion postings of the ALT program. The first set of text data consists of 95 postings for the Assignment 1 tasks. Students used the forum as a learning space for sharing material, ideas and information. As mentioned previously, the ALT program had been established more than two decades previously and had drawn most of its students from a background of work in the field of educational design.

Guided by the methodology set out in Chapter 3, this chapter applies detailed discourse analysis to texts produced by students within the SFL theoretical framework. The investigation is based on the research questions in Chapter 3 with the following focus.

1. Have any typical genres emerged from the student discussions?
2. If so, what are these genres?
3. How do these genres function to assist the achievement of social goals?
4. How are different language resources deployed to make meanings in the discussions of ideas, concepts and knowledge in an online discussion environment?

These questions helped the study to identify good examples of successful interaction brought to light by data analysis of student postings. These good examples will be used in the next chapter to construct guidelines and principles for the development of design patterns and so to support the hypothesis being put forward in this dissertation.
As noted in Chapter 4, the learning activities in Assignment 1 required students to write postings on 1) their definition of learning; 2) their ideas about how to determine whether learning has or has not taken place; 3) their current job, tasks or projects their students typically undertook; 4) a specific task concerned with other people’s learning (ALT handout, 2003).

There were 19 students in the class and the following table shows how the postings were distributed over a time frame of four weeks - although most students posted their messages within the first two weeks. Those postings which rolled the replies to all the questions into one long submission were still separated into four discrete sections so as to reflect the requirement of each posting for each task.

### ALT student posting distribution among different activities

<table>
<thead>
<tr>
<th>Total No. of students</th>
<th>Task 1.1 Definition of learning (50 words)</th>
<th>Task 1.2 Learning has taken place (200 words)</th>
<th>Task 1.3 Job description (200 words)</th>
<th>Task 1.4 Current specific tasks (200 words)</th>
<th>Total Number of postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>20 postings</td>
<td>37 postings</td>
<td>17 postings</td>
<td>21 postings</td>
<td>95</td>
</tr>
</tbody>
</table>

As will be seen, Task 2 had the most postings.

### Table 6.1 Posting contribution

**Individual student posting summary** (pseudonyms are used)

<table>
<thead>
<tr>
<th>Names</th>
<th>Task 1.1 Definition of learning (50 words)</th>
<th>Task 1.2 Learning has taken place (200 words)</th>
<th>Task 1.3 Job description (200 words)</th>
<th>Task 1.4 Current specific tasks (200 words)</th>
<th>Total No. of individual postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alisa</td>
<td>19/5 (1 posting)</td>
<td>19/5 (1 posting)</td>
<td>19/5 (1 posting)</td>
<td>19/5 (1 posting)</td>
<td>3</td>
</tr>
<tr>
<td>Ann</td>
<td>12 /5 (1 posting)</td>
<td>12 /5 (1 posting)</td>
<td>12 /5 (1 posting)</td>
<td>12 /5 (1 posting)</td>
<td>4</td>
</tr>
<tr>
<td>Adam</td>
<td>14/5 (1 posting)</td>
<td>14/5 (1 posting)</td>
<td>14/5 (1 posting)</td>
<td>14/5 (1 posting)</td>
<td>4</td>
</tr>
<tr>
<td>David</td>
<td>2/6 (1 posting)</td>
<td>2/6 (1 posting)</td>
<td>2/6 (1 posting)</td>
<td>12/5 (1 posting)</td>
<td>5</td>
</tr>
<tr>
<td>Student</td>
<td>Date</td>
<td>Postings</td>
<td>Total Posts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>------------------------------------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debra</td>
<td>16/5 (1 posting)</td>
<td>10/5 (1 posting) 9/5 (2 postings) 20/5 (1 posting)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edward</td>
<td>14/5 (1 posting)</td>
<td>14/5 (1 posting) 9/5 (1 posting)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hidy</td>
<td>14/5 (1 posting)</td>
<td>14/5 (1 posting) 9/5 (1 posting)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hana</td>
<td>11/5 (1 posting)</td>
<td>11/5 (1 posting) 13/5 (1 posting) 18/5 (1 posting)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jenny</td>
<td>11/5 (1 posting)</td>
<td>11/5 (1 posting) 12/5 (1 posting)</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linda</td>
<td>7/5 (1 posting)</td>
<td>7/5 (1 posting) 7/5 (1 posting)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorri</td>
<td>16/5 (1 posting)</td>
<td>16/5 (1 posting) 16/5 (1 posting)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Martin</td>
<td>8/5 (1 posting)</td>
<td>8/5 (1 posting) 8/5 (1 posting)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michael</td>
<td>20/5 (1 posting)</td>
<td>20/5 (1 posting) 20/5 (1 posting)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter</td>
<td>6/5 (1 posting)</td>
<td>6/5 (1 posting) 15/5 (3 postings) 10/5 (1 posting) 15/5 (2 postings) 19/5 (2 postings) 27/5 (1 posting)</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paul</td>
<td>15/5 (2 postings)</td>
<td>9/5 (2 postings) 15/5 (2 postings) 25/5 (2 postings) 1/6 (1 posting)</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richard</td>
<td>19/5 (1 posting)</td>
<td>19/5 (1 posting) 19/5 (1 posting)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ron</td>
<td>18/5 (1 posting)</td>
<td>27/5 (1 posting)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sue</td>
<td>20/5 (1 posting)</td>
<td>20/5 (1 posting) 20/5 (1 posting)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xing</td>
<td>19/5 (1 posting)</td>
<td>19/5 (1 posting) 19/5 (1 posting)</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.2 Individual posting summary

Note: 19/5 means a posting on the 19th May

As shown in Table 6.2 above, the number of individual student postings varied significantly ranging from 15 down to two. Based on the variation shown in Table 6.2
above, three levels of student participation, 1) high; 2) average and 3) low, can be perceived. These levels are represented in Table 6.3 below:

<table>
<thead>
<tr>
<th>Level of student participation</th>
<th>Number of students in each level</th>
<th>Number of postings</th>
<th>Total of students</th>
<th>Total of postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>2</td>
<td>11 – 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>15</td>
<td>3-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.3 Levels of participation

Figure 6.1 below shows how the students’ postings were distributed over the first four weeks.

![Figure 6.1 Student posting distribution among different activities](image)

It will be seen that Task 1.2 attracted almost twice as many postings as the other tasks. This was for reasons that will be demonstrated by the discourse analysis of the postings later in the chapter. The graph below (Figure 6.2) illustrates each student’s contribution to the discussion based on the count of postings.
While on a superficial level, the variation between the numbers of posting submitted by individual students could measure their level of participation, mere counts of postings are not an adequate way of evaluating the quality of contributions. Thus those who made the highest number of postings were not necessarily the most active contributors to the knowledge construction process. It will be shown in the following section that the detailed discourse analysis of the students’ discussion texts provides a more useful and reliable indicator of the quality of the content of their individual contributions.

From the individual posting summary above in Table 6.2, it is evident that most of the students completed the four learning tasks on the same day. This was probably because the four activities had been designed in an inter-related fashion to enable students to create coherent concepts of the ideas being discussed.

### 6.2 Genres of student online discussion texts

#### 6.2.1 Discourse analysis of student texts

The threads of student postings and a brief summary of their discussion contents are set out in Table 6.4. This overview aims to provide the context and the topics of students' discussions, which in turn provided the texts that are selected for analysis.
### Content summary of individual posting

<table>
<thead>
<tr>
<th>Student (Pseudonyms are used)</th>
<th>Task 1.1 Definition of learning (50 words)</th>
<th>1.2 How to determine if learning has taken place (200 words)</th>
<th>1.3 Job description (200 words)</th>
<th>1.4 Current specific job tasks (200 words)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alisa</strong></td>
<td>19 May Learning is about permanent change in behaviour (practice and experience) (No posting)</td>
<td>19 May Head of a Department with responsibility for creating a supportive learning environment</td>
<td>19 May Compiling attendance statistics to enable students to self-monitor the way they spend their time</td>
<td></td>
</tr>
<tr>
<td><strong>Ann</strong></td>
<td>12 May Learning is about guided construction based on Shuell’s learning theory</td>
<td>12 May Discusses difficulties of assessing and evaluating learning 16 May Responds to and compliments Hana on the water metaphor. Adds the jigsaw puzzle metaphor, using children’s’ learning transfer model</td>
<td>12 May Designing solutions in a major media company. Involved in determining learners’ needs and devising modes and methods of learning</td>
<td></td>
</tr>
<tr>
<td><strong>Adam</strong></td>
<td>14 May Learning is about assimilation of facts, theories, principles and practices. Revise/practise, develop greater competence and understanding</td>
<td>14 May Task-based testing for the ability to recall; including common written testing, practical assessment, terminal formative assessment, intermediate, formative assessment, etc.</td>
<td>14 May Teacher in IT team producing IT based syllabi. Conducting theory-based lessons and also content and written examinations, assessing practical project delivery</td>
<td>14 May Development of material – using computers for desk-top publishing. Research in theory, methods and tools, rules and other monitoring systems and assessment</td>
</tr>
<tr>
<td><strong>David</strong></td>
<td>2 June (with apologies for late posting). Learning is about acquiring knowledge, skills, abilities through training, experience, observation &amp; communication</td>
<td>2 June (same posting) Assess ‘declarative’ knowledge through test/exams, and competence through demonstration and outcomes</td>
<td>2 June Training designer in the Police Service. To develop training, skills, both classroom-based and for an online project.</td>
<td>12 May Providing support and training for BBC staff; commissions online modules</td>
</tr>
<tr>
<td><strong>Debra</strong></td>
<td></td>
<td></td>
<td>16 May Teacher, post secondary computer training at advanced levels plus doing daily computer tasks</td>
<td>16 May Lecturer, running courses and assessment 20/5</td>
</tr>
<tr>
<td>Edward</td>
<td>10 May</td>
<td>Individual learning – change organisation learning – change has been operated</td>
<td>9 May</td>
<td>Learning is a process used to build and modify activity while responding to changing situations. <strong>10 May</strong> (same posting). Learning takes place through motivation</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Hidy</td>
<td>14 May</td>
<td>Learning is about sustained change resulting in exposure to external stimulus or experience</td>
<td>14 May</td>
<td>Assessing before/after intervention and evaluation. Acquisition of new knowledge differs according to the type of knowledge acquired.</td>
</tr>
<tr>
<td>Hana</td>
<td>11 May</td>
<td>Learning is a combination of understanding, familiarity and the ability to do the task</td>
<td>11 May (same posting). By asking students, their peers and tutors if and what they have learned. Assessment: use of standard measures. <strong>13 May</strong> Compliments Hana on the building metaphor. Proposes her own metaphor, in which learning is compared to water</td>
<td><strong>11May</strong> (same posting). By asking students, their peers and tutors if and what they have learned. Assessment: use of standard measures. <strong>13 May</strong> Compliments Hana on the building metaphor. Proposes her own metaphor, in which learning is compared to water</td>
</tr>
<tr>
<td>Name</td>
<td>Date</td>
<td>Description</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Jenny</td>
<td>11 May</td>
<td>Learning is about increasing and applying knowledge and skills in practice. Assessing whether the learner has developed skills taught and is able to use these skills in course development.</td>
<td>11 May</td>
<td>Information specialist, Support academics/Webct, support key projects. Role: instructional design, course designer, web developer and project manager. Training IT trainers in how to run workshops to academics for IT skills.</td>
</tr>
<tr>
<td>Linda</td>
<td>7 May</td>
<td>Learning is the acquisition of knowledge and skills to achieve goals. Through demonstration, observation, discussion and evidence, though difficult to define quantity and level of quality.</td>
<td>7 May</td>
<td>Providing technical and learning support. Software training, enhance learning using tech. No entry.</td>
</tr>
<tr>
<td>Lorri</td>
<td>No entry</td>
<td>No entry</td>
<td>No entry</td>
<td>No entry</td>
</tr>
<tr>
<td>Martin</td>
<td>8 May</td>
<td>Very brief (he has only recently returned to work after a break). Learning is about making changes.</td>
<td>No entry</td>
<td>No entry</td>
</tr>
<tr>
<td>Michael</td>
<td>20 May</td>
<td>Learning is about acquisition/generation of new information, interaction with external stimulus, internal reflective process. For undergraduates: Through standard exams, coursework (practical/written) For postgraduates: explain [?] and discuss their understandings and in-depth learning.</td>
<td>20 May</td>
<td>University, Education. Department, research assistant for project, Support students. Teaches IT, responsible for liaison between school and IT department. Internal IT consultant. Courseware for tutoring system to monitor students on learning and progress, interaction with software, using learning concepts.</td>
</tr>
<tr>
<td>Peter</td>
<td>6 May</td>
<td>Learning=change</td>
<td>15 May</td>
<td>Asks Patrick to elaborate on his</td>
</tr>
<tr>
<td>Date</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Reflection – agrees with Helen (external stimulus) and extending the idea to internal and the power of reflection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Responds to Patrick, uses Olhsson's model of learning as change to justify his previous posting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Involves learning/unlearning/relearning. Skills or higher order of learning. Unlearning is the prerequisite of learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 May</td>
<td>Water: state and quality, state/reading, Liquid/bulk of skills &amp; understanding solid/facts, qualities/bottled /residential/puddle water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16/5</td>
<td>Responds to Dianna, compliment of interesting / freedom of job, requests more information about assessment outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paul</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Responds to Mike's point that learning=change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Respond to water metaphor, compliments and adds education-channelling, shaping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 May</td>
<td>Learning means change and ability to manage environment, it is continuous, socially 'messy' and unstructured, it is both destructive and constructive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Responds to Xiaohong’s posting about continuous learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 May</td>
<td>Constructive learning is about adding 'stuff'. Learning is 'deconstructive' – 'deep learning' radically shifts perspectives, involves 'chucking away' long-held views, restructuring, removing, adjusting perceptions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 May</td>
<td>Consultant and designer of e-learning projects, blended for corporate clients. Job involves diagnosis of learner needs, content research, instruction design, learning intervention, the development of learning material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

turning data into information, tasks are work related, feedback good.
<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Activity</th>
<th>Date</th>
<th>Activity</th>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25 May</td>
<td>Responds to jigsaw metaphor: jigsaw piece, different pieces, build different jigsaws, body knowledge, understanding while put all jigsaws together, teacher help build jigsaws/blindfolded</td>
<td>25 May</td>
<td>Responds to Michael Higher order stuff – Columbus/old model of world, then relearn/unlearn, Copernicus, Galileo to modern astronomy, Constructivism and behaviourism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richard</td>
<td>19 May</td>
<td>Learning from experience, advice and information</td>
<td>19 May</td>
<td>Error checking method to make sure the same error will not happen again. Know how to follow procedures to solve problems</td>
<td>19 May</td>
<td>Work for help desk and give advices to problems. Also work in the Computer Access Room (COR) to support students and staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Producing manual for COR for students and a booklet for staff.</td>
</tr>
<tr>
<td>Andrew</td>
<td>No entry</td>
<td></td>
<td>27 May</td>
<td>Peer reviews as assessment probably doesn’t give social recognition and value and accreditation</td>
<td>No entry</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sue</td>
<td>20 May</td>
<td>In the field of medicine, learning is about ongoing integration of knowledge, experience, skills, qualities, responsibility and value</td>
<td>20 May</td>
<td>(same posting) Through formal exam papers, clinical exams, laboratory tests and reflective personal attributes, etc.</td>
<td>20/5</td>
<td>Teaching and providing network services on good practices in medicine, dentistry, veterinary medicine. Also a personal tutor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Provides web support for staff, writes guidelines, provides pastoral support</td>
</tr>
<tr>
<td>Xing</td>
<td>9 May</td>
<td>Learning is a lifetime process, like building a city, asking/answering question/reflection Two kinds of learning. Gives as an</td>
<td>19 May</td>
<td>Compliments Hana on her water metaphor, Learning is like construction. It is designable and unconscious</td>
<td>9/5</td>
<td>Teaching English to staff, running seminars on networked learning, Designs multimedia courseware for engineering staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Design interview questionnaires for a research project for organisational culture</td>
</tr>
</tbody>
</table>
example a bank supervisor and how he applies what he learned to training

<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 May</td>
<td>Cosmic dance of creation, destruction Responds to Patrick’s comment of continuing, destructive and channelling idea, Destructive – the extension of construction and creation</td>
</tr>
<tr>
<td></td>
<td>and conducts research-questionnaires.</td>
</tr>
</tbody>
</table>

Table 6.4 Content summary of student postings
As indicated in Table 6.4: Content summary of student postings, Task 1.1 in Assignment 1 was about conceptual understandings of learning. At this stage, students were not required to relate their discussions to their reading material. It was rather an exercise designed to encourage them to express their points of view. The reminder that they should delay their responses to other students’ postings in order to allow all time to have their say was a typical online teaching tactic, important in the promotion of a collaborative spirit and in ensuring that the forum was not dominated by the more vocal participants.

In Table 6.4, there were twenty postings from 19 students. The summary of the contents of these postings identifies a high frequency of the use of abstract nouns and nominalisation (the noun forms of verbs) for the discussion of the concept of learning. For example:

Nouns: experience, practices, changes, training, ability, knowledge, skills, information
Nominalisations: improvement (improve), stimulus, acquisition, interaction, reflection, assimilation, construction/de-construction.

The use of such abstract nouns and nominalisations makes it possible to distil the following conceptions of learning from the student postings:

- Learning involves permanent changes in behaviour and organisation;
- Shuell’s idea of guided construction provides a basic model of learning;
- learning is the assimilation of practices, experiences and understandings;
- learning involves acquisition of knowledge, skills, reflection, and the seeking of advice and information from experienced and senior colleagues;
- learning involves responding to external stimuli and internal reflection, achieving goals and quality, responsibilities and values.

From the initial analysis of the summary of the students’ online discourse, it is evident that their contributions employed the cognitive skills of elaborating, extending, contrasting, describing and critiquing (see these skills in Table 6.15). Also, students were able to demonstrate their in-depth understanding of learning by using metaphors effectively to describe the concept of learning. For example one of the students
describes learning as a 'city built of [the] stones' of lifetime experiences. Inspired by this metaphor, another student put forward the metaphor of ‘water’ to illustrate the ‘fluid, liquid or even messy’ nature of learning. As she explained

I came up with an image of learning as being like the way water gathers in pools, puddles and drips by all different means – rain, underground streams, displacement by boulders crashing together, sometimes getting larger, sometimes breaking up, overflowing into new shapes, making new connections, new depths.

This metaphor generated no fewer than seven responses and “flowed” well into the next task of how to determine whether learning had taken place. This again evoked the deployment of metaphors as a means of demonstrating understandings. These metaphors will be analysed in detail later in this chapter (see section 6.22 Analysing of key moment of discussion: the use of metaphor)

Forum posting genre

The generic structure of the screen page on which students composed their messages is illustrated in Table 6.5 below. It consisted of a simple, standardised format, pre-programmed like a template by the software or platform (e.g., WebCT). Students needed only to fill in the subject name while their own names and the dates and times of entry were automatically generated after they logged in.
### Table 6.5 Forum posting genre

<table>
<thead>
<tr>
<th>Posting headings</th>
<th>Functionality</th>
<th>Item generated by</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of student</td>
<td>Identifies participants</td>
<td>Platform self generated after user’s login</td>
<td>Sue Smith</td>
</tr>
<tr>
<td>Date of posting</td>
<td>Keeps a record of postings</td>
<td>Platform self generated after user’s login</td>
<td>16/05/03</td>
</tr>
<tr>
<td>Time message</td>
<td>Keeps a record of postings</td>
<td>Platform self-generated after user’s login</td>
<td>10:10 PM</td>
</tr>
<tr>
<td>Discussion topic</td>
<td>Keeps the thread of discussion</td>
<td>Pre entered/decided by tutor</td>
<td>Task one – description of learning</td>
</tr>
<tr>
<td>Subject</td>
<td>Indicates discussion contents</td>
<td>Student entry</td>
<td>Metaphor</td>
</tr>
<tr>
<td>The body text</td>
<td>Discussion of ideas</td>
<td>Student entry</td>
<td>Learning is demonstrated by a permanent change……</td>
</tr>
</tbody>
</table>

This pre-formatted genre structure of forum postings made it easy to identify participants and their subject entries. This also allowed for accurate record-management of entries of dates and times of student postings. Topics were task-based then pre-grouped and entered. Each learning activity (task) had its own topic which made it important for students to make their entries under the correct topics. After they had selected the topic, they entered the subjects of their discussion before constructing the body text.

The analysis was focused on the elements of the subject entry and the body text. These two components were controlled by the students and showed the essence of how ideas developed during, and as a result of, the process of collaboration with other students. In particular, the text analysis was focused on how meaning was made in the presentation of ideas and concepts in the body text.
Analysis of the Subject entry

What is evident in responses to all four tasks in Assignment 1, is that students adhered to the topics set by the lecturer and made very little attempt to move in new directions or raise new topics, even in response to the postings of other students.

There were a few exceptions: when students requested a reply or expressed a wish to discuss a particular concept in detail, a new subject would emerge. For example: in response to a posting by a student we shall call Peter, which postulated that \textit{learning = change}, this provoked Paul (also a pseudonym) to respond that organisational change involved \textit{un-learning} and that this was more important than \textit{learning} as such. Peter responded to this by referring to Ohlsson’s argument with regard to learning and changes. A linear depiction of this discussion thread looks like this:

<table>
<thead>
<tr>
<th>Student</th>
<th>Peter</th>
<th>Paul</th>
<th>Peter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Learning = change</td>
<td>Re: Learning = change</td>
<td>Re: Learning = change</td>
</tr>
<tr>
<td>Idea being discussed</td>
<td>Learning involves change</td>
<td>Organisational change involves unlearning</td>
<td>Justifies learning = change concept by referring to Ohlsson’s arguments about learning and changes.</td>
</tr>
</tbody>
</table>

Table 6.6 A linear pattern of responses

The above pattern is typical of a linear sequence of responses which lead to the development of new ideas. This particular discussion thread can be treated as a semi macro-genre (Martin, 1994) with a variation of generic structure within each entry. However, in the following example, set out in Table 6.7, the pattern is more mixed, the multiple responses to the original posting provoking the original author also to provide multiple replies.
Example of metaphor entries and followed up discussions – a non linear pattern of responses
(See a graphic illustration in Figure 6.3)

<table>
<thead>
<tr>
<th>Student</th>
<th>Xing (Starter of metaphor)</th>
<th>Hana to Xing and Hana</th>
<th>Ann to Hana</th>
<th>Hana to Ann and Paul</th>
<th>Peter to Hana</th>
<th>Paul to Ann</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Definition of learning</td>
<td>Metaphor</td>
<td>Re: Definition of learning</td>
<td>Re: Definition of learning</td>
<td>Re: Metaphor</td>
<td>Re: Metaphor</td>
</tr>
<tr>
<td>Idea being discussed</td>
<td>Proposes the metaphor that learning is like a city and it lasts a lifetime.</td>
<td>Compliments Xing’s on her city metaphor.</td>
<td>Compliments both Xing and Hana on their city and water metaphors.</td>
<td>Compliments Hana on her water metaphor.</td>
<td>Compliments Hana on her jigsaw metaphor.</td>
<td>Compliments Hana on her water metaphor, and proposes water with different qualities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proposes her own metaphor - that learning is like water, liquid, fluid and messy</td>
<td>He extends water metaphor: Water moves around, but may not flow where it does most good. Education can be seen as channelling and shaping.</td>
<td>Proposes another metaphor, in which learning is likened to a jigsaw puzzle without a blueprint. It is about what fits best according to shape, size and colour</td>
<td>Responds to Paul’s previous idea of learning being chaotic.</td>
<td></td>
</tr>
<tr>
<td>Cognitive skills</td>
<td>Presenting new ideas</td>
<td>Complimenting, extending idea to a new form</td>
<td>Complimenting, elaborating and describing</td>
<td>Complimenting, proposing new idea and describing</td>
<td>Complimenting, extending concrete example to abstract concept</td>
<td>Complimenting, and proposing new concepts</td>
</tr>
</tbody>
</table>

Table 6.7 Metaphor discussion thread
The non-linear, multi-directional nature of the discussion depicted in Figure 6.3 is very similar to face-to-face interaction or that in a virtual café discussion. For example, Xing's use of the *city* metaphor in her definition of learning generated an active discussion. She received both direct and indirect responses from her peers, whose admiration for her metaphor encouraged them to deploy the metaphors of *water* and a *jigsaw puzzle*. That in turn created an in-depth elaboration of learning with vivid descriptions, and thus applied an abstract concept to life examples. Hana argued that learning, like water, is fluid and has a range of qualities. This contrasted with the image of a city as something strong and solid which lasts for a lifetime. The *jigsaw puzzle* metaphor conjured up an image of the many pieces of different shapes, sizes and colours which have to be put together to form a meaningful picture.

As will be shown by means of detailed discourse analysis later in the chapter, the deployment of such metaphors demonstrated the students’ in-depth conceptual understandings of the topics. The use of metaphors also illustrated their ability to apply their cognitive and language skills to illustrate a highly abstract concept.
Student posting - body text analysis

In text analysis, the term ‘body text’ refers to the actual text of the message. From the data analysis it emerges that there are some features common to most if not all body texts in forum discussions. For example, the body of most mailing list or forum discussion posted, usually contain a greeting from the author to the reader (e.g., 'Hi'), a closure (e.g., 'Cheers', 'Regards') and the signature of the contributor (e.g. John). However, these elements were absent from the ALT postings. Students went straight into their messages without either greeting or signing off at the end. There is no evidence or specific reasons for why this was the case, but it can be assumed that students simply did not see these elements as being necessary in that context. Another explanation is that students regarded this forum as a rather formal education setting in which they were required primarily to complete their learning tasks, making forms of personal interaction unnecessary. If this was the case it showed that students had the ability to adjust their learning settings to suit their learning activities. It could also have been that because their lecturer’s first posting had not included these elements, they simply followed that example. If this is the case, it raises a question: do students usually follow examples set by their tutors: if they do, to what extent? This is an important issue in online learning.

Several variations in the ways in which arguments and ideas were presented, are evident in the body texts. Students used different strategies and skills in organising their messages. For example, students who posted all four tasks of Assignment 1 in one message, used both numbering and bullet points to differentiate each task. Some students used separate headings and subheadings while some used 'Part One' and 'Part Two' to distinguish different sections of their postings. Some students successfully used linguistic indicators to signal the different parts of the tasks in order to move from 1.1. (the definition of learning) to 1.2 (the ways of identifying how learning has taken place). In another example, one student used the phrase: ‘I can only imagine that learning takes place if ...’, while another student even used a question to indicate the shift (e.g., How to tell if learning has occurred?). These students were deploying
different linguistic resources to give their interpretation of the concepts being discussed. For example, the phrase *I can only imagine that* … indicated that the writer was trying to give an open-ended interpretation of the concept of learning in the text. Paltridge points out that the ‘modal auxiliary *can* often expresses permission and an ability in a mood statement’ (2000, p. 120). However, in this context, by using what Eggins calls the ‘semantic dimension of modulation’ to signal the degree of ‘inclination’ (Eggins, 1994, p. 189), the writer was interpreting the concept being discussed. In other words, this author was signalling that she was not attempting to impose any strong beliefs or interpretations on the group and was open to accepting other points of view. Again, in the second example when the second student used a question form (*How to tell if learning has occurred?*) as a way of switching her discussion topic from Task 1.1 to Task 2.2, she was inviting her audience to join in her discussion. In the mood system of Eggins (1994) and Paltridge (2000), the interrogative use of modality helps an author to initiate a dialogue with the audience by inviting the audience to embark on a co-exploration of the concept being discussed.

The two examples discussed above illustrate how detailed discourse analysis can reveal the text functions in constructing meanings and how language choices can help a writer to negotiate interpersonal relationships with his/her readers.

In the analysis of the body text in students’ postings (hereafter the body text) the different elements have been categorised as follows:

1. Distinctive genres of body text.
2. Key components and schematic structure of the identified genre, demonstrating students’ level of cognitive skills in organising ideas and concepts
3. Specific language features used in different genres, demonstrating students’ skills and strategies in deploying linguistic resources in their collaborative learning

**Online discussion board and communicative activities**

Here it might be useful to recapitulate what exactly is being analysed. There were four learning activities which had to be dealt with in an order predetermined by the tutor. The
mode of communication was via forum contributions posted to a discussion board. Students were asked to limit their postings to 50 words for Task 1.1. and 200 words for the other tasks. Other students could respond to these postings, request clarification, provide feedback and support or extend the arguments being discussed. However, the aim of the discussion board was not simply to provide a channel of communication between students. It was also designed to fulfil a social function by providing a virtual space for student collaboration in knowledge-construction and the building of a dynamic learning community.

While most students posted four messages to satisfy the assessment requirement, the methods of completing these four activities differed widely. While some students preferred to post one long message in one day, most posted four separate messages, although also on the same day. The level of participation, as measured by the number of postings of individual students, varied from a maximum of 15 to only two. While those students who posted the largest number of messages did not necessarily contribute most to the knowledge-content of the discussions (see Table 6.3: Level of participation and Table 6.4: Content summary of student postings) their responses tended to demonstrate more spontaneous qualities and were usually shorter, addressing only one issue at a time and using a less formal language style. Table 6.8 sets out the patterns of online postings.

### Emerging patterns of the discussion of a learning concept

<table>
<thead>
<tr>
<th>Components</th>
<th>Functions and activities</th>
<th>Comments/Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genre</td>
<td>Discussion of a learning concept (what)</td>
<td>Giving a description of learning .</td>
</tr>
<tr>
<td>Topic</td>
<td>What is learning?</td>
<td></td>
</tr>
<tr>
<td>Function/Purpose</td>
<td>To demonstrate conceptual understandings of the concept</td>
<td>Learning is a sustained change in behaviour, skills, attitude or belief that ….</td>
</tr>
</tbody>
</table>
|                  | To establish a consensus in the group about learning | Paul: *Love the stuff about water*  
Ann: *I like the watery metaphor too!*  
Peter: *I came to the conclusion that I agree with this* (p. 17).  
*I was struck by this metaphor* (feedback)  
*I tried to catch my metaphor* (propose own concept)  
*Now I am wondering ... would it make any difference to our approach to learning?* [Inviting feedback from others]. |
<p>|                  | To encourage collaboration in learning by discussion |                                                                                  |
| Participants     | Mainly students within the course |                                                                                  |</p>
<table>
<thead>
<tr>
<th>Audience</th>
<th>Tutors and students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>In an online setting</td>
</tr>
<tr>
<td>Social context</td>
<td>The four activities in Assignment 1 form part of the formal assessment of the course. Students were required to post four messages (or one message which included all four components) within the first two weeks of the course. They were encouraged to read and respond to other student’s contributions (see task descriptions). There was no input from the tutors as this virtual space was designed to encourage collaboration free from the influence of the tutors.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sequence of discussion</th>
<th>Linear</th>
<th>Non-linear or multi-dimensional</th>
</tr>
</thead>
<tbody>
<tr>
<td>By date or order of postings (linear)</td>
<td>By topic and content of responses</td>
<td>For example: a student can respond to two or three students in their discussion or in the meantime she/he can receive more than one response from other students in the group.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message contents</th>
<th>Single idea/concept to multiple ideas and concepts</th>
<th>Learning is about change (one idea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning encompasses a kind of acquisition, generation of information and interaction with external stimulus (p. 19). (multiple ideas/concepts)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language</th>
<th>A mixture of language styles: most of the postings fell between formal/impersonal and semi-formal modes although a few students exclusively used informal and personal language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning has occurred when the academic has … (formal - written language, p. 14)</td>
<td></td>
</tr>
<tr>
<td>Learning is to do with bringing about an improved change. (semi formal-spoken language, p. 14)</td>
<td></td>
</tr>
<tr>
<td>So I was thinking about learning (informal-spoken language, p. 17)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Linguistic resources</th>
<th>A wide range of linguistic resources (e.g., modality of imperative, interrogative, declarative, metaphors and conjunctive links) were used to describe and explain a concept, elaborate ideas, seek clarification, present arguments, justify and give feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning is a combination of understanding, familiarity and ability to do something (p. 14). (Describe what learning is.)</td>
<td></td>
</tr>
<tr>
<td>If they have learned the technical skills then they will demonstrate this by uploading their course material to the web (p. 18). (Explain how to determine if learning has taken place).</td>
<td></td>
</tr>
<tr>
<td>I believe that education, therefore, is a process of living not a preparation for future living (p. 21) (Presenting an argument)</td>
<td></td>
</tr>
<tr>
<td>I feel quite gratified by the number of</td>
<td></td>
</tr>
</tbody>
</table>
times Stellan Ohlsson refers to learning as ... change (p. 22) (Justification)

<table>
<thead>
<tr>
<th>Rules for interaction</th>
<th>Being polite, within academic context, relevant within topics of discussion, entering postings under the predetermined topics, appropriate in style e.g., formal/semi formal/informal, restrict to word length</th>
</tr>
</thead>
</table>
| Share/construct knowledge | Discuss, develop and interpret the concept of learning.  
By brainstorming, all students propose their concept/understanding of learning  
By discussion, students jointly critique, elaborate, explain in the refinement of such concept |
| Formality | In the body texts, most students did not include elements of greeting or of signing off  
Most students launched directly into discussion without using greetings such as ‘Hi,’ or ‘Hello’, or ‘Bye Now, Cheers, Regards’ before signing off. Moreover, most students did not use their signature to sign off. |

Table 6.8 Pattern of online postings

Table 6.8 above shows how the first activity was contextualised in the online learning environment. As such it constitutes a modified version of the patterns of good communication presented by Paltridge (2000, p. 77-79). For the other three tasks, students used similar activity patterns to carry out their collaboration and co-construction of knowledge. However, although the description texts evoked by Task 1.2 were often very similar, the nature of the task generated 37 postings, compared to around 20 for each of the other tasks. It is noteworthy that the texts of most students contained the features of a discussion text rather than description or constituted a mixture of discussion and description. In their responses to Tasks 1.3 and 1.4, most students focused simply on a description of their current job or project and the relevance of the course to their work environment.

Unpacking the discourse of student texts

As discussed in Chapter 2, detailed discourse analysis using the SFL framework, involves examining three metafunctions, viz. ideational meanings, interpersonal
meanings and textual meanings. That examination was applied below to the text written by a student who, for our purposes, goes under the name of Hana. Recall that the *ideational* applies to the content level of the text (the ideas and concepts proposed), the *interpersonal* to the authorial voice, stance and engagement and how relationships are constructed in the text with its audience (in this context peers and lecturers), while uncovering the *textual meanings* involves examining what language choices (such as conjunction and ellipsis) have been made in the construction of the text to achieve cohesion or signal prior knowledge.

**Example of the three metafunctions approach to text analysis**

**Hana’s text**

**Assignment 1. Task 1.1**

**Activity 1**

1) *Learning is to do with bringing about an ‘improved’ (now there’s a piece of string to follow!) changed state in one – or a combination of – the following:*

*Understanding*

*Familiarity with something (incl. Remembering)*

*An ability to do something*

*It may be conscious or unconscious. It may not be tangible. It is not static. It is not stable.*

**Task 1.2**

2) *As such, determining if learning has taken place is an approximate game. Probably the most telling way is first to ask the student, then to ask the student’s peers and tutor. ‘Assessment’ MAY reveal if learning has taken place, but (by definition) reveals what is measurable within its prescribed format and is more often concerned with measurement against a standard, not against the point from where the student began.*
Analytical approach within the three metafunctions framework

<table>
<thead>
<tr>
<th>Ideational meanings</th>
<th>Interpersonal meanings</th>
<th>Textual meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Field)</td>
<td>(Tenor)</td>
<td>(Mode)</td>
</tr>
<tr>
<td><strong>Subject contents:</strong> Learning is about an improved changed state, a combination of understanding, familiarity and an ability to do something</td>
<td><strong>Authorial voice:</strong> Hedging to allow engagement and negotiation by using probably, may, may not.</td>
<td><strong>Conjunctive link:</strong> but. <strong>Contrast:</strong> It may... it may not ... conscious/unconscious, static/stable</td>
</tr>
<tr>
<td><strong>Realised by Nominalisation:</strong> combination, familiarity, ability, assessment, measurement</td>
<td><strong>Realised by declarative voice:</strong> Learning is ....</td>
<td>**Logical development of ideas:**first ... then ....</td>
</tr>
<tr>
<td><strong>Realised by modality:</strong> Probably, May, It may be ..., It may not be</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.9 Text analysis of three metafunctions

Figure 6.9 above shows that application of analysis in terms of the three SFL metafunctions uncovers the various language resources used in the construction of the Hana text. For example there is high use of nominalisation in the first sentence which explores what learning is about. The writer then uses the linguistic resources of hedging and modality to negotiate a non-committal attitude in her discussion with her readers. For the cohesion of ideas and concepts presented she uses the conjunctive link of but and other resources (such as negative and positive) to contrast ideas. Propositions of first and then are also used to show sequences of action proposed in the message.

Cognitive skills displayed in Hana’s text

<table>
<thead>
<tr>
<th>Cognitive skills</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Elaborating (use bracket to add more information) | Learning is to do with bringing about an ‘improved’ *(now there’s a piece of string to follow!)* changed state  
Familiarity with something *(incl. Remembering)* |
<p>| Extending                                  | <em>in one – or a combination of – the following:</em> Understanding, familiarity with something (incl. remembering), an ability to do something |
| Explaining                                 | It may be conscious or unconscious.                                                          |
| Contrasting                                | Approximate game – measurable, prescribe format, standard                                    |</p>
<table>
<thead>
<tr>
<th>Components/features</th>
<th>Hana’s text 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task: Defining scope</td>
<td>Assignment 1 Task 1.1 and Task 1.2</td>
</tr>
<tr>
<td>Present statement/title</td>
<td>Activity 1</td>
</tr>
<tr>
<td><strong>Lead: Learning is about changes</strong></td>
<td></td>
</tr>
<tr>
<td>Elaborate and extend concept of ‘changed state’</td>
<td>1) Learning is to do with bringing about an ‘improved’ (now there’s a piece of string to follow!) changed state in one – or a combination of – the following: Understanding Familiarity with something (incl. Remembering) An ability to do something</td>
</tr>
<tr>
<td>Explain different forms of changes</td>
<td>It may be conscious or unconscious. It may not be tangible. It is not static. It is not stable.</td>
</tr>
<tr>
<td>Uses metaphor: determining ... is an approximate game to indicate her critical position in setting standard measurable methods</td>
<td>Task 1.2</td>
</tr>
<tr>
<td>Proposes and describes the first method of determining if learning has taken place</td>
<td>2) As such, determining if learning has taken place, is an approximate game.</td>
</tr>
<tr>
<td>Proposes method for alternative</td>
<td>‘Assessment’ MAY reveal if learning has taken place.</td>
</tr>
</tbody>
</table>

Table 6.10 Cognitive skills displayed in Hana’s text

The identified cognitive skills and language strategies used in Hana’s text above will also be used for discourse analysis of the rest of the selected texts in this chapter.

**Unpacking the Hana’s text**

| It may be conscious or unconscious. It may not be static. |
| **It is not static. It is not stable.** |
| **Probably the most telling way is first to ask the student, then to ask the student’s peers and tutor.** |
| Probably the most telling way is first to ….. ‘Assessment’ MAY reveal if learning has taken place. |
| But (by definition) reveals what is measurable within its prescribed format and is more often concerned with measurement against a standard, not against the point from where the student began. |
| It may be …., it may not be …., Assessment MAY reveal ….. |
assessment
Discusses concerns about using formal assessment  
*but (by definition) reveals what is measurable within its prescribed format and is more often concerned with measurement against a standard, not against the point from where the student began.*

Language style  
Semi formal, e.g., *bring about* ....

Language features  
Sentence patterns: *Learning is .... It may be ...., It may not be ...*  
Conjunctive link: *but.*  
Other features: *first ... then .... Probably, May*  
Nominalisation: *combination, familiarity, ability, assessment, measurement*  
Contrast: *It may... it may not ... conscious/unconscious, static/stable*

Table 6.11 Hana’s Text 1 analysis

From the above analysis it can be seen that the student Hana has used different strategies to develop her arguments. In the first activity she uses a statement: *learning is about changes* to lead the remainder of the text. She then uses elaboration strategies with a list format to extend her concept of changes in the three cognitive domains of learning: *understanding, familiarity and ability*. She then further explains the different forms of changes, using the technique of repetition and contrast, for example, *It may be ..... It may not be. It is not ...... It is not ......*

Similarly, in Task 1.2 she uses the metaphor of *approximate game* to describe the learning process. The use of that metaphor indicates her doubts about the effectiveness of any standard, measurable form of assessment, something she discusses further in the last part of the text. Here she re-iterates her critique of formal assessment, arguing that it fails to consider the point from which the student set out to reach the point they are at when the assessment is made. She proposes that instead, an informal assessment method using peer and tutor review, be devised. In the second activity, her approaches are much more strategic with well-sequenced arguments and logical organisation.

**Textual organisation**

The analysis of textual organisation focuses on investigating how postings are textually organised in the development of ideas and arguments. Particularly important is how the
relationship between the opening sentence and the remainder of the text is organised. Questions asked here include: which key features of such organisation contribute to recurring patterns? what emerging organisational principles can be drawn on for effective use for online discussions? or, how have these principles contributed to success in the learning process?

Applying the above analysis to the Hana text using the model proposed by White (1998), the first point to note is that the text is divided into two parts, the opening section (orientation, thesis, or opening) and the body or second section which follows the opening sentence. The advantage of using White's model is that it allows a clearer analysis of the relationship between the opening section and the remainder of the body text. This model shows how the opening sentence leads to the body text and how the remainder necessarily refers back to the opening sentence. This is done by way of using a series of specifications, such as elaboration, explanation (e.g., cause and effect), contextualisation and appraisal of ideas or concepts. According to White, sometimes the body section needs to be sub-divided into smaller components in order to show the nature of the orbital principle of text organisation and how supporting ideas or arguments are closely linked back to the opening sentence.
Figure 6.4 and Figure 6.5 are two examples of such orbital principles used in Hana’s text for Tasks 1.1. and 1.2.

**Orbital textual organisation and concept development of Hana’s text**

**Task 1.1**

As illustrated in Figure 6.4, the topic sentence *Learning is about changes* introduces the thesis. The writer then refers back to this thesis in the body of the text by using elaboration and extension to make connections between learning and changes as *understanding, familiarity* and *ability* to accept those changes. She further uses contrast and repetition to explain the nature of such changes as *conscious* or *unconscious, static and stable*. 
Here, interestingly, we can see that Method 1 has a direct semantic link of agreement with the metaphor lead of *approximate game*. If assessment had been 'an approximate game' it would have been more appropriate and reasonable to ask students, peers and tutors to make the assessments. However, while Method 2 described common practice, the metaphor flagged the author’s critique of that practice and also functioned as an answer to the question posed in Task 1.2 about how to determine if learning has taken place. Such a multidimensional approach in presenting arguments and methods requires a much higher order of cognitive skills in developing this non-linear meaning-making and textual organisation in the critique process.

Another strong feature in the Hana text is the use of hedging in the presentation of arguments. According to White (1998) a writer uses hedging (e.g., maybe, I think that …) to indicate the lack of commitment to its proposed content. It allows the writer to negotiate the truth value of the content at an interpersonal level with the readers or
other group members in the discussion. For example, the use of the phrase *learning may be conscious or unconscious* indicated that the writer was not committed to either, but was presenting the concept for negotiation and flexible interpretation to suit a readers' context and learning experience. Again, by using the modalities *probably* and *may*, the writer indicated doubt about the use of formal assessments to determine if learning had taken place, such doubt being reinforced by the use of the upper case for the word *MAY*.

In the process of modelling her authorial position, the writer used both stance and engagement. In the first sentence the words 'approximate game' were used to assert the proposition that assessment of learning could be made through a variety of methods, depending on what was being assessed. The use of the hedging term ‘*may*’ articulated an ambivalent attitude (‘…learning *may* be conscious and unconscious’) which was contrasted with two alternative possibilities. This device engaged readers by inviting them to make their own interpretations of the concept of learning in the context of different learning environments and their experience as students. Later the discussion of assessment as a means of determining whether learning had taken place, again engaged the audience by the use of modality (‘…assessment *MAY* review if ….’) which indicated strong reservations about the use of formal assessment as a measurement of standards. It also expressed a preference for assessing the progress a learner had made in a given time frame. Instead of making a firm statement of position (stance) in the first sentence, the use of the modality ‘*may*’ indicated a willingness to hear the voice of other students. But in inviting them to confirm or rebut a proposition, the writer reserved an authorial position.
Analysis of text 2: Ann’s text

Due to the scope of the study and of this chapter in particular, the remainder of this section analyses only two selected texts, those of Ann and Peter and is necessarily limited to the unpacking of the body text only. Although the data set is small, the unpacking of these texts together with that of Hana above, enables a comparison to be made between the language resources and cognitive skills used by all three students.

**Task 1.1 – definition of learning**

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Ann’s text 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task</td>
<td>Re: Part one – definition of learning</td>
</tr>
<tr>
<td>Present statement/title</td>
<td>Guided construction</td>
</tr>
<tr>
<td><strong>lead: guided construction</strong></td>
<td>Note: Here, in her lead, Ana used ellipsis and did not cite the full sentence, e.g., Learning is (involves) guided construction. The absence of subject and verb was a typical feature of forum postings</td>
</tr>
<tr>
<td>Proposes a model</td>
<td>The model of learning that best suits my working environment is Tom Shuell’s idea of guided construction:</td>
</tr>
<tr>
<td>Elaborates and extends who and what</td>
<td>with a teacher (or computer system, or other learners)</td>
</tr>
<tr>
<td>Explain how</td>
<td>Offering an ‘architecture for learning’ and the learner him/herself making sense of the guidance.</td>
</tr>
<tr>
<td>Explained personal difficulty</td>
<td>The difficulty I face daily is, however,</td>
</tr>
<tr>
<td>Explained why it is difficult (contextualised model in work situation)</td>
<td>how to assess or evaluate learning – not so much as to whether it has taken place</td>
</tr>
<tr>
<td>Confirm learning process</td>
<td>(as that is quite obvious in the transfer),</td>
</tr>
<tr>
<td>Elaborates a difficulty</td>
<td>but how to isolate the elements that have contributed to learning.</td>
</tr>
<tr>
<td>Describes the nature of her own job</td>
<td>As my job is ‘training’ – rather than ‘helping people to learn’,</td>
</tr>
<tr>
<td>Gives reason</td>
<td>I have to prove that it was my intervention that has contributed to their learning –and that is difficult!</td>
</tr>
<tr>
<td>Reinforces difficulty</td>
<td></td>
</tr>
<tr>
<td>Language style</td>
<td>Formal to semi-formal. Apart from using a few personal nouns the text is written in formal language.</td>
</tr>
<tr>
<td>Language features</td>
<td>Sentence patterns: The model of learning…. is …. Conjunctive link and propositions: however, but, first … then …. Probably…, May… Nominalisation/noun groups: guided construction, model of learning, working environment, computer system</td>
</tr>
</tbody>
</table>

Table 6.12 Ann’s text analysis
## Analysis of text 3: Peter’s text

### Heading: General: What is learning?

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Peter’s text 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task</td>
<td>General What is learning?</td>
</tr>
<tr>
<td>Present statement/title</td>
<td>Reflection on reflection</td>
</tr>
<tr>
<td><strong>lead:</strong> Reflection</td>
<td>Note: Here, in his lead, Peter uses repetition to emphasis his lead on reflection.</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>Instead of using a statement he uses a phrase as a lead</td>
</tr>
<tr>
<td>Consequential</td>
<td>So I was thinking about ...</td>
</tr>
<tr>
<td>Define learning</td>
<td>usually occurs as a result of exposure to some external stimulus or experience,</td>
</tr>
<tr>
<td>Express commonality</td>
<td>Note: Peter uses modality of usually to express commonality and to indicate he is not 100% committed to frequency of events</td>
</tr>
<tr>
<td></td>
<td>Here the sentence may be interpreted as: Learning is about reflection on reflection, so that I was thinking about learning usually occurs as a result of exposure ....).</td>
</tr>
<tr>
<td>Emphasise</td>
<td>Like Ann, Peter uses ellipsis and did not give the full sentence (learning as the subject of the sentence is absent).</td>
</tr>
<tr>
<td></td>
<td>and particularly about the &lt;usually&gt; bit.</td>
</tr>
<tr>
<td>Concluding</td>
<td>I came to the conclusion that</td>
</tr>
<tr>
<td>Express solidarity</td>
<td>I agreed with this after wondering how much learning happens without bumping into &lt;a change prompt&gt;.</td>
</tr>
<tr>
<td>Further explain</td>
<td>I was thinking about reflection and whether that is always affected/prompted or whether it ever happened by pure recycling of concepts.</td>
</tr>
<tr>
<td></td>
<td>Note: Again, modality of always is used to show non commitment to 100% of frequency.</td>
</tr>
<tr>
<td>Explain</td>
<td>It strikes me that the full impact and potential of &lt;an external stimulus&gt;</td>
</tr>
<tr>
<td>Hedging</td>
<td>might not be realised until a long time after the &lt;external stimulus&gt; has melded with other stuff (internal and external) by the &lt;power of reflection&gt;.</td>
</tr>
<tr>
<td>Elaborate</td>
<td>For example, some of the nasty readings that we have to do don’t sink in until well after the assignment is done and dusted.</td>
</tr>
<tr>
<td>Language style</td>
<td>Informal. Peter uses many conversational features in this posting to indicate his casual style. For example: So I was thinking about ... , I came to the conclusion, about the &lt;usually&gt; bit, I was thinking about .... It strikes me that .... , with other stuff, don’t sink in ... nasty readings.</td>
</tr>
</tbody>
</table>
### Table 6.13 Peter’s text analysis

### Comparison of Hana, Ann and Peter’s – cognitive strategies and language skills

<table>
<thead>
<tr>
<th>Hana (text 1)</th>
<th>Ann (text 1)</th>
<th>Peter (text 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presents statement/title</td>
<td>Presents statement/title</td>
<td>Presents statement/title</td>
</tr>
<tr>
<td><strong>Lead: Learning is about changes</strong></td>
<td><strong>lead: guided construction</strong></td>
<td><strong>lead: Reflection</strong></td>
</tr>
<tr>
<td>Elaborates and extends concept of ‘changed state’</td>
<td>Proposes Shuell’s guided construction model</td>
<td>Defines learning - reflection</td>
</tr>
<tr>
<td>Explains different forms of change, using hedging word <em>may</em> to indicate ambivalence attitude.</td>
<td>Elaborates, extends and explains who, what and how of model</td>
<td>Expresses commonality, non-commitment to 100% of frequency of event using modal word <em>usually</em>.</td>
</tr>
<tr>
<td>Uses contrast and repetition to emphasise different changes (<em>It may..., it may not ..., conscious/unconscious</em>)</td>
<td>Uses ellipsis representing an informal language style</td>
<td>Shows consequential relationship between lead and definition (<em>So that ....</em>).</td>
</tr>
<tr>
<td>Uses metaphor to indicate her critical position in setting standard measurable methods (<em>determining ... is an approximate game</em>)</td>
<td>Explains personal difficulty</td>
<td>Uses ellipsis representing an informal language style</td>
</tr>
<tr>
<td>Proposes and describes Method 1: informal peer/tutor review</td>
<td>Explain why it is difficult (contextualised model in work situation)</td>
<td>Expresses commonality, non-commitment to 100% of frequency of event (particularly, usually)</td>
</tr>
<tr>
<td>Proposes method 2 of alternative: formal assessment</td>
<td>Confirms learning process</td>
<td>Shows consequential relationship between lead and definition (<em>So that ....</em>).</td>
</tr>
<tr>
<td>Use hedging to show ambivalent stance in using formal assessment (*modality <em>MAY</em> in upper case).</td>
<td>Elaborates difficulty</td>
<td>Uses ellipsis representing an informal language style</td>
</tr>
<tr>
<td>Discusses concerns about using</td>
<td>Describes nature of own job</td>
<td>Emphasises and reinforces non-commitment to 100% of frequency of event (particularly, usually)</td>
</tr>
<tr>
<td></td>
<td>Gives reason</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reinforces difficulty</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concluding (<em>I came to the conclusion that ....</em>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Express solidarity (<em>I agreed with this ‘learning involves change’</em>).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Further explains, expresses commonality of <em>reflection</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explains connection of external/internal stimulus and the power of reflection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hedging: use <em>might</em> to show willingness in engaging audience to further discuss claim of the</td>
</tr>
</tbody>
</table>
impact of external stimulus on learners.
Elaborates: gives example of reading task in the course

Language style: formal to semi formal (e.g., bring about ….)
Language style: Formal to semi formal. Apart from using a few personal nouns writes text in formal language.
Language style: Informal, uses using many conversational features (e.g., thinking about , I came to the conclusion, the <usually> bit, with other stuff, don’t sink in … nasty readings.)

Sentence patterns: Learning is ....
It may be ..., It may not be ...
Conjunctive link: but.
Other features: first ... then ....
Probably, May
Nominalisation: combination, familiarity, ability, assessment, measurement
Contrast: It may ... it may not ...
conscious/unconscious, static/stable
Sentence patterns: The model of learning.... is ....
Conjunctive link: however, but...
Other features: first ... then ....
Probably, May
Nominalisation/noun groups: guided construction, model of learning, working environment, computer system
Sentence patterns: …. until. I was think about, I came to, I agreed with,
Other features: so, usually, particularly, might
Nominalisation/noun groups: reflection, a result of exposure, conclusion, assignment

Table 6.14 Comparison of postings
No single pattern of the ways the body text is structured emerges from the analysis of the three texts above: each student structured their text differently. This is because they discussed the concept of learning from different perspectives and their contents were quite different. The same applied to the discussion of how to determine whether learning had taken place. They used different methods to describe different models, methods and principles. Nonetheless, it is possible to identify strong patterns of cognitive skills and language strategies used by the students in their work as illustrated below.

Cognitive strategies identified in the above three postings

<table>
<thead>
<tr>
<th>Section</th>
<th>Cognitive skills</th>
<th>Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1 Lead</td>
<td>Presenting</td>
<td>statement/title</td>
</tr>
<tr>
<td>Section 2 Remainder body text</td>
<td>Defining of</td>
<td>Concept</td>
</tr>
<tr>
<td>Propose</td>
<td>model of concept, methods</td>
<td></td>
</tr>
<tr>
<td>Elaborate Extend Explain</td>
<td>concept, model, situation/context, process, methods and connections</td>
<td></td>
</tr>
</tbody>
</table>
Table 6.15 Cognitive strategies used in postings

Deployment of language skills, strategies and linguistic resource

<table>
<thead>
<tr>
<th>language skills/strategies</th>
<th>Functionality</th>
<th>Linguistic resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modality and Hedging</td>
<td>Non commitment to stance, value, concept and model presented</td>
<td><em>may, might, probably</em></td>
</tr>
<tr>
<td></td>
<td>Acknowledging presence of audience</td>
<td><em>Usually, always</em></td>
</tr>
<tr>
<td></td>
<td>Inviting different views from audience participation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Willingness to negotiate commonality and non-committal attitude towards 100% frequency of Event</td>
<td></td>
</tr>
<tr>
<td>Using ellipsis</td>
<td>To indicate informal discussion or a conversational style of writing</td>
<td>Absence of subject or verb in a sentence, using noun groups</td>
</tr>
<tr>
<td>Using contrast</td>
<td>Contrasting ideas or concepts</td>
<td>Opposite meaning, negative and positive sentence structure</td>
</tr>
<tr>
<td>Using repetition</td>
<td>Reinforcing ideas and lexical cohesion</td>
<td>Repeating sentence structure, lexical terms</td>
</tr>
<tr>
<td>Using metaphor</td>
<td>Elaborating ideas and concepts, using concrete objects to illustrate abstract concepts</td>
<td>Using noun groups</td>
</tr>
</tbody>
</table>

Table 6.16 Linguistic resources used in students’ texts (1)

Apart from the cognitive skills and linguistic resources identified, it is notable that in other students’ postings, more cognitive skills and linguistic resources were used apart from those identified above.

<table>
<thead>
<tr>
<th>language skills/strategies</th>
<th>Functionality</th>
<th>Linguistic resources/examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apologising</td>
<td>Acknowledging late response/entry or other posting</td>
<td><em>Sorry for any confusion for not....</em></td>
</tr>
<tr>
<td>Message under wrong topic</td>
<td>Asking questions:</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Seeking for feedback, participation or confirmation</td>
<td>e.g., Can learning exist if there is no training in an organisation for example?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Where is the border? (between learning and change)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did you use the word 'messy'?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who knows what will do us most good?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Justifying claim</th>
<th>Persuading audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conferring and providing feedback</td>
<td>I feel quite gratified by …</td>
</tr>
<tr>
<td>Complimenting</td>
<td>Providing support of claim, argument</td>
</tr>
<tr>
<td></td>
<td>And yes, your metaphor makes lot of difference.</td>
</tr>
<tr>
<td></td>
<td>I feel your … is …</td>
</tr>
<tr>
<td></td>
<td>You’re right</td>
</tr>
<tr>
<td></td>
<td>I like the water metaphor, too.</td>
</tr>
<tr>
<td></td>
<td>Do love to read your vivid discussion.</td>
</tr>
<tr>
<td></td>
<td>I smile when reading your words about …</td>
</tr>
<tr>
<td></td>
<td>I really like the emphasis here on ….</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seeking clarification</th>
<th>To gain better understanding and showing interest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Can you say a little bit more about ….</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self assessment/evaluation</th>
<th>Reflecting own thinking, concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Now I’m wondering whether or how this (water metaphor) makes a difference …</td>
</tr>
<tr>
<td></td>
<td>Oops - almost carried away by my own metaphor.</td>
</tr>
</tbody>
</table>

| Table 6.17 Linguistic resources used in students’ texts (2) |

### Strategies in engaging participation and interaction in online learning

The student postings make it possible to identify the following key cognitive skills, language strategies (skills in using different resources) and linguistic resources used to assist discussion and the construction of knowledge.

1. Hedging (*probably, possibly, may, might, seems, assume*) to negotiate stance, points of view or positions by showing ambivalent attitudes and inviting further inputs from the audience.
2. Seeking feedback, participation, confirmation and clarification by asking questions.
3. Being non-committal about the frequency of events (broadly, usually, always).
4. Confirming and providing positive feedback by making compliments.
5. Using metaphor or an interesting anecdote or lead to stimulate responses from the audience.

6.2.2 Analysis of key moment of discussion: the use of metaphors

The following analysis of eight student texts focuses on language strategy involving the use of metaphor to illustrate the concept of learning. Five students posted eight messages in the metaphor thread; three students posted two messages while two students posted one message each. As noted earlier in this chapter, three metaphors were used: firstly Xing described learning as a city to represent solid, stable lifetime qualities, but the second water metaphor, suggested by Hilary, put forward an exactly opposite view, depicting learning as something fluid and unpredictable. These metaphors were interestingly complemented by the third, that of a jigsaw puzzle put forward by Ann, which depicted learning as a collaborative construction between tutors and students and between students themselves, each putting separate pieces together to form a total picture.

Before proceeding to the analysis of the students’ use of metaphors in their postings, here it is necessary to first discuss research into the use of metaphors in applied linguistics and the concept of grammatical metaphor in SFL.

Research into the use of metaphoric resources to make connections of knowledge in applied linguistic research and spoken discourse has been undertaken by Cameron and Low (1999) and Gibbs (1999). ‘A metaphor is a device for seeing something in terms of something else’ (Burke, 1945, p. 503 as cited in Cameron, 1999, p. 3). Metaphors as further elaborated by Cameron, can be
...taxonomically organized or thematically structured and contain organized information about related entities, actions, events and language... Metaphors prompt wider activation across potentially relevant domains of knowledge in order to make connections between concepts or ideas. Metaphors also create other relational information that links to those features of the metaphors used, such as lexical items, types of information and meaning or perceived entities or features (Cameron, 1999, p. 18-19).

Gibbs’ research focused on how to conduct research in the use of metaphors. He provides six guidelines for research with particular attention drawn on the cognitive process required to the complex mapping of metaphors as he states below:

‘... metaphor requires complex mappings of similarity in concept, images, meaning, taxonomy or other related knowledge. Readers need to seek links between two objects to understand the conjunction between them in their interpretation' Moreover, the metaphoric approach is 'an intentionally selected cognitive strategy which involves contextualization of real world situations and configuration of experience or knowledge to make a parallel comparison' (Gibbs, 1999, p. 31-32).

To highlight Cameron’s research in identifying and describing metaphor in spoken discourse data (1999), she strongly focuses on the contextualisation of the use of metaphors. The interpretation of metaphors used in spoken discourses needs to be defined, relatively to particular groups and types of discourse context, which may not always be explicitly acknowledged (Cameron, 1999, p. 112).

In this study, Cameron’s principle of contextualisation provides a framework for the discourse analysis of student use of metaphors in their discussion postings. The analysis is contextualised within the metaphor discussion thread under the topic of defining the concept of learning.
**Grammatical metaphor**

Scholars of SFL have extensively studied metaphorical modes of expression in children’s literature as well as in academic discourse (Chen and Foley, 2004; Halliday, 1994; Martin, 1992; Thibault, 2004; Unsworth, 2000).

Thibault stated that metaphor *'is a selection of words to say things differently as opposed to typical or unmarked words with a fixed literal or core meaning which presumably remain invariant from context to context'*(2004, p. 261). Halliday (1994) refers to metaphor as *rhetorical transference* (p, 340) from the concrete to the abstract or from a material to mental process. Such variation of words in meaning-making is located in lexical expressions and has a strong grammatical element. Thibault (2004) further explains this variational concept as the metaphorical extension of *literal meaning* in discourse and says *‘one of the most salient properties of metaphor is the preservation of inference and expansion and preconisation of the meaning potential of language’*(p. 264).

In SFL, the term *‘grammatical metaphors’* is used to describe such grammatical variation and the selection of words. Halliday discussed in detail what he describes as (1) ideational metaphors of transitivity and nominalisation in construing experience (2) interpersonal metaphors of modality and mood (see Halliday 1994, p. 342-366).

The following analysis was oriented to the semantic rather than the grammatical level because the use of semantic metaphors by the students was more in line with the discourse of semantic use of metaphors discussed by Cameron (1999) and Gibbs (1999).

**Student text analysis: the use of metaphors**

Table 6.18 presented below illustrates how one of the students, Xing uses metaphor to describe her understanding of the concept of learning. Her first use of metaphor in this discussion thread is pivotal – as described in Booth and Hulten’s work (2003). Her metaphorical use of *City* as lifetime learning has motivated the group to explore the
concept further using different metaphors, such as *Water* and *Jigsaw*. This is explained in Table 6.20, 6.21, 6.22, 6.23, 6.24 and 6.25.

**Posting four: Xing’s text 1 of part one of task one – the use of the ‘City’ metaphor**

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Xing’s text 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task</td>
<td>Definition of learning/learning taking place</td>
</tr>
<tr>
<td>Present statement/title</td>
<td><em>Learning is the enterprise of a lifetime.</em></td>
</tr>
<tr>
<td><strong>Lead: lifetime</strong></td>
<td></td>
</tr>
<tr>
<td>Metaphor: <em>city</em></td>
<td><em>It is like a city built of stones which last a lifetime.</em></td>
</tr>
<tr>
<td>Language style</td>
<td>Rather formal</td>
</tr>
<tr>
<td>Language features</td>
<td><em>Learning is ...., Noun group: enterprise of a lifetime Repetition: lifetime Field category: building, lifetime, city, stones</em></td>
</tr>
</tbody>
</table>

Table 6.18 The use of *city* metaphor
### Posting five: Hana’s response to ‘City’ metaphor

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Hana’s text 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task</td>
<td>Re: Definition of learning/learning taking place</td>
</tr>
<tr>
<td>Greetings</td>
<td>Xing</td>
</tr>
<tr>
<td>Give feedback</td>
<td><em>I was struck by your building metaphor for learning – a very solid and stable (stone) image</em></td>
</tr>
<tr>
<td>Extend idea</td>
<td>– and for that rather attractive …</td>
</tr>
<tr>
<td>Pay compliment</td>
<td></td>
</tr>
<tr>
<td>Give feedback again</td>
<td><em>I was struck by this metaphor, I suppose,</em> (Note: Here Hana uses <em>I was struck</em> twice to reinforce the impact of Xing’s metaphor.)</td>
</tr>
<tr>
<td>Explanation of reason</td>
<td>…because learning feels different for me</td>
</tr>
<tr>
<td>Explanation of difference in interpretation</td>
<td>…something more liquid, fluid (and messy!)</td>
</tr>
<tr>
<td>Propose own metaphor</td>
<td><em>I tried to catch my metaphor and came up with an image of learning as being like the way water gathers in pools, puddles and drips</em> (by all different means – rain, underground streams, displacement by boulders crashing from mountain tops (!);</td>
</tr>
<tr>
<td>Extending the water image</td>
<td>which then in uncontrolled fashion spills out of itself into other pools, puddles and drips .. pools sometimes getting larger, sometimes breaking up, overflowing into new shapes, making new connections, new depths …</td>
</tr>
<tr>
<td>Further elaborate on water image</td>
<td></td>
</tr>
<tr>
<td>Self critique</td>
<td>(oops almost <em>carried away</em> by my own metaphor!)</td>
</tr>
<tr>
<td>Posts question 1</td>
<td><em>Now I’m wondering whether or how this makes any difference to anything.</em></td>
</tr>
<tr>
<td>Posts question 2</td>
<td>Would it make any difference to our approaches to learning?</td>
</tr>
<tr>
<td>Posts question 3</td>
<td>Or in our approaches to teaching?</td>
</tr>
<tr>
<td>Signature</td>
<td>Hana</td>
</tr>
<tr>
<td>Language style</td>
<td>Informal:</td>
</tr>
<tr>
<td></td>
<td>Use of personal noun: <em>I, our approaches, your building metaphor</em></td>
</tr>
<tr>
<td></td>
<td>Casual expression: <em>oops, rather, I suppose, I am wondering, come up with, w</em></td>
</tr>
<tr>
<td></td>
<td>Use of running sentences: <em>I was struck by your building metaphor for learning – a very solid and stable (stone) image – and for that rather attractive …</em></td>
</tr>
<tr>
<td>Language features</td>
<td>Use of personal nouns: <em>I was struck by...</em> (using this sentence pattern twice to reinforce the impact of the metaphor),</td>
</tr>
<tr>
<td></td>
<td>Questions: <em>Would it make any difference to our approaches? Or in our approach to teaching?</em></td>
</tr>
<tr>
<td></td>
<td>Conjunctive links: <em>because</em></td>
</tr>
<tr>
<td></td>
<td>Nominalisation/noun groups: <em>displacement, connection</em></td>
</tr>
<tr>
<td></td>
<td>Field category: <em>solid, stable, stone, water – liquid, fluid, messy, rain, streams, spill out, pools, puddles, drips overflow</em></td>
</tr>
</tbody>
</table>

Table 6.19 Response to *city* metaphor
Hana used her highly skilful metaphoric repertoire and vivid description of how water forms different shapes to illustrate the rhetorical connection of what is involved in learning. The clear intention was to stimulate discussion from the group members. Two other distinctive features found in this text are the skills it evidences in the use of various linguistic resources to engage the audience in the dialogue and the cognitive strategies employed to establish and maintain solidarity with readers.

According to Hyland, *'expert writers often employ personal pronouns and interjections to acknowledge and claim affinity with an active audience'* (2004, p. 14-15). By using pronouns, Hana acknowledged the reader’s presence in the dialogue. A rhetorical intention of establishing a convivial interpersonal relationship is evident in the way the writer used the *water* metaphor to guide readers through her new ideas and towards her preferred interpretation. An additional intention was to secure the support of readers, acknowledging their equal relationship by drawing on their general knowledge, common values and principles in learning and the connections with daily events. ‘*Water breaks up, overflows into new shapes, making new connections, new depths...*’ That vivid description of the nature of water made the text interesting, engaging and effective in involving students in further discussion of her new concept.

The second distinctive strategy used to engage readers was the use of interrogatives. This supports Hyland's statement that *'using direct questions is a central strategy of dialogue involvement, inviting direct collusion because the reader is addressed as someone with an interest in the problem posed by the question'* (2004, p. 19). That the writer uses two questions to finish the posting, indicates that she used this 'central strategy' to invite collaboration in the further construction of the metaphor.

This supports Hyland’s assertion that writers often use questions to seek collaboration and show their confidence and intimacy with the *'discipline’s current understandings and ways of establishing truth'* (p. 19). Questions often arouse interest and help
forcibly to convey a claim. They are very effective in expressing evaluation, counter-claim and in suggesting lines of further research (Hyland 2004, p. 19).

The confidence of the writer in her ability to control her audience was reflected in the deployment of an appropriate level of sophisticated rhetorical skills in the knowledge-construction and sharing process. The choice of various linguistic resources which enabled her to explain, elaborate and extend new ideas and concepts in a persuasive and engaging manner, indicated great experience in and knowledge of the field. Moreover, she was able to use the most interactive device in her repertoire by explicitly acknowledging the audience. This was also evident in her text responding to Ann’s jigsaw puzzle metaphor.

In summary, the student Hana used strategies of explicit inclusion with the intention of persuading readers to see what she saw and arrive at the same conclusions. In doing so, she used various linguistic resources such as personal nouns and interrogative sentences to acknowledge the presence of the readers and thus invite them to join in the virtual dialogues. Also, by presuming the reader’s pre-knowledge and by acknowledging what she assumed they already knew, she positioned them in the same horizon, leading them towards acceptance of her claims.

**Posting six: Paul’s response to the 'water’ metaphor**

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Paul’s text 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task</td>
<td>Re: Re: Definition of learning/learning taking place</td>
</tr>
<tr>
<td>Giving feedback</td>
<td><em>Love the stuff about water.</em></td>
</tr>
<tr>
<td>Confirming a positive attitude and expresses solidarity</td>
<td><em>And yes, your metaphor makes a lot of difference.</em></td>
</tr>
<tr>
<td>Confirms a positive attitude</td>
<td>*If you’re right <em>(I think you are)</em></td>
</tr>
<tr>
<td>Extends new idea and presents own interpretation</td>
<td><em>that we assume 1) people learn things anyway – the water moves around,</em></td>
</tr>
<tr>
<td>Extends new idea contrast to previous one</td>
<td><em>but 2) the water may not flow where it does us most good</em></td>
</tr>
<tr>
<td>Conclusions</td>
<td><em>so 3) education is about channelling, shaping etc.</em></td>
</tr>
<tr>
<td>Giving of feedback</td>
<td><em>Like this a lot.</em></td>
</tr>
</tbody>
</table>
Table 6.20 Paul’s response to the water metaphor

Posting seven: Ann’s response to ‘Water’ metaphor

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Ann’s text 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject title</td>
<td>Metaphors</td>
</tr>
<tr>
<td>Giving of feedback/expression of solidarity Proposal of idea metaphor Explanation of process Description of the components of a jigsaw puzzle Proposal of a new application of context Description of a new context Evaluation of own concept Extension of application to learner group</td>
<td>I like the watery metaphor too!  My view of learning (for what it’s worth) is a jigsaw puzzle without a blueprint;  so it’s only after a while that one’s able to see how it all fits in, and the pieces are all different shapes, sizes and colours.  I guess if I wanted to take this further, I could see the role of teacher as the person providing the blueprint, rather than the exact picture.  I think this would work pretty well for adult learners, don’t know about children – not sure whether we need to revert back to the old ‘learning as transfer’ model?</td>
</tr>
<tr>
<td>Language style</td>
<td>Informal: I like ... too!, My view is..., I guess if ...., I could see ..., I think this ...., Not sure whether ...., I guess if ...., we, my view, Questions: not sure whether we need to revert back to the old ‘learning as transfer’ model? Conjunctive links: so, Nominalisation/noun groups: displacement, connection Field category: jigsaw puzzle – blueprint, shapes, sizes and colours, picture.</td>
</tr>
<tr>
<td>Language features</td>
<td>Use of personal nouns: I like ..., I guess ..., I could see ..., I think this ...., Not sure whether ...., I guess if ...., we, my view, Questions: not sure whether we need to revert back to the old ‘learning as transfer’ model? Conjunctive links: so, Nominalisation/noun groups: displacement, connection Field category: jigsaw puzzle – blueprint, shapes, sizes and colours, picture.</td>
</tr>
</tbody>
</table>

Table 6.21 Ann’s response to water metaphor
Posting eight: Hana’s response to the ‘Jigsaw’ metaphor

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Hana’s text 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of task</td>
<td>Re: Definition of learning/learning taking place</td>
</tr>
<tr>
<td>Subject</td>
<td>Re: metaphors</td>
</tr>
<tr>
<td>Description of jigsaw process</td>
<td><em>Hmm ...</em></td>
</tr>
<tr>
<td>Paying a compliment</td>
<td><em>filling in a jigsaw ... connects to those revelatory moments when you say ‘ah, I get the picture ...’</em></td>
</tr>
<tr>
<td>Giving of feedback</td>
<td><em>a neat metaphor that one ...</em></td>
</tr>
<tr>
<td>Enquiring about new situation 1</td>
<td><em>Seems to me that this model works if you have a view that there is a picture to that picture ... (acquiring knowledge?)</em></td>
</tr>
<tr>
<td>Enquiring about new situation 2</td>
<td><em>But what if you question that there is a picture in the first place?</em></td>
</tr>
<tr>
<td>Give example for questions</td>
<td><em>Or want to suggest that the picture is not as the jigsaw pieces would seem to suggest?</em></td>
</tr>
<tr>
<td>Explanation of own interpretation</td>
<td><em>I’m thinking of Ohlsson’s abstract knowledge category ... or come to think of it, this might apply to practical knowledge too ...</em></td>
</tr>
<tr>
<td>Changing of topic/attention</td>
<td><em>For me I don’t have an image of a ‘body of understandings which we each separately hold.</em></td>
</tr>
<tr>
<td>Direct address to individual members</td>
<td><em>Thought you’d like the water metaphor,</em></td>
</tr>
<tr>
<td>Explanation of question context</td>
<td><em>Patrick,</em></td>
</tr>
<tr>
<td>Seeking for clarification</td>
<td><em>after I read one of your messages describing learning as chaotic!</em></td>
</tr>
<tr>
<td>Presenting own interpretation of learning</td>
<td><em>(or did you use the work, ‘messy’?)</em></td>
</tr>
<tr>
<td>Expressing uncertainty or a non-committal attitude</td>
<td><em>(who knows what will do us most good?)</em></td>
</tr>
<tr>
<td>Seeking for attention</td>
<td><em>(You can tell I don’t teach IT can’t you!! :))</em>*</td>
</tr>
<tr>
<td>Signature</td>
<td>Hilary</td>
</tr>
<tr>
<td>Language style</td>
<td><em>Informal: Hmm ...; ah ... I get the picture ... (conversational style)</em></td>
</tr>
<tr>
<td></td>
<td><em>Frequently use of personal nouns I &amp; you</em></td>
</tr>
<tr>
<td></td>
<td><em>Use running sentences: –for learning – a very solid and stable (stone) image – and for that rather attractive ...</em></td>
</tr>
<tr>
<td></td>
<td><em>For me I don’t have ..., Though you would like ..., I have to say that for me ..., teaching is a lot about ...</em>,**</td>
</tr>
<tr>
<td>Language features</td>
<td><em>Conjunctive words: but,</em></td>
</tr>
</tbody>
</table>
Table 6.22 Hana’s response to jigsaw puzzle metaphor

Posting nine: Peter’s response to ‘City’ and Water’ metaphors

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Peter’s text 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject title</td>
<td>Re: Re: Metaphors</td>
</tr>
<tr>
<td>Opening – bring himself to the attention of</td>
<td>Just thought I’d throw this in too</td>
</tr>
<tr>
<td>the group</td>
<td></td>
</tr>
<tr>
<td>Extending interpretation of water metaphor</td>
<td>– seems to me that water also has states and qualities.</td>
</tr>
<tr>
<td>Explanation of interpretation</td>
<td>For states I am thinking of vapour (me reading Engestrom), liquid (the bulk</td>
</tr>
<tr>
<td></td>
<td>of my skill/understanding), solid (e.g. facts I think I know.</td>
</tr>
<tr>
<td>Commenting about feelings</td>
<td>– or that leave me cold!).</td>
</tr>
<tr>
<td>Explanation of interpretation</td>
<td>Qualities: Anything from bottled water – the residential – to puddle water</td>
</tr>
<tr>
<td>Description of context/learning environment</td>
<td>– attempting to read Engestrom at home with the kids around!</td>
</tr>
<tr>
<td>at home</td>
<td></td>
</tr>
<tr>
<td>Language style</td>
<td>Informal: just thought, I am thinking of ..., I think I know..., me reading,</td>
</tr>
<tr>
<td></td>
<td>or that leave me cold, anything from ….</td>
</tr>
<tr>
<td>Language features/sentence patterns</td>
<td>Use of personal nouns: I am thinking of .... I guess if ....</td>
</tr>
<tr>
<td></td>
<td>Field category: water, qualities, vapour, liquid, bottled water, puddle</td>
</tr>
<tr>
<td></td>
<td>water</td>
</tr>
<tr>
<td></td>
<td>Hedging: seems to me</td>
</tr>
</tbody>
</table>

Table 6.23 Peter’s response to city and water metaphors
**Posting ten: Paul’s response to ‘Jigsaw puzzle’ metaphors**

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Paul’s text 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject title</td>
<td>Re: Re: Metaphors</td>
</tr>
<tr>
<td>Giving feedback/expressing solidarity</td>
<td>Like the learning as jigsaw too.</td>
</tr>
<tr>
<td>Further commenting on jigsaw metaphor – likes/dislike</td>
<td>Building on it, I like the idea that we share certain jigsaw pieces but not others, so we actually build different jigsaws.</td>
</tr>
<tr>
<td>Extension of connection to community and explaining interpretation</td>
<td>Also, like to think that a body of knowledge may be spread around a group or community, so that the whole understanding is only possible if all the collective jigsaws come together.</td>
</tr>
<tr>
<td>Giving comment and feedback</td>
<td>Quite like the role of teacher point, too;</td>
</tr>
<tr>
<td>Explanation of interpretation</td>
<td>maybe the teacher is like someone trying to help learners build their own jigsaws while they, the teacher, are blindfolded.</td>
</tr>
<tr>
<td>Language style</td>
<td>Informal: I like ...., also, like to think that ...., quite like ....,</td>
</tr>
<tr>
<td>Language features/sentence patterns</td>
<td>Use of personal nouns: I like, we share, we build,</td>
</tr>
<tr>
<td></td>
<td>Conjunctive links: but, so, so that</td>
</tr>
<tr>
<td></td>
<td>Hedging: maybe, possible</td>
</tr>
</tbody>
</table>

Table 6.24 Paul’s response to jigsaw puzzle metaphor

**Posting eleven: Xing’s response to ‘Water’ and Jigsaw puzzle’ metaphors**

<table>
<thead>
<tr>
<th>Components/features</th>
<th>Xing’s text 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject title</td>
<td>Designable or unconscious</td>
</tr>
<tr>
<td>Greetings</td>
<td>Hi Hilary.</td>
</tr>
<tr>
<td>Giving feedback/expressing solidarity/paying compliments</td>
<td>Do love to read your vivid descriptions here.</td>
</tr>
<tr>
<td></td>
<td>It is the first time for me to think/listen/regard ‘learning’ as ‘water’,</td>
</tr>
<tr>
<td></td>
<td>and I reckon it is quite a new and revelatory idea for all the others.</td>
</tr>
<tr>
<td>Introduction of new concepts</td>
<td>Considering we have accepted the ‘learning as construction’ approach, I guess the main different point here is if learning is designable or unconscious.</td>
</tr>
<tr>
<td>Explanation of new concept 1</td>
<td>For learners, I think, learning can be a constructing process both designedly and unconsciously.</td>
</tr>
<tr>
<td>Explanation of new concept 2</td>
<td>For teachers/educators, learning (no matter designed or unconscious learning) has its objective laws like the nature; and one of the teacher’s tasks, is to seek for and utilise the</td>
</tr>
</tbody>
</table>

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It is like the tutors of ALT, who would like to read ‘every different’ definition of learning, from Mike’s learning=change, Patrick’s destructive idea, Ana’s jigsaw puzzle, to your ‘liquid’ approach and my ‘stone-hard’ designable idea, etc.

(Here I need to say my original idea is only to illustrate the continuing and lifelong character of learning, for I clearly saw the magnificent development of Shanghai and my city for a couple of decades.

I smiled when I read your words about ‘solid and stable’.

It seems quite stone hard.)

Table 6.25 Xing’s response to water and jigsaw puzzle metaphors

Pattern of interaction when students use metaphors

The discussion about metaphors makes it is possible to illustrate the emergent pattern of interaction as follows:

<table>
<thead>
<tr>
<th>1st starter: Xing</th>
<th>2nd starter: Hana</th>
<th>3rd starter: Ann</th>
</tr>
</thead>
<tbody>
<tr>
<td>City metaphor</td>
<td>Water metaphor</td>
<td>Jigsaw puzzle metaphor</td>
</tr>
<tr>
<td>1st lead</td>
<td>2nd lead</td>
<td>3rd Lead</td>
</tr>
<tr>
<td>2 responses</td>
<td>3 responses</td>
<td>3 responses</td>
</tr>
</tbody>
</table>

Table 6.26 Pattern of interaction
Xing began the discussion when she likened learning to a *city*, to which Hana responded with her *water* metaphor. Ann in turn proposed the *jigsaw puzzle* metaphor. This discussion generated eight responses from the group. It is important to note that although Xing started the metaphor thread, the contribution of Hana was probably more significant, because not only did she lead the chain of response, without her the discussion thread would probably not have happened because no other student responded to the *city* metaphor. Moreover, the *water* metaphor led to another chain of responses and evoked the *jigsaw puzzle* metaphor from Ann. Hana thus played two very important roles: as a starter and as a responder. In an online discussion group, a student like Hana always plays an important role in building a group dynamic and creating multi-dimensional interactions. It is important to note the way her initial response was structured:

- A greeting;
- a comment on the *city* metaphor;
- a compliment to the author of the concept;
- the provision of feedback and interpretation;
- the proposition of a new metaphor;
- an explanation and elaboration of this new metaphor.

This patterning represents a logical development of response to and extension of new concepts and interpretations. There was a strong similarity in the response patterns of the other students.
Conclusion: findings emanating from analysis of student online texts

The analysis of the students' texts started with more general findings about the patterning of the online group interaction. Important here were the variations in student participation and discussion format. More significant findings relate to the construction of student texts which capture key moments, or in Booth and Hulten’s term, the ‘pivotal contributions’ (2003, p. 15) that show significant shifts in the discussion threads. The study of these contributions provides an insight into the relationship between the quality of texts, the quality of the contribution to knowledge-construction and the group dynamic. Though the data set was necessarily limited it enabled more in-depth understanding of the texts when compared to an analysis based on corpus analysis which relied on word counts and the number of student entries. The discourse analysis, moreover, reveals the complexity of texts produced by these students and gives rise to the following findings:

1. **Levels of participation**: The initial posting count reveals that there were obviously different levels of participation, varying as noted earlier, from high (up to 15 postings), to average (between 4-6 postings), to low (as few as 2 postings). However, while a posting-count may reflect, to some extent, the level of commitment and motivation of individual students, it does not determine the knowledge-contribution of their postings. As demonstrated in this chapter, the application of discourse analysis is needed to reveal the quality of individual postings. In other words, this kind of in-depth analytical approach provides more evidence-based evaluation of the quality of discussion contributions.

2. **Genres of postings**: There is a distinction between the generic structure of the discussion forum as a whole and the generic structure of students’ body text. The genre structure of the discussion forum had a simple, pre-determined format. This consisted of details such as the name of the author and the date and time of writing. The fact that the topics of each discussion activity were pre-entered by the tutor implied that students had no input or control over these fields, which simply captured data for management and record purposes.
Students could enter a new subject for each of their contributions in the subject field. However, the majority simply used the direct reply button to respond to previous messages, the only exceptions being when they felt they had a new concept to contribute or wanted to pose questions for which they were seeking responses. This was the case in the postings containing the metaphor examples. The low usage of the subject field indicates that students considered this function unimportant and chose not to use it.

3. Interactive patterns: Two main patterns of interaction emerged from the discussion threads. These can be termed linear and non-linear responses to the contributions of other students.

1) Linear and non-linear response patterns can be depicted as follows:

Linear

A    B  C

2) Non linear

![Figure 6.6 A non-linear pattern of interaction](image)

4. Concluding salutations: These students did not generally use salutations or signatures to open or sign off their general task postings, although a few did use these in the follow-up discussions. Again, this indicates that students make choices in their communication usages and did not necessarily follow the convention of the typical genres in which salutations and closing remarks are common.
5. **Body text and quality of contributions:** While the schematic structure of body texts was quite mixed, a common feature which emerged from the text analysis was the use of an orbital textual organisation strategy for the development of concept and ideas as illustrated below:

![Figure 6.7 Example of an orbital structural organisation](image)

6. **Discussion-based and content-based contributions.** For an online discussion board, both task-orientated content postings and discussion-based postings make important contributions to both individual learning and the building of a discourse community. Text analysis reveals two kinds of contributions in student postings.

   a) Task-based postings: these postings were more content-orientated; students were seemingly focused on completing the tasks and answering the task questions. These postings were generally couched in a more formal language style with more density in subject-specific terminology and the use of nominalisation.

   b) Discussion-based postings: these were mostly follow-ups or reactions to the postings of other students, the metaphor discussion thread being a typical
example. But in these, students tended to use an informal style and their discussions resembled conversational dialogues. The style and content indicated that students seemed to be more relaxed, as reflected in their use of running sentences, of ellipses and 'smiley' signs and punctuation to express feelings and conundrums. Communication appeared to be more spontaneous and flexible: for example, in one posting one student spontaneously responded to more than one message. When inviting feedback, the students tended to use more casual expressions, reflecting the dialogical nature of forum discussion, while discussion threads were compiled in a 'turn taking' fashion. Another feature was the way writers handed out compliments, sought feedback, asked questions or simply said how they were feeling at the time of reading or writing a message.

The text analysis presented above reveals that students were able to use various cognitive skills and language resources to assist them effectively to interact with other group members. These students demonstrated skill, flexibility and confidence in applying language resources such as hedging, modality and metaphor in different contexts and situations, all of which helped effectively to engage other students in the dialogues. They shifted freely from topic to topic, using a mixture of formal and informal language to reflect their ability to adapt to different settings of online discussion. This finding implies that students’ cognitive and language skills make an important contribution to the quality of their writing and to the successful construction of a dynamic and interactive group.

Implications

The findings discussed in this chapter have some key implications for teachers and teaching practice. Firstly, having an understanding of language function can assist in the improvement of the quality of texts being used in the context of networked learning. Moreover, the ability to call on linguistic knowledge as a resource can provide a useful tool to explain and assess the quality of students’ contributions. It can also help to negotiate and maintain positive relationships with students. These resources are also useful for the support of new students, particularly those with language difficulties, for the development of the composition and comprehension of academic discourses.
This chapter has attempted to demonstrate how detailed discourse analysis can provide a rich evidence-based data source, and thus give greater insight into the dynamics of discursive interaction. It provides a language for the explanation and description of how group communication and interaction occur in real life situations and particularly how discussion is affected by pivotal contributions (Booth and Hulten 2003). In-depth analysis of this nature has many advantages over data-driven generalisations. It offers a useful tool for assessing or evaluating how students interact with each other and the progression of knowledge co-construction. In this context, SFL provides a powerful theoretical framework for research in the field of networked learning.

**The use of findings emanating from the analysis of text**

Data drawn from the findings in this chapter are used for the modelling of design patterns in Chapter 7. There, as will be seen, a set of illustrative design patterns are developed showing how linguistic resources such as modality and metaphor can be coded into model texts to help students improve their communication skills and academic writing skills. This could have important practical implications since, as reported in the work of Hood (2004b) and Lee (2006), novice academic writers such as first year undergraduate and overseas students, need considerable support in these areas.
Chapter 7

7 The construction of design patterns

7.1 Pattern languages as a way of encoding outcomes emanating from empirical research

Educational design and Alexander’s design patterns

As indicated in the study design, the second phase of the study involved the construction of three sets of illustrative design patterns. Set out in this chapter, these patterns demonstrate the process of encoding data emanating from the analysis of the academic interview transcripts described in Chapter 4, the discourse analysis of learning tasks set out in Chapter 5, and also the discourse analysis of student texts offered in Chapter 6. The final goal of the study is to develop a model that will show how the knowledge generated from empirical research can be transformed and embedded into educational design patterns for the support of networked teaching and learning.

In this chapter, the illustrative design patterns draw on the seminal work of Goodyear in educational design (2000, 2004, 2005). As noted in Chapter 2, these patterns are based on the format developed for architectural design by Alexander et al (1997). Here it should be said that the term *construction* of design patterns is used rather than *modelling*, because it was found during the pattern validation process that the word *modelling* confused participants because it implied that an Alexandrian pattern was a fixed model or a template. But as will be demonstrated in Chapter 8, rather than being a blueprint which needs meticulously to be followed, a key element of an Alexandrian design pattern is that it contains dynamic problem-solving elements which afford the user a great deal of flexibility in its application.

According to Goodyear (2005), educational design involves three elements: firstly, the design of learning tasks; secondly, the design and management of the learning
environment; and thirdly, the enhancement of social interactions that promote convivial learning relationships.

Good learning outcomes result from a sound pedagogical framework and a good quality educational setting (environment) based on the flexible organisation of learning groups and also a flexible timeframe for the performance of learning tasks. Informed by Alexander’s pattern languages, Goodyear et al (2004, 2005) produced designs for networked learning which make it possible to identify five key qualities for educational design patterns, as illustrated below:

**Quality of design patterns**

<table>
<thead>
<tr>
<th>Quality 1</th>
<th>Patterns are based on problem-solving approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality 2</td>
<td>Problem-solving guidelines and rules are flexible so as to allow them to be used creatively.</td>
</tr>
<tr>
<td>Quality 3</td>
<td>Each pattern bridges the gap between theoretical frameworks and practical issues</td>
</tr>
<tr>
<td>Quality 4</td>
<td>Each pattern is interrelated with other patterns</td>
</tr>
<tr>
<td>Quality 5</td>
<td>Each pattern is open to regular modification to reflect social change</td>
</tr>
</tbody>
</table>

Figure 7.1 Quality of design patterns

**Quality 1** Each pattern should provide a solution to a recurrent teaching and learning problem in a networked learning context. The nature of the problem is clearly shown in the pattern, as is the solution and the context.
Quality 2 Besides detailed instructions on how to resolve a problem, the pattern should also allow for the use of 'rules of thumb’. Rigid formulae and constraints need to be avoided and creative and flexible approaches are permitted. The pattern should also allow designers to use their experience, expertise and knowledge in the field.

Quality 3 Each pattern should express key ideas from relevant research, but avoid technical jargon and highly abstract terms. It should be easily understood and explain how to bridge gaps between principles of teaching and learning and actual practice.

Quality 4 Each pattern should also clearly state its link and relation to other relevant patterns.

Quality 5 In order to make patterns truly relevant to the natural environment and real-life social interactions in networked learning, they need to be designed to allow for modification to suit different social settings. Students learn differently in different environments and different learning groups learn differently depending on their culture or the nature of the subject. Moreover, technology changes rapidly and this may affect the facilities available to support learning.

As illustrated earlier in Chapter 2, Alexandrian patterns have a consistent schematic structure, with six main components and some ancillary diagrams or illustrations.
Internal structure of Alexandrian patterns

<table>
<thead>
<tr>
<th>Components</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory paragraph</td>
<td>Explain the context of problem and the solution (how the pattern helps to find solutions to higher level problems).</td>
</tr>
<tr>
<td>Headline of problem</td>
<td>Brief overview of the problem</td>
</tr>
<tr>
<td>Body of problem</td>
<td>Detailed explanation of the problem</td>
</tr>
<tr>
<td>Headline of solution</td>
<td>Brief action-oriented description of the solution</td>
</tr>
<tr>
<td>Body of solution</td>
<td>Detailed explanation and instructions on how to go about finding the solution</td>
</tr>
<tr>
<td>Final paragraph</td>
<td>Stating what other patterns are needed to complete/elaborate this pattern.</td>
</tr>
</tbody>
</table>

Table 7.1 Internal structure of Alexandrian patterns

7.2 Overview of the construction of illustrative design patterns

Overview of design patterns

In this section the focus is on the construction of design patterns using the data which emerged from the data analyses set out in Chapters 4, 5 & 6. Figure 7.2: Index of patterns shows how the illustrative patterns were constructed using this data.
Indexes of illustrative design patterns constructed in the study

1. Patterns of online program design
   - Recruiting staff
   - Recruiting students
   - Designing learning environment
   - Residential school
   - Resource development
   - Tasks design
   - Assessment design
   - Course information
   - New teacher support

2. Patterns of online task design
   - Sequence of tasks
   - Task genres/text types
   - An instructional text
   - An information text
   - A procedural text
   - Course information design
   - Designing the first task
   - Designing a reading task
   - Language choices/style

3. Patterns of online discussion model text design
   - Text types
   - Using metaphor
   - Engaging the audience
   - Formal/informal language style
   - Constructing ideas, concepts and arguments
   - Co-construction of knowledge
   - Politeness and interaction

Coding data
Emanating from Chapter 4, interview transcript analysis and the summary of teachers’ perspectives of online program design.

Coding data
Emanating from Chapter 5, task discourse analysis and the findings of good principles of task design text types and linguistic resources emerged from the discourse analysis.

Coding data
Emanating from Chapter 6, student discussion text analysis and findings of cognitive skills and linguistic resources deployed by experienced student writers.

Figure 7.2 Index of patterns
Three data sets were used to code the patterns depicted in Figure 7.2. The first was based on the interviews with the online teachers detailed in Chapter 4, the second on the discourse analysis of the three online learning tasks written by ALT program designers described in Chapter 5 and the third on analysis of students' online discussions set out in Chapter 6.

Three indexes of patterns are presented from which 6 full patterns are further developed. Here, the index patterns provide an overview of a pattern including only highlights of good practices and principle. However, a full pattern includes all the standard elements used in an Alexandrian’s pattern. The index patterns are useful in two ways. First they provide the context in which the six full patterns are embedded. Second, the indexes provide a fuller picture of the pattern network system developed in this study. The system set out here should be useful to future researchers, who will be able to add full new patterns to the repository of the indexes of patterns, discussed in more detail in Chapter 9. Another reason for developing an index of patterns rather than developing patterns themselves was due to the fact that the construction of each individual pattern involved a great amount of work in encoding, drafting, validating and modifying. Thus the development of more sets of full patterns was far beyond the scope of this study. The aim was rather to develop guidelines for the construction and validation process that could as adequately be done with just a few patterns as with many.

In what follows, there is firstly a summary of research data which captured some of the key concepts and resources used to code the patterns; secondly, an overview which sets out the network system that relates each set of patterns to the others and thirdly a demonstration of the process of encoding the data sources generated from empirical research. Patterns presented in this chapter are the third and final drafts which were produced after being modified by two validation processes (see details in Chapter 8).
7.3 Using indexing to show the network structure of design patterns

The patterns are presented in three areas of design: the design of a program, learning tasks and student discussion model text. As illustrated in Figure 7.2: Index of patterns, program design patterns form the first set of indexes as presented in the first box. Task design is a part of the online program design spectrum while the student discussion model text design is a part of the task design. Again, the focus is on only a small part of the design patterns due to the scope and the intensity of work required developing them.

A list format is used for clarity of presenting the index patterns. It is not intended to represent any scale of importance of these patterns. For example, pattern number 1 does not denote it is more important than pattern number 2.

The following presents an overview of three indexes of patterns and six full patterns, focusing the key issues in program design, task design and text design for student online discussion.

### Index 1: Patterns of program design

<table>
<thead>
<tr>
<th>Pattern ID</th>
<th>Name of pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern I1pd1 (Index 1, Program Design 1)</td>
<td>Program design: recruiting program staff</td>
</tr>
<tr>
<td>Pattern I1pd2</td>
<td>Program design: recruiting students</td>
</tr>
<tr>
<td>Pattern I1pd3</td>
<td>Program design: learning environment</td>
</tr>
<tr>
<td>Pattern I1pd4</td>
<td>Program design: residential school</td>
</tr>
<tr>
<td>Pattern I1pd5</td>
<td>Program design: resource development 1</td>
</tr>
<tr>
<td>Pattern I1pd6</td>
<td>Program design: resource development 2</td>
</tr>
<tr>
<td>Pattern I1pd7</td>
<td>Program design: task design</td>
</tr>
<tr>
<td>Pattern I1pd8</td>
<td>Program design: assessment</td>
</tr>
<tr>
<td>Pattern I1pd9</td>
<td>Program design: an informational text (same pattern as in task design)</td>
</tr>
<tr>
<td>Pattern I1pd10</td>
<td>Program design: new teacher support</td>
</tr>
</tbody>
</table>

Table 7.2 Index patterns of program design
Index 2: Patterns of online tasks

<table>
<thead>
<tr>
<th>Pattern ID</th>
<th>Name of pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern I2td1</td>
<td>Task design: sequence of task</td>
</tr>
<tr>
<td>Pattern I2td2</td>
<td>Task design: task genres</td>
</tr>
<tr>
<td>Pattern I2td3</td>
<td>Task design: an instructional text</td>
</tr>
<tr>
<td>Pattern I2td4</td>
<td>Task design: an information text</td>
</tr>
<tr>
<td>Pattern I2td5</td>
<td>Task design: a procedural text</td>
</tr>
<tr>
<td>Pattern I2td6</td>
<td>*Task design: course information design</td>
</tr>
<tr>
<td>Pattern I2td7</td>
<td>*Task design: designing the first task</td>
</tr>
<tr>
<td>Pattern I2td8</td>
<td>*Task design: designing a reading task</td>
</tr>
<tr>
<td>Pattern I2td9</td>
<td>Task design: language choice</td>
</tr>
</tbody>
</table>

* denotes full patterns.

Table 7.3 Index patterns of online tasks

Index 3: Patterns of online discussion model text

<table>
<thead>
<tr>
<th>Pattern ID</th>
<th>Name of pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern I3od1</td>
<td>*Online discussion: model text for writing a definition</td>
</tr>
<tr>
<td>Pattern I3od2</td>
<td>*Online discussion: model text of metaphor use</td>
</tr>
<tr>
<td>Pattern I3od3</td>
<td>*Online discussion: engaging the audience - hedging and modality</td>
</tr>
<tr>
<td>Pattern I3od4</td>
<td>Online discussion: language style</td>
</tr>
<tr>
<td>Pattern I3od5</td>
<td>Online discussion: constructing ideas, concepts and Arguments</td>
</tr>
<tr>
<td>Pattern I3od6</td>
<td>Online discussion: co-construction of knowledge, ideas, concepts and arguments</td>
</tr>
<tr>
<td>Pattern I3od7</td>
<td>Online discussion: showing politeness and other Interactions</td>
</tr>
</tbody>
</table>

Table 7.4 Index patterns of model text
7.4 The construction of online program design patterns

Online program design

The analysis of the interview transcripts identified three key stages for designing an online program. No restriction or strict description of the length of a program was laid down; it could be a year-long program, a four-year program or simply a single course. The patterns presented here are flexible and can be used to suit the needs of individual designers. In addition, the patterns are flexible enough to be used either by a team or a single designer.

The three stages of online program design:

1. Planning stage - recruiting staff, students and the design of the learning environment.
2. Program development stage - developing learning and teaching resources and the design of learning tasks.
3. Supporting new teaching staff in order to provide them with some experience before teaching an online program.

These three stages do not operate in isolation. Instead, they are intertwined and overlap from time to time. The online program design model in Figure 7.3 below, illustrates the inter-connections between the three design stages.
Stages 1 and 2 are based on Steeples and colleagues’ networked learning continuum set out in Figure 7.4 below (Steeples et al., 2003). That continuum focuses on different aspects of networked learning design. It starts from the left with a focus on resource-oriented information transmission and then moves towards the right to the design of a highly interactive and supportive environment. The left-hand side of the continuum represents the students' more passive response to receiving information. The right-hand side represents how the learning process slowly develops into an interactive and collaborative approach and moves to deeper learning. Each aspect shows different degrees of provision to assist learning.
Illustrative index of patterns for program design

The illustrative design patterns presented in Table 7.5 below have been developed on the basis of the good practice and principles derived from interviews with online teachers.

Index1: Patterns of program design

<table>
<thead>
<tr>
<th>Pattern ID</th>
<th>Name of pattern</th>
<th>High lights of good practices and principles</th>
</tr>
</thead>
</table>
| Pattern 11pd1 (Index 1, Program Design 1) | Program pattern: recruiting program staff | • Staffing: Ideally, a program development team should consist of a project officer or co-ordinator, teaching staff, technical and administrative support and a program developer.  
• Although it is important to develop team work, it is essential clearly to state the role of each individual staff member in the development team. |
| Pattern 11pd2 | Program pattern:: recruiting students | • It should consider geographic recruiting  
• National recruiting is more appropriate for a specialised course  
• A diversity of professions and job responsibilities can add the richness of interests and background knowledge/pre-knowledge |
| Pattern 11pd3 | Program pattern: learning environment | • It should provide information for access to library resources  
• It should provide information about and support for access to computer and internet facilities  
• It should provides access to other technical support services  
• It should provide appropriate access to learning space |
| Pattern  I1pd4 | Program pattern: Residential school | - It should be designed in such a way as to help students to get to know other group members  
- It should include sessions to explain pedagogical issues related to online learning  
- It should provide opportunity for students to be familiarised with the online environment, e.g., resources, access and expectation of teaching staff  
- It should consist of group activities for students to develop initial trust and friendship |
|-----------------|-------------------------------------|-----------------------------------------------------------------------------------|
| Pattern I1pd5  | Program pattern: resource development 1 | - Striking a balance between printing and digital texts is important.  
- It should address copyright issues  
- It should address issues related to the accuracy and currency of internet resources  
- It is important to ensure internet resources are regularly updated |
| Pattern I1pd6  | Program pattern: resource development 2 | - It should be relevant to and meet the needs and interests of students  
- It is important to develop new material, but economy may also dictate the re-use of existing resources |
| Pattern I1pd7  | Program pattern: tasks design | See task design index patterns in Appendix 2 |
| Pattern I1pd8  | Program pattern: assessments | - It should use variety of assessments with a balance of quizzes, online knowledge tests, essays and group projects  
- It can allocate a percentage of marks to online discussion to motivate contributions  
- Assessment should provide opportunity for multiple attempts at answers for slower students (e.g., online quizzes and knowledge tests).  
- It should provide both flexibility and restraints |
| Pattern I1pd9  | Program pattern: an informational text | - It is useful to provide an overview of the program  
- It should clearly state course objectives and expected outcomes  
- It should address issues related to copyright and policy on plagiarism |
| Pattern I1pd10 | Program pattern: new teacher support | - It can use teamwork to provide opportunities for learning from experienced teachers  
- A useful way for apprenticing for new teachers is by showing them examples of teaching models  
- It should address technical training for new online teachers |

Table 7.5: Full list of index patterns for program design

The indexed patterns for program design draw on the interview data gathered in the empirical research of this study in Chapter 4. The data derived from these interviews have been translated into the guidelines set out under the heading of *Highlights of Good Practices and Principles* in Table 7.5 above.
These guidelines address some essential issues related to networked learning and teaching. They are derived from the questions that stimulated teachers to explain the elements which contributed to the success of their programs, including student profiles, learning environments and available resources. The following questions form the key areas of investigation which facilitated the generation of the data for encoding indexed patterns, as set out in Table 7.5.

1. What was the teachers’ experience and involvement in online teaching?
2. What elements contributed to the success of their online program?
   (Answers included the careful recruitment of students, elements of suitability of the course for students, the design of the program, the learning tasks and assessment)
3. What problems are most likely to occur for an online program? (Answers included the learning resources, assessments, student and staff attitudes and lack of skills in certain areas.)
4. What are the best ways to help new teachers develop necessary knowledge and skills? (Answers included peer mentoring, professional training and on the job training by working side by side with experienced teachers.)

The encoding process of transforming interview outcomes into design pattern solutions and instructions

The interview transcript analysis produced data that enabled the first index of patterns of program design to be hatched. Close comparison made it possible to come to clear understandings of the transformation process. As a result, a summary of good teaching practice as set out in Chapter 4, could be encoded in the form of instructions and checking points in the design patterns. A more detailed discussion of this process follows:

1. Recruitment of program team members and students
   A strong program development team with staff commitment to contemporary learning design is essential. It provides each team member with the motivation
to create a common theoretical dialogue in the design process. Collaboration among team members helps develop trust and thus experienced and novice designers are not afraid of exposing their work to review by other members.

There was consensus that careful recruitment of students enhanced the success of an online program. Among the factors which needed to be considered was geographic distance from the teaching centre. It was found that in order to attract enough students who met the entry criteria for specialised courses, it was necessary to recruit from a national rather than a regional or local catchment area. In addition, attempting to attract recruits from a diversity of professions and job responsibilities was likely to enhance the quality of the course. Students with a rich variety of interests and background knowledge/pre-knowledge made significant contributions to group interactions. Promoting good intra-group relationships was also important; it was noticeable that when students worked well together, they also developed social bonds which greatly enhanced the quality of discussion and hence the group dynamic.

*These perspectives are coded as instructions and checking lists for Pattern 11 pd 1 for recruiting program staff and Pattern 11 pd2 for recruiting students.*

2. *Residential school and learning environment design*

   Residential schools play an important part in the online programs research here. They not only provide an opportunity for students to get to know each other, but also for lecturers to explain the differences in pedagogical approaches between online and face-to-face learning. Thus students gain a better understanding of what to expect from the program. Residential schools should also be designed to facilitate orientation to the online environment.

Learning environment design calls for attention to be paid to issues of access to learning resources, facilities, learning tools and support. All of these enable students to design their own individual learning space. Learning resources need to be interesting and relevant since their quality directly impacts on students’ learning experience and outcomes. Considerations in this regard include striking
the right balance between print and digital texts and copyright questions especially for digital texts and Internet resources. Digital resources and material put on the Internet need to be accurate and regularly updated. Online resources may be open to public scrutiny.

These perspectives are coded as instructions and checking list for Pattern11 pd3: design of learning environment and Pattern 11pd4 residential school

3. Task design, learning resources and assessment

Good task design can make a significant difference to students’ engagement in the course. They value relevance and anything that benefits them in terms of developing their skills and understanding of how to improve their work. Students prefer a variety of learning resources and assessments with a balance of quizzes, online knowledge tests, essays and group projects. Offering generous marks for contributions to online discussions provides motivation for participation by individual students. This is where online quizzes and knowledge are particularly useful, because they can give weaker students more opportunity to make multiple attempts at answers. Assignments also need to have some degree of flexibility, although fairly strict guidelines/requirements also need to be laid down to maintain standards of educational quality. Program booklets providing clear information are necessary to help students plan their learning. The contents should include an overview of the program, its objectives, outcomes and assessments.

These perspectives are coded as instructions and checking list for Pattern11 pd5 and 6: Design of Learning resources and Pattern 11pd7: Task Design and Pattern 11pd8: Assessment. It also includes Pattern 11pd9: An Informational Text.

4. New teacher support

Two basic conditions were mentioned in this regard. Firstly, it was felt that new teachers should have the necessary technical training to ensure they were able adequately to perform their teaching tasks. Secondly, all interview participants
agreed that ideally, new teachers should not be left to 'sink or swim' on their own, but should be provided with opportunities to learn from experienced teachers. An 'apprenticeship' for new teachers could be organised through providing examples of teaching models.

These perspectives are coded as instructions and checking list for pattern11 pd10 New Teacher Support.

5. Potential problems for an online program

Program designers need to be aware of several potential problem areas. These include initial technical problems, keeping internet materials up to date, being allowed adequate time to give feedback and guidance for group discussion, the reluctance of students and staff to participate in online discussions and the tendency of students to post mini-essays rather than short discussion contributions.

These potential problems are relevant to most patterns and have been integrated into instructions and check lists in most patterns.

7.5 The construction of task design patterns

The task design patterns aim to help teachers design good online learning tasks which Goodyear defines as ‘... specification[s] for a learning activity’ (2005, p. 88). A well-articulated and structured task gives clear instructions and lays down specific criteria for the tasks students are required to do. Good tasks that are relevant and allow students’ flexibility encourage the learner’s creativity and enthusiasm by addressing ideas and issues which can be applied in real life situations and to social experiences.

Experienced designers draw on their in-depth knowledge of the subject contents, and also on their philosophical beliefs and understandings of the students’ needs. They allow individual flexibility and interpretation in group work and collaboration and also encourage active participation in community 'apprenticeship' and practice (Goodyear, 2000, 2004).
The following patterns focus on the design of Tasks 1.1 and 1.2 of Assignment 1 in the ALT course. These aimed to establish a social interrelationship between the lecturer and the students and also among the students themselves. The patterns set out below aim to show teachers how to build their initial authoritative voice when they set guidelines and requirements for a task. The patterns also stress the importance of establishing a friendly non-threatening environment in the online discussion space in order to encourage students to read and respond to each others’ postings. Another aim in the initial stage of the course is to encourage students to develop interpersonal skills and gain confidence in expressing their points of view. They also need to learn to accept differences and also to learn the value of paying compliments and giving positive feedback to the postings of other students.

There are three key considerations. The first is that tasks are designed in a way that benefits students by developing their practical skills and broadening their ideas and knowledge in the field. The second relates to cultural aspects within the discourse community. Tasks need to be designed to encourage collaboration and social interaction skills among teachers and students. The third consideration is the structural and linguistic aspects of task design. These patterns address the schematic structures of different learning tasks and the language features used for well-structured and articulated tasks.

Task design patterns presented in this section are based on the task analysis data in Chapter 5. After the index of patterns has been presented, three full patterns are set out. Although it is beyond the scope of the study to develop all the indexed patterns into full patterns, an index of patterns is useful in providing the context and network structure in which the full patterns are developed.

### Index 2: Patterns of online task design

<table>
<thead>
<tr>
<th>Pattern ID</th>
<th>Name of pattern</th>
<th>High lights of good practices and principles</th>
</tr>
</thead>
</table>
| Pattern I2td1 | Task pattern: sequence of task | Sequence of tasks could be organized in various ways as follows:  
  - by dates/stages of the course  
  - by order of functionalities, e.g., brainstorming ideas/concepts, discussion |
of ideas or applying concept to work practice
- by complexity and intellectual demands of knowledge and concepts, e.g.
  technical difficulty, students' familiarity with ideas/concepts

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Task pattern:</th>
<th>Schematic structure:</th>
</tr>
</thead>
</table>
| I2td2   | task genres   | Often a learning task consists of a mixture of genres. In a task it often needs to explain, to give instructions and information, such as guidelines, procedures and policies. Sometimes a task also needs to explain how to complete the task if it involves complex components or steps. Text types:
  - Informational text
  - Instructional text
  - Procedural text
  - Mixture of genres of the above (macro-genres)
  Please refer to pattern for online discussion: model text for writing a definition (index 3: pattern I3pd1) |
| I2td3   | an instructional text | Statement of goal
- Material required
- Sequence of steps or instructions
(adapted from Martin, 2000)
Language features often appear in instructional text:
- Instructional words for task
- Imperative sentences for setting assessment criteria, deadlines and requirements
- Using if … to provide options or non obligatory elements.
  In the task it may include obligatory and optional elements. |
| I2td4   | an information text | Definition or classification
Sequence of related statement about topic
Concluding statement
(adapted from Martin, 2000)
Language features often appear in instructional text:
- Present tenses are often used
- Contains factual information |
| I2td5   | a procedural text | Statement of goal
Material required
Sequence of steps or instructions
(adapted from Martin, 2000)
A procedural text shares very similar schematic structure with an instructional text.
Language features often appear in instructional text:
- Imperative sentences
- Conjunctive links, e.g., first, second, etc.
  Passive voice |
| I2td6   | course information design | This pattern addresses issues concerning the information section prior describing the first task.
Before starting with the first task in the program, provide students with the information about the background of the program design.
In the information make sure it addresses expectations of the program, guidelines and rules, access to facilities and resources.
Provide some advice on how to best participate in the program via the |
- The pattern shows how to make it inclusive when construing the interpersonal relationship with your students.
- It also shows how to appropriately engage and invite students into the dialogue in the text.

(A full pattern is included.)

| Pattern | Task pattern: designing the first task | The first task for a networked online program has the following key elements:  
|---------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| I2td7   |                                        | • Provide guidelines and suggestions to help students find their way of doing things  
|         |                                        | • Define clearly what the obligatory requirements of the task, using directive and imperative sentences  
|         |                                        | • To some extent the task could provide some negotiable or optional activities to give students the flexibility and the opportunity to make certain choices  
|         |                                        | • Make the first task small to allow students familiarity with the forum format.  
|         |                                        | • Example of first task could be a definition of a concept or discussion of work issues  
|         |                                        | • Task should generate common interest and familiar activities which promote community solidarity and collaboration  
|         |                                        | • This task design uses a mixed genre approach.  
|         |                                        | (A full pattern is included.) |

| Pattern | Task pattern: designing a reading task | Reading tasks for an online program should aim at developing students’ cognitive acquisition of critical reading and analysis of academic works (e.g. research papers, journal articles and other professional publications). Meanwhile, these tasks should also continue to engage students in collaborative construction of ideas and knowledge of the disciplinary of study. The task design uses a mixed genre approach  
<table>
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<th></th>
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<tbody>
<tr>
<td>I2td8</td>
<td></td>
<td>(A full pattern is included.)</td>
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</tbody>
</table>

| Pattern | Task pattern: Language choices/styles | Language features used in task design:  
|---------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| I2td9   | Language choices/styles               | • Use personal noun you instead of students to indicate a less formal situation and environment.  
|         |                                       | • Use we instead of teachers to indicate less authoritative voice  
|         |                                       | • Use teacher and student to indicate more formal situations or issues, such as copy right and plagiarism, general university policies or rules.  
|         |                                       | Please refer to patterns of online discussion index 3: Language style, metaphor and hedging |

Table 7.6: Full list of index patterns for online tasks

**Online task: full patterns**

Three full patterns for task design are presented in this section. The patterns are based on the five qualities of Alexandrian patterns and the patterns’ schematic structures presented below. The text types being used for these task designs are informed by genre theory. The two text types represented in the patterns are 1) informational text about the
teaching program; 2) instructional text for the first task which requires students to give a written definition of the concept of learning and post it to the discussion board. The second task requires students to read a list of academic research papers and journal articles and then to post a message reflecting on their understanding of the theoretical concepts.

These three tasks have different but similar functions realised by variations in their schematic structure patterning and choices of language forms. These similarities and variations are in turn addressed in the patterns for effective designs of online tasks.

Other aspects related to online learning are also addressed in these patterns. For example, particular issues in relation to team-building and the development of students' confidence-levels and communication skills are addressed, as are their attitudes towards co-operation and collaboration within the learning community.

The three full patterns are:
1. Task pattern: course information design (Pattern I2td6)
2. Task pattern: designing the first task (Pattern I2td7)
3. Task pattern: designing a reading task (Pattern I2td8)

Pattern format
The coding of design patterns is based on Alexander’s pattern format (1977) in the following steps.

<table>
<thead>
<tr>
<th>Design pattern format</th>
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<tbody>
<tr>
<td><strong>Step 1</strong></td>
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<td><strong>Step 2</strong></td>
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<td><strong>Step 3</strong></td>
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<td><strong>Step 7</strong></td>
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<td><strong>Step 8</strong></td>
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Table 7.7 Design pattern format
**Task pattern 1**: Course information (Pattern I2td6)

**Note**: This pattern is strongly related to the pattern in the next section *Online discussion: model text for giving a definition (Pattern ID: I3od1)*. For users who are unfamiliar with the concept of genre and text type, Pattern I3od1 provides a useful introduction to text type and genre theory.

Before commencing pattern-designing, it is necessary to set out some general concepts relating to the designing of an information text for the course.

**Social context**

This pattern covers two concerns: the first is the information provided in an overview of the program and the second is the construction of social relations between lecturers and students in the early stages of a course. The construction of sound interpersonal relationships between tutors and students can be accomplished by using appropriate language resources to engage and include them in the dialogue of the text.

**Concept of genres**

It is important for designers to have some basic understanding of how different text types (genres) represent different ways in which the achievement of specific social purposes is accomplished. (Also see pattern of *Online discussion: model text for giving a definition - Pattern ID: I3od1*, in the next section).

**Writing an overview of a program before the first task**

Before designing the first task, it is important to provide adequate information about the program. Genre theory provides a theoretical tool for constructing an informational text. Information about the program can be included in a separate section prior to the first task. The aim here is to provide clear information about the program to help students understand the principles on which the course has been organised.
A clear schematic structure of an informational text enhances the logical organisation of the information provided in the text. Based on the task informational text analysis in Chapter 6, the structure of an informational text typically consists of the following components: the title, an overview or a recapitulation of the program development and elaborations on key features or principles of the program.

The elaboration component also includes guidelines and details about facilities and resources that are available for student use. Details of these structural elements are available in the analysis of text one (Task 1.1. of Assignment 1) in Chapter 6.

Language features also form an important part of the construction of the information presented in the text. They enhance the quality of the text by providing accurate and precise information to avoid misunderstanding and misinterpretation.

Task pattern 1: Course information (Pattern 12td5)

This pattern addresses the design issues of program information presented prior to the learning tasks. It covers two areas of concern: the first is the information provided in the overview of the program and the second is the construction of social relations between lecturers and students in the early stage of a course. Social construction in networked learning is through engagement and inclusion in support of collaborative work and dialogue between tutors and students.

Information about the program and the social construction and engagement in networked learning

Before starting with any task in the program, it is essential to provide students with the information about the background of the program design. It is vital to address issues and expectations about the program, including guidelines and rules, advice about accessing facilities and resources and how best to participate in the program. At this stage, it is also important to construe the interpersonal relationship between tutors and students and members of the discourse community. Engaging and including students in dialogue in the text is therefore very important.

Students often experience confusion and frustration when information relating to program frameworks, guidelines and rules is unclear, or when there is a lack of information on how to access facilities and resources.

Genre theory (Hasan, 1996; Martin, 2000) provides a theoretical tool for constructing
an informational text. Information about the program can be included in a separate section prior to the first task. The aim should be to provide clear information about the program to help students understand the principles on which the course has been organised. The information should also include guidelines and give details about facilities and resources that are available for student use.

The schematic structure of an informational text typically consists of the following components:

- **the title** (e.g. Name of the program)
- **an overview** or a recapitulation of the development of the program.
- **elaborations** on key features or on the principles of the program.

The following language resources can be used to enhance the function of such an informational text

- using different tenses to indicate the different developmental stages of a program; for example use of the past tense can be used for older, 'dead' issues and usages which have been discarded, while the present tense can be used to indicate what is current and relevant.
- the informal use of *we* to refer to tutors and designers and *you* to refer to students, is an effective way of blurring the difference in social status between the tutors and students. It also expresses the desire of the tutor to establish interpersonal relations with students and to bring the students into the dialogue and allow them to feel part of the conversation in the text.

Although the schematic structure and linguistic choices discussed in this pattern may help enhance the quality of the information, they are meant to be flexible and to be used merely as examples, not as instructions, as to how an informational text can be carefully and effectively constructed in this particular context. Rigid application should be avoided and creative use of language resources encouraged.

**In summary, the information should start with a clearly defined title, an overview of the program, followed by elaborations of guidelines and rules, instructions on how to access facilities and resources. Language choices should be inclusive and engaging in order to establish positive interpersonal relationships with the students.***

This pattern is related to other patterns in index 2 of online task design.

---

Table 7.8 Full pattern of course information design
Task pattern 2: The first task (Pattern I2td7)
Task pattern 3: reading tasks (Pattern I2td8)

Since Task pattern 2 and 3 use the same text type of instructional text, the following discussion of the social context and concept of genre will cover both of these two patterns.

Social context
These two patterns are designed for Phase One tasks of an online program; one is a written task while the other is a reading task. They aim to develop students’ theoretical understanding of research issues related to the field. They also aim to generate active discussion among the students in order to build a supportive atmosphere and promote collaboration in knowledge construction. They allow individual postings and encourage students to respond to the contributions of other students.

Concept of genres
These two tasks have deployed the same text type of instructional text. However, they are designed for two different domains in the development of academic competencies; one is a writing task requiring a definition of a learning concept while the other is a reading task designed to develop conceptual understandings of research papers and journal articles.

The schematic structure of these tasks typically consists of
1. the title
2. completion date of the task
3. instructions
4. options for additional activities

Language resources used are
1. imperative sentences
2. directive words
3. modal words.

The requirements of the reading task place greater demands on the students. Additional features include using
1. declarative sentences
2. embedded clauses
3. conjunctive links.

Task pattern 2: the first task (Pattern I2td6)

Phase one task: Building discourse community and solidarity

This pattern is concerned with designing the first task for a networked learning program. At this stage students are new to the networked learning environment. They are also new to each other. Thus activities generated from the first task aim to provide them with an opportunity to get to know each other by talking about themselves, their work and interests.

In addition the initial tasks should encourage students to express their views, present arguments and make connections between concepts and practice. At the same time they learn to accept difference and respect others’ opinions.

These communication skills are important for building a discourse community and a culture of collaboration. It is important to engage students in activities which promote a discourse community and solidarity via collaboration through constructing ideas and concepts.

In a networked learning environment, building a collaborative culture among group members at an early stage can be challenging but is important.

For new students, joining an existing group can be daunting. They may feel shy about expressing their views and opinions and also suffer from a lack of confidence or lack language skills when presenting their arguments. They may feel isolated and find it difficult to make their voice heard in the group.

Therefore the first task should aim to 'break the ice' and empower students to develop confidence and skills. Thus the initial task could consist of three or four sub-tasks. The first of these could engage students in discussion activities focusing on a common topic, such as giving a definition, or explaining how things work or get done. This kind of discussion is useful in encouraging students to express their ideas and opinions. If the majority of the students are employed, other subtasks can relate particular concepts to their work situation or practice. In general, students find it is easier to start with something they have some knowledge of or are familiar with. At the same time, the task can also encourage students to respond to other postings, to discuss different views or get the group to reach consensus about a particular concept or concern.
Use the schematic structure of an instructional text for the task design
1. the title;
2. the completion date of task;
3. general instructions (for example, where to post the forum message); this section should include guidelines and instructions on how to perform the task;
4. non-negotiable elements of the task - what all students are required to do;
5. optional activities: different options available to students to choose from.

Language resources can be used when designing the task
1. Use imperative sentences to give instructions on procedures and how to perform the task.
2. Use directive words, like analyse, define the concept of …
3. Use imperative sentences and modal words to indicate non-negotiable items in the task, e.g. you must …, you should …, do not use ….
   (For non-negotiable components, students’ performance and learning outcomes will be assessed and graded).
4. For negotiable components, use conjunctive words, if...
   (Negotiable components often help more motivated students to enhance the quality or quantity of their work.)

Examples of language use:

**Imperative:** Do not include references in word counts. Write a definition of learning and post it to the discussion board by 21 April 2007.

**Directive words:** select one research project relating to education technology.; Discuss issues relating to …; provide a rationale to support your evaluation…

**Modal words:** You should use at least five reference entries; you must …

Give suggestions as negotiable components: We suggest that you …, We’d like you to think about ….

Examples of tasks that encourage students and stimulate discussions

- defining a learning concept;
- posting a message which includes their individual profile;
- asking other class members a question;
- asking students to describe their job, work environment, current projects or to talk about their expectations of the course

Make sure all these tasks include specific requirements for components. For example: In your questions, you should include at least five sub-questions and elaborate/explain your ideas.

**Other considerations**
If tutors wish to allow students some flexibility in their submissions, conjunctive links
like *if* and modalities such as *may, might, could* are useful word forms indicating these requirements are optional or negotiable.

In summary, the pattern for the first task for a networked program has three key elements: the provision of guidelines and suggestions to help students find their way of doing things; clear definitions of the obligatory requirements of the task; the use of directive in the imperative sentences. The task can also include negotiable or optional activities to allow students flexibility and the opportunity to make certain choices. Activities can include 'brainstorming' and defining concepts or discussions of work issues. Tasks should help to highlight common interests and familiar activities which continuously promote community solidarity and collaboration (Pattern 1).

*This pattern is related to the following patterns*

- Program pattern: task design (Pattern I1pd7)
- Task pattern: sequence of tasks (Pattern I2td1)
- Task pattern: task genres (Pattern I2td2)
- Program pattern: an informational text (Pattern I1pd9, also see Task pattern I2td4)
- Task pattern: language choices (Pattern I2td9)

Table 7.9 Full pattern of task design
Phase One task: Reading and reflection on academic discourses
This pattern is related to designing the Phase One reading task of an online program, addressing issues associated with reading academic research papers and journal articles.

Reading tasks should aim to develop students’ cognitive acquisition of critical reading skills and ability to analyse academic works such as research papers, journal articles and other professional publications. These tasks should also continue to engage students in collaborative construction of ideas and knowledge of the discipline they are studying. *Students develop critical reading and analytical skills by reading academic texts and joint construction and collaboration within the discourse community.*

Reading tasks for academic texts should generate activities which engage students in critical reading and analysis. These activities should also promote collaborative work and joint construction of knowledge by guiding students in meaningful postings in their group discussions.

It is useful in the initial stage of a program to set reading tasks for students, giving clear instructions on what they are required to do. A text of a reading task has similar genre as an instructional text.

The main purpose of a reading task is to help students develop critical and analytical abilities in their reading of academic texts.

In the following we provide some guidelines for constructing a reading task using text type of an informational text.

The schematic structure of a reading task
- the title which identifies the task;
- the date for the completion of the task;
- the task (specific requirements);
- a short description of the reading material (this component is optional but useful);
- elaboration/explanation of the task (more detailed explanation of the requirements or resources).

Distinctive sentence patterns for instructions use the following:
- imperatives (e.g. *read the article, make a few notes, add an entry …*);
- declarative/descriptive sentences (e.g. *the article is/isn’t difficult, it is not very demanding*);
- embedded clauses (e.g. *focus on what he seems to …, what he might claim…*)
• modalities (e.g. *It shouldn’t take much more time than ...., you should ....*)
• conjunctive links (e.g. *if the reading is relevant to your work, make a note....*).

**Explanations of language functions**

Usually, **imperative sentences** are used to set non-negotiable requirements for all students. For example: *Read articles X & Y; Summarise/discuss key concepts in the article; Compare key concepts in article X with Y; add an entry to the discussion board (within 200 words).*

**Declarative sentences** are used by tutors to give a brief description of an article to be read and also to express an appraisal of it. For example: *X’s article is quite technical; Y’s work is significant in networked learning.*

**Embedded clauses** are often used to explain details of task requirements. These explanations help students understand the process of critical reading and analysis. For example: *Your reading should focus on what the author might claim, discuss how the author’s argument might have influenced your own thinking.*

**Modality** and **conjunctive links** are used to negotiate flexibility, to open possible alternatives and options for non obligatory task components. It is important in any learning tasks to allow students some freedom to make choices in order to reflect on their work situation, interests and topic of concerns.

**Examples of modality and conjunctive links**

• *This reading shouldn’t take you more than an hour* (possibility).
• *You could select your reading texts from the reference list* (flexibility and availability)
• *If you wish, you could add a separate entry of bibliography annotation in a separate posting.* (options)

To avoid confusion and misunderstanding, it is important clearly to distinguish between obligatory requirements and the optional or negotiable elements of a task.

**Other considerations**

1. Reading materials need to be logically organised. They can be categorised according to topics, types of texts (e.g. research papers, project reports, case studies, etc.) or they can be organised according to levels of difficulty of comprehension or students’ familiarity with the concepts being discussed. It is useful to explain how reading resources are organised to help students develop their own logical organisational skills.

2. Reading tasks should aim to develop students’ skills in effective reading, bibliographic annotation and critical thinking. Typical tasks include identifying main ideas and concepts or contributions of the text.
contrasting, comparing and synthesising different concepts, theories, approaches or methods. The task should also require readers to explain implications for particular social issues and how theory can be related to practice or work situations.

3. If reading tasks involve forum postings, the tasks should encourage students to explore different viewpoints expressed by group members. The tasks may include components which facilitate group discussion, as recommended for instance, in the "Discussion Group Pattern" designed by Goodyear (2005, p. 95).

In summary, reading tasks should aim to develop students’ skills in critical reading and thinking. The obligatory elements should be clearly stated but optional elements which allow students to reflect their interests or preferences can also be included.

This pattern is related to the following patterns
- Program pattern: task design (Pattern 1pd7)
- Task pattern: sequence of task (Pattern 12td1)
- Task pattern: task genres (Pattern 12td2)
- Program pattern: an informational text (Pattern 11pd9, also see Task pattern 12td6)
- Task design: language choice (Pattern 12td9)

Table 7.10 Full pattern of designing a reading task
7.6 The construction of online discussion model text design patterns

Patterns for designing model texts to support students in writing online texts

The third set of patterns is focused on student online discussion discourse. Data and examples of good practice were generated by discourse analysis of online discussion texts reported in Chapter 6. These also indicated the level of collaboration among the group and the amount of co-construction of knowledge resulting from their online discussion activities. The patterns derived from this analysis are designed to help online teachers construct model texts and also to help new students write effective online discussion contributions.

Background of Advanced Learning Technology (ALT) program and its educational design

Table 7.11 provides an overview of the inter-relationship of tasks, organisational forms and the environment in which the online discussion was situated.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Organisation forms</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give a description</td>
<td>Online group discussion format.</td>
<td>Online discussion board.</td>
</tr>
<tr>
<td>Discussion: How to determine if learning has taken place</td>
<td>Individual postings and group participation</td>
<td>Flexible participation times.</td>
</tr>
<tr>
<td>Describe your job</td>
<td>Assessable tasks, with marks that contributed to the final grade of course</td>
<td>Flexible location: students could perform their tasks either at home, on campus, or at their workplace and at any time that suited them.</td>
</tr>
<tr>
<td>Describe a project</td>
<td>To be completed within the first 2 weeks of course</td>
<td>Learning resources: Tasks 1.1 and 1.2 Students required to do reading of both print material or on the Internet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Activities 3 and 4. Students used their personal working environment or projects as a main source of discussion</td>
</tr>
</tbody>
</table>

Table 7.11 ALT online learning tasks

Informed by the systemic functional framework, it can be argued that language is a tool for social practice and social interaction. Effective communication often involves making language choices to achieve social purposes. From the functional perspective,
the design patterns treat student online discussion as a forum for social interactivity where ideas are discussed and debated. The group dynamic is built around interpersonal relationships developed through the process of knowledge co-construction and collaboration. Through discussion, students learn the skill of expressing their points of view and how to develop strategies for engaging other participants in exploring new concepts and approaches. They also learn how to use different linguistic resources to establish social relationships, how to acknowledge the presence of their readers and negotiate different points of view. The patterns capture the distinctive communication strategies and characteristics deployed by experienced writers for effective discussions in an online academic context.

The following cluster of patterns is set out within the framework of the three SFL meta-functions: 1) ideational meanings in content construction of knowledge 2) interpersonal meanings conveyed by the interaction level of authorial voice, stance and engagement and 3) textual meanings related to sentence patterning, language choices, such as the use of conjunction and ellipsis and lexical items.

The detailed discourse analysis of student online discussion texts made it possible to distil good examples of the complex language skills used by students during their discussions. By capturing these examples and students' experience of learning through discussion forums, these patterns provide guidelines and principles to support tutors in the modelling of discussion texts. In turn, these model texts based on different text types and language styles can be used to help new students or those with language difficulties, to improve their academic skills in writing discussion discourse.

In addition, the cluster of patterns for model text designs address the potential language issues which may arise in responses to initial online tasks. They are to be used in conjunction with the task design patterns in order to help teachers develop model texts focusing on the language functions, genres and communication skills which can best achieve discussion purposes.
## Index 3: Patterns of online discussion model text

<table>
<thead>
<tr>
<th>Pattern ID</th>
<th>Name of pattern</th>
<th>Highlights of practice and principles</th>
</tr>
</thead>
</table>
| Pattern I3od1 | **Online discussion pattern:** model text for writing a definition | This pattern shows how to use different text types represented by different activities in online discussions. The pattern provides some general guidelines and principles to assist new online teachers to develop model texts that will show students how to write a definition by applying a genre approach.  

Writing a definition  
In academic writing, when using a particular technical term, it is often necessary to give a definition of and the context in which the term has been used. In addition, asking students to write a definition at the beginning of an online course, is often an effective way in getting them to make an initial contribution to a discussion.  

This pattern shows step by step instructions on how to write a model text in writing a definition.  
(A full pattern is included.) |
| Pattern I3od2 | **Online discussion pattern:** Using metaphor | In academic writing, metaphors are used to fulfil a variety of functions such as:  
- explaining, emphasising and elaborating ideas and concepts (e.g., using concrete object to illustrate abstract concepts);  
- adding interest to an online discussion;  
- stimulating response to the discussion.  
This pattern shows how to design a model to support students in developing discussion skills and strategies.  
(A full pattern is included.) |
| Pattern I3od3 | **Online discussion pattern:** engaging the audience - hedging and modality | This pattern shows teachers how to write a model text focusing on techniques for engaging the audience in online discussion. The following highlights some key principles and guidelines:  
1) Hedging, indicating non-commitment to stance, value, concepts or models, in order to encourage further discussion (e.g., *It may be ..., it may not be ..., might, probably*).  
2) Acknowledging the presence of audience by using personal nouns (e.g., *we, our, you and your*).  
3) Encouraging readers’ participation by asking questions  
4) Using modality to negotiate commonality and to express open-ended attitudes (e.g. *usually, always*)  
(A full pattern is included.) |
| Pattern I3od4 | **Online discussion pattern:** Language style | • Using ellipsis of subject or verb in a sentence, pause and colloquial expressions to indicate informal discussion or a conversational style of writing  
• Using noun groups, density of terminology and complex sentence structure to encourage a formal style of writing  
In online discussion, there is often a mixture of formal and informal use of language depending on the requirements of the tasks and the discussion contexts. For example, when defining a concept formal language is often used, but more informal language will be used in follow-up discussions. It is important for students to recognize and become confident in the effective use of different language styles to suit different contexts. |
| Pattern I3od5 | **Online discussion** | • Using contrast to compare ideas or concepts (e.g., opposite meaning, negative and positive sentence structure) |
### Constructing ideas, concepts and arguments

- Using repetition to reinforce ideas and lexical cohesion (e.g., repeating sentence structure, lexical terms).

A wide range of language strategies can be used to present ideas and arguments. It is important for students to recognize and become confident in making the best language choices in presenting their point of view or constructing an argument.

#### Pattern 13od6

**Online discussion pattern:** Co-construction of knowledge, ideas, concepts and arguments

- Propose new solution
- Justifying claims
- Confirming, providing feedback, showing solidarity and consensus (e.g., *And yes, your metaphor makes lot of difference. I feel your ... is, You're right, I like the water metaphor, too, Do love to read your vivid discussion. I really like the emphasis here on ...*)
- Seeking clarification to gain better understanding and show interest (e.g., *Can you say a little bit more about ...*)

Co-construction of knowledge in a group situation requires complex language skills in order to make quality contributions to the discussion contents. Often new students’ postings lack both substance and reflection.

#### Pattern 13od7

**Online discussion pattern:** Being polite and other interactions

- Apologising by acknowledging late response/entry or other posting message under wrong topic
- Seeking for feedback, participation or confirmation
- Complimenting and providing support of claim and argument
- Self assessment/evaluation reflecting own thinking and concepts (e.g., *Now I’m wondering whether or how this water metaphor makes difference ..., Oops! almost carried away by own metaphor*).

It is important that students are polite to establish positive social relationships with each other. This helps to build the supportive and dynamic social nature of the group and thus enhances intra-group collaboration and co-operation. This is particularly valuable for group work and projects.

Table 7.12 Full list of index patterns of model text
Example of a full pattern

Online discussion pattern: model text for giving a definition (Pattern ID: I3od1)

Before designing the pattern, it is necessary to set out some general concepts in relation to text types and genres.

Social context

In networked learning design, different text types represent different discourse activities. The following provides some general guidelines to assist new online teachers to develop model texts. The inclusion of examples will show that different text types have different social functions and staging. The aim is to help students develop skills in using different language resources through the key medium of texts.

Concept of genres

Different genres represent different ways in which specific social purposes are achieved. The variations of text structure in different text types are clearly recognisable as they represent the stage of a particular social event or activity. For example instructions on how to cook a meal using instructional text are set out in clear, sequential steps. A recount structure is used to recall the sequence of happenings of a particular event, who was involved, what happened and how it happened. If students are asked to report on a scientific experiment they will probably use report genre.

An 'apprenticeship' in academic discourse and genres helps students recognise the text types commonly used by the discourse community and thus learn to appreciate good practice among community members.

Genres and schematic structures

As reported in Chapter 6, in most cases, the format of discussion board postings is quite simple and partly pre-determined, consisting of the date and time of posting, the name of the student doing the posting and the discussion subject. The format is set by the learning platform, such as WebCT or Blackboard. Students have very little control over their overall format except for their subject entries.
However, the schematic structure of body text is quite fluid and no specific structural patterning emerged from the texts analysed, except for one generic patterning - the use by students of the subject entry as the lead for the body text. This allowed them to relate back to the lead as the text unfolded. The text types used by students were very much influenced by the activities that were required of them. In general, most of the discussion discourses position ideas, giving and explaining definitions or concepts, synthesising or critiquing others' ideas, summarising the week's discussion or giving feedback, such as compliments, support and acknowledgments.

Also, as discussed in Chapter 6, there are functional differences between task-based and discussion-based postings. The former are oriented to the fulfilment of the set tasks, while the latter focus on discussions for which no particular requirements have to be fulfilled. The sharing of knowledge is socially orientated and plays an important role in building a dynamic online community and also functions to establish the stance of its members.

The functionality of the task-based texts was more effectively to influence, reinforce or challenge readers' assumptions, philosophical beliefs and pedagogical approaches. The discussion-based discourse in contrast, functioned to stimulate, respond, confirm, give feedback appraise and compliment, which is much more socially situated on the discussion topic.

**Designing student model texts**

It is useful to start with designing learning tasks which have a clear social purpose, such as explaining, arguing, evaluating or reporting on a product, policy or concept (see Pattern 12td4: Task design: an information text). When students are given a task, ideally one text or a set of model texts should address the criteria so that these can be used by students as examples for modelling their own text-construction. This may not be necessary for advanced students such as those in the ALT program, but it could be very useful for people participating in online discussions for the first time or for NESB (non English speaking background) students who might have language difficulties in
constructing academic discourse. Model texts provide a guide on how to achieve social goals and also demonstrate the general conventions and expectations of a particular genre, including discussion, critique and summary. Providing a set of model texts helps students to know what they are required to achieve and enables them to select the appropriate text types to represent their tasks.

Online discussion pattern: model text for writing a definition (Pattern I3od1)

<table>
<thead>
<tr>
<th><strong>Online discussion: design a model text for giving a definition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>In networked learning design, different text types represent different activities in discourse. During their 'apprenticeship' in academic writing, it is essential to help students develop skills in using different text types. This can be accomplished through modelling and through practice and participation in discourse community activities. The following pattern demonstrates to tutors how to construct a model text for giving a definition of a theoretical concept. This pattern can be linked to other patterns of designing model texts for other discussion tasks.</td>
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</table>

For new students and students who have language difficulties, an 'apprenticeship' in academic discourse is essential. They need to develop the skill of correctly deploying text types to represent different discussion activities.

New students or NESB students who have language difficulties in academic writing, often fail to focus on what they need to write. Thus their texts do not develop ideas logically and/or lack the clear textual structure which will achieve their social aims through their discourse. In other words they do not use the appropriate text type to represent the social purpose/s they wish to achieve through their communication.

In addressing this problem, the following will provide tutors with guidelines on how to design a model text for the giving of a theoretical definition. This can be used as a good example for the modelling of their own writing.

**Model text: Giving a Theoretical Definition:**
This text should consist of the following.*

1) **A lead sentence that specifies the concept to be defined.** For example: The concept of learning...

2) **A statement of the definition.** For example: Learning involves the understanding of a concept or theory which is also enhanced by practice and experience. … OR
   b). Giving a definition that uses a direct quote or which paraphrases the definition of an authority on the subject. For example: According to Jones (2004), learning is about (a paraphrase), or, Jones (2004) defines learning as ‘a process of acquiring... ’ (p. 14).

3) **An elaboration of the concept.** For example: Such conceptual understanding is achieved by investigation, research and critical analysis and critique), or

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* (Note: the in-text citations are not taken from actual material, but simply provide examples of what should be done.)
b). An explanation of the definition. For example: *This is because through practice and experience, learners gain in-depth knowledge of the application of the theory* (explanation) … OR  
c). The citation of an example: *We can take learning to drive a car as an example. When we learn to drive, we need to first understand the traffic rules in order to pass the theory test. Then the learner needs to take lessons from a driving instructor and also gain experience of driving before he/she can obtain their drivers' licence.*  

4) **The presentation of a contrast.** (This is optional). For example: *While Jones focuses on the concept of social interaction (2004), Smith (1998), emphases the importance of acquiring cognitive development in learning.*  

5). **A concluding sentence or link to the next argument or concept.** For example: *It is important in learning to link theory and practice so as to*  

**A model text incorporating all the elements set out above, reads as follows:**  

Learning is defined as the process of acquiring understanding and application of new knowledge and skills applicable in real life situations (*definition*). In addition (*elaboration*), new knowledge is often gained through investigation, research and critical analysis and the apprenticeship of community practices (Jones, 2004; Smith 1998). For example, for university students, writing essays is a way of learning how to construct academic discourse in representing ideas and knowledge which in turn, also demonstrates their understandings and ability to apply such knowledge in their field (*example*). In summing up, the importance of learning is the connection between abstract ideas and real life practice (*concluding sentence*).  

**Problem:** How to help students recognise the shared text types commonly used in the discourse community during their 'apprenticeship' in academic discourse and genres  

**Solution:** Create a set of model texts, each of which is an example of an important text type. The set should not be so large and diverse that it confuses students about which type to select, but it should include the essential text types for the kind of task(s) you are setting for the students.  

♦♦♦  

Examples of model text types needed to complement this patterns are:  

1. Discussing ideas.  
2. Initiating ideas.  
3. Synthesising others' ideas.  
4. Critiquing others' ideas.  
5. Summarising the week's discussion  
6. Giving feedback to other's idea (e.g., complimenting, supporting and acknowledging)  
7. Using metaphors  

This pattern is also related to the task patterns.  

Table 7.13 Full pattern of model text – giving a definition
Online discussion: model text of metaphor use (Pattern ID: I3od2)

Before designing the pattern, some general concepts in relation to metaphor in academic discourse need to be provided.

Social context
Because online discussion makes such an important contribution in the learning process, students need to be 'apprenticed' in different language skills to ensure the effective construction of their discussion messages. New students in particular, or those with language difficulties, will be greatly assisted by reading a set of model texts which they can use as a template for their writing of academic discourse. This pattern sets out some general guidelines on how to construct model texts which make use of metaphors to explain abstract ideas and concepts.

The concept of metaphor in academic writing
Experienced writers often use metaphoric resources to make connections in knowledge (Cameron 1999; Gibbs 1999). In academic discourse, metaphor is seeing something in terms of something else and metaphors can be taxonomically organised or thematically structured. Metaphor requires complex mappings of similarities in concepts, images, meanings and in other related knowledge (Gibbs 1999). Readers need to identify links between two objects to make internal connections and interpretations. In online discussion, experienced writers often use metaphors to engage their audience and to stimulate responses and further discussion. In the following we will present a model text which is modified from a student online discussion posting. The fact that this posting was effective could be seen in the way it generated many responses from fellow students. Inspired by the original metaphor, two more students presented metaphors of their own to illustrate the abstract concept of learning.

Designing student model texts, using metaphors
In some learning tasks, students often need to explain an abstract idea to show their in-depth understanding of their newly acquired knowledge. Metaphor is an effective way to explain the quality and substance of an object, concept, principle, image or the features of something else. However, for new students, using the right metaphor can be challenging.
An effective strategy is to model a set of texts which show students the effective use of metaphors.

**Online discussion: model text of metaphor use (Pattern ID: I3od2)**

**Online discussion: design a model text for the effective use of metaphors**

In networked learning design, online discussion plays an important part in the learning process. The challenge is to motivate students to participate in discussions and get them to read and respond to other students’ postings.

This pattern demonstrates how tutors can construct a model discussion text, focusing on the use of metaphoric resources to stimulate discussion and collaborative construction of knowledge. The pattern can be linked to others for the designing of model discussion texts.

**Problem:** Tutors often find it difficult to motivate students to read and respond to other students’ postings in an online discussion environment. This becomes even more problematic if students’ postings lack variety, are boring and difficult to understand or are full of jargon or technical terms. New students often find it difficult to use a variety of language resources such as metaphors, to make their postings interesting and thus stimulate responses.

**Solution:** Use a pattern on the lines of that set out below, to guide tutors on how to design a model text using metaphors. This can also demonstrate to students how the use of variations of linguistic resources will make their messages more interesting and easy to understand.

*Model text: Using Metaphoric Resources*

The model text should consist of the following:

1) **A lead sentence which specifies the concept to be illustrated.** For example: *The concept of learning*

2) **The statement of a definition.** For example: *Learning involves the conceptual understanding of a concept or theory enhanced by practical experience.*

3) **A metaphor which illustrates the process of learning.** For example: *Learning is like building a city. It requires theoretical knowledge in architectural design and the practical skills in drawing the plans, building the roads, shops and offices.*

4) **A contrast** (Optional). For example, *While learning needs the application of theory and practice, it is also a life-long project, just like building a city with stones.*

5) **A concluding sentence or a link to the next argument or concept.** For example: *The importance in learning is its focus on linking learning theory to practices and real life situations.*

*Model text for giving a definition of learning*

Learning is defined as the process of acquiring understandings and the application of new knowledge to

* (Note: the in-text citations in the following are not taken from actual material, but merely provide examples.)
practice and experience in real life situations (*definition*). Learning is like building a city (*metaphor*). It requires theoretical knowledge in architectural design and the practical skills in drawing the plans, building the roads, shops and offices.

In addition (*elaboration*), new knowledge is often gained through investigation, research and critical analysis and the apprenticeship of community practices (Jones, 2004; Smith 1998). For example, for university students, writing essays is a way of learning how to construct academic discourse in representing ideas and knowledge which in turn, also demonstrates their understanding and the application of such knowledge in their field (*example*). In summing up, the importance of learning is that it makes connections between abstract ideas and real life practice (*concluding sentence*).

**Problem: How can students learn to recognise the shared text types commonly used in the discourse community during their 'apprenticeship' in academic discourse?**

**Solution: Create a set of model texts each of which is an example of an important text type. The set should not be so large and diverse as to confuse students about which to select, but it should include the essential text types for the kinds of task(s) you are setting for the students.**

♦♦♦

Examples of model text types needed to complement this patterns are:

1. Discussing ideas
2. Initiating ideas
3. Synthesising others' ideas
4. Critiquing others' ideas
5. Summarising the week's discussion
6. Giving feedback to the ideas of others (e.g., complimenting, affirming and acknowledging)
7. Using metaphors

This pattern is also related to the task patterns.

Table 7.14 Full pattern of model text - metaphor
Online discussion pattern: engaging the audience – hedging and modality (Pattern ID: I3od3)

Social context
In networked learning, the discussion board provides a social space for student interaction via the key medium of text. Experienced writers often deploy different language strategies to engage their audience in their dialogic moves, while the creation of a dynamic discussion group depends a great deal on students’ language skills in constructing and construing their relationships with other group members.

Language strategies of hedging
Hedging is the use of language to express possibility or probability rather than dogmatic certainty. It is an important language feature in academic writing and scientific discourse. Words and phrases used for hedging typically include: may, seem, believe, probably, appear to be.

Modality
Modality is a valuable linguistic resource for positioning the author’s voice between yes (positive) and no (negative) (Halliday, 1994; Martin & Ross, 2003). In this semantic space authors use modality to project their point of view in such a way as to invoke negotiation with their readers. In other words experienced writers use modality to express non-committal or ambivalent attitudes so that readers have the opportunity to make their own inputs or interpretations. For example, the modal word usually indicates the possibility of a less than 100% performance of an activity. Similarly the modal may indicates something less than absolute certainty. Using this kind of non-committal approach allows space for negotiation with the community of readers involved collaborative or project work.

Problems
A lack of skill in deploying hedging or modality is particularly noticeable in the writing of first-year university and NESB students (Hood, 2004b; Hyland, 2004; Lee, 2006). This can be problematic when they need to use text as a key medium for participating
in online discussions or in group projects in which negotiation and collaboration among group members is essential.

Solution

Once again, a good way of dealing with this problem is to provide students with a set of model texts which include examples of effective use of hedging and modality. By using model texts students are not only made aware of how hedging and modal words are used in different contexts, but they can also go through an 'apprenticeship' in the use of such language resources in their own writing. Examples of model texts can be focused on different social contexts, such as postings in online discussions, e-mail messages or in a private discussion text with a group member.

Designing model student texts

Ideally, a learning task which promotes discussion of a concept or idea or collaboration between members (see pattern 12td7: Task pattern for designing the first task) first needs to be designed. Model texts can then be designed around the task. The following pattern is focused on the construction of a model text for the ALT Assignment 1 Task 1.2: in which students were asked to describe how to determine whether learning had taken place.

Online discussion pattern: engaging the audience – hedging and modality
(Pattern ID: I3od3)

| Establishing a social relationship with the audience is an important focus for academic discourse, especially in an online discussion environment where text is the main medium of communication and collaboration. Experienced writers often deploy language resources such as hedging and modality to provide space for negotiation stance and information in order to promote and maintain social relationships with their audience. |
| New students often have difficulties in engaging their audience in their discourse. This may appear more problematic when they participate in group work or need to use text as a key medium in participating in online discussions and group projects. |
| In academic discourse, hedging and modality play an important role in negotiating points of view and stance between the author and audience. It is important for new students to develop this kind language skill in their social construction of relationships with their audience or other discourse community members. |
| The following will provide tutors with guidelines on how to design model texts that will help develop students' language competence in this regard. |
Learning task: Post an online message discussing how to determine if learning has taken place (approximately 100 words)

Design model text for this task

Model text: Discuss how to determine if learning has taken place

The way in which the task has been set out here, indicates that this is a discussion activity. The model text should use a discussion genre (text type) and should consist of the following elements:

1. A lead sentence that specifies the discussion topic. For example: Determining how learning takes place...
   a). Position your point of view. For example: Determining if learning has taken place often involves some form of assessment. OR
   b). Propose a definition using hedging to indicate a non-committal attitude towards the concept. For example: According to Jones (2004), learning is likely to take place when learners are provided with the opportunity to apply theory to practice.

2. a). Give an elaboration of your statement using modality. For example: There are usually two kinds of assessments, formal and informal. OR
   b). Give an explanation of your statement (e.g., Forms of assessment may consist of writing an essay, an end of term test or a project).

3. Present a contrast using hedging (optional). For example, while Jones appears to focus more on the application of theory to practices (2004), Smith (1998) seems to place more emphasis on the acquisition of cognitive skills in understanding new knowledge.

4. Give an example of learning assessment, using both hedging and modality to show other examples may be used in this context. For example: In the workplace, after a training session you may ask learners to undergo an assessment which is related to their work situation. Or: You may ask learners to fill in a self-assessment evaluation sheet. Most of the learners will probably indicate that they feel more confident about doing a particular task on completion of the training.

5. Write a concluding sentence containing hedging and modality to invite different voices from the audience. For example: While formal assessments are believed to be a more reliable way in determining if learning has taken place, informal assessments, such as peer review and self-assessment, may provide an alternative, non-threatening environment for learning assessment.

Model text of a discussion for an online discussion board (word limit: approximately 100 words)

Discussion subject: how to determine if learning has taken place

In a workplace, it is believed that effective learning often takes place through collaboration and application of theory to practice. This is supported in Jones's research (2004) that learning is likely to happen when learners are provided with the opportunity to practice newly acquired knowledge within a relevant context.

In determining if learning has taken place, tutors will probably use different forms of assessment, both formal and informal. While formal assessments may appear to be more reliable, informal assessments, such as peer review and self-assessment, may provide an alternative, non-threatening environment for learning assessment.

Personally, I believe learning usually takes place when it is fun and interesting; otherwise students may not be motivated to learn.

Hedging and modality improves the group dynamic and promotes interactivity, as most readers are likely to respond to discussions in which the writer expresses non-committal attitudes to the topic being discussed.

Problem: How to help students develop the skills of engaging their audience through the use of hedging
and modality.

Solution: Create a set of model texts, each of which provides an example of the use of hedging or modality in a particular learning context. These contexts may be that of a discussion topic (as shown in the example above), a forum message to a group member about a joint project, a message negotiating division of group work or the joint presentation of an assignment.

Examples of model texts needed to complete or embellish the above solution:

1. Hedging for writing scientific text
2. Hedging for negotiating information
3. Hedging for negotiating services
4. Modality as request
5. Modality as demand
6. Modality as negotiation

Table 7.15 Full pattern of model text – metaphor and modality
7.6.1 Application of design patterns

Potential users of these patterns

The illustrative patterns presented in this chapter aim to support teachers or designers, either as a group or individually, in their program design work. Patterns are designed to allow flexibility and creativity in their use. They are suitable for needs in the areas of designing networked learning programs, first assignment tasks and student support model text design. Because these patterns are based on Alexander’s problem-solution approach (1979; Alexander et al., 1977), they are not disciplinary-specific and are suitable for most kinds of program design.

The patterns also provide experienced designers or teachers with a common language for sharing their experience and knowledge in networked program design. They can also support new teachers in their program design and task design. Moreover, they will provide academic literacy support for students undergoing an 'apprenticeship' in online discourse.

How to use these patterns

1. For new designers, the patterns are best used through individual support via a peer mentoring process. A novice designer can work side-by-side with an experienced designer who will provide guidance on the selection of appropriate patterns for specific areas of design.

2. Users can explore the index patterns to locate useful patterns. They will need to examine the problem and context of each pattern to decide its suitability for solving a particular problem.

3. Each pattern can be adapted to solve an individual problem, although it may sometimes be necessary to apply several patterns to one problem.

4. The last paragraphs in each pattern should be used to locate patterns that are most relevant to a particular problem.

5. A two-hour training workshop on the use of the patterns will greatly benefit novice designers.
6. These patterns are also excellent teaching resources for students who need to learn more about design patterns and patterns languages. This is discussed in more detail in Chapter 8.2 which shows how the patterns can be integrated into a post-graduate instructional design program. Although the purpose there is to validate the patterns, the process described will also contribute useful resources to teaching materials for students.

Summary
The three sets of illustrative index patterns and six full patterns developed in this chapter form a key component of this study. The development of these patterns has not only captured some of the key findings which emerged from the empirical research reported in Chapters 4, 5 & 6, but has provided a model for encoding such resources into design patterns. In this respect, it may again be asserted that what most strongly differentiates this study from the work other researchers in this field, is the way in which it has made practical use of research data outcomes. This has been achieved by transforming the data generated into resources that teachers can use to support their work. In so doing, this study has added to the body of knowledge of networked learning in a practical way, while also contributing reusable resources that can be shared by the networked learning community.

As mentioned previously the patterns set out in this chapter represent the final draft of test patterns which were subjected to the two separate validation processes reported in the next chapter.
8 Validation of design patterns

8.1 Introduction

The validation of design patterns forms an important part of their development process. Ideally, validation involves a great deal of collaboration among designers, teachers and other potential users of patterns. There were two key stages in the process of validating the patterns in this study. The first took the form of a workshop in which the improvement of the patterns was discussed with a number of academics from the Faculties of Education and Social Work and Health Sciences at the University of Sydney. They were invited to participate on the basis of their interest in educational design and in particular in using pattern languages.

The second validation exercise tested the applicability and usability of the supporting materials with postgraduate students doing a course in 'Instructional Design Methodologies', in the Faculty of Education and Social Work at the University of Sydney. As novice designers, they were involved in creating network programs and the validation exercise was actually integrated into Week 2 of their course.

Stage 1: Validation to improve the quality of design patterns (Referred to from this point as Validation for Pattern Improvement).

Two group sessions involving seven academics in all, were conducted. The purpose was to obtain feedback on the usefulness of the patterns, their re-usability, flexibility and adaptability. Participants were first invited to use the patterns to stimulate discussion on their understandings of the concept of pattern languages. They were also asked to talk about how they could see the application of pattern languages in educational design and in what way they could use the patterns to assist their design and program development. Participants were then given a list of pre-designed questions
to examine and review the first draft of patterns and make suggestions for any improvements they thought might be necessary. The outcome of the discussions and feedback was then used to modify and refine the second draft of patterns for the Stage 2 Validation.

**Stage 2: Validation to test the usefulness and application of design patterns** *(Referred to from this point as Validation for Pattern Testing)*

The second validation exercise, conducted as noted above with postgraduate students, used the modified patterns that had emerged from the results of the Stage 1 Validation. Learning resources included a list of research papers for pre-reading, selected design patterns from the second draft for review and an evaluation form. Students were asked to discuss whether they found the concept of pattern languages useful, whether they thought these patterns could assist their work in educational design, and whether they thought they would benefit from using the patterns. Divided into small groups, they were asked to use the patterns to solve a perceived educational problem. More advanced students were also encouraged to construct their own patterns. At the conclusion they were asked to fill out the evaluation form about the usefulness and applicability of these patterns, and also to send feedback to the lecturer via e-mail. This feedback, together with that contained in the completed evaluation forms, was used to refine the patterns for a second time and to put them into the final form used in the material presented in Chapter 7. Sections 8.1 and 8.2 below, report on the validation processes in detail.
8.2 Validation to improve the quality of design patterns

The first validation workshop with academic participants took place over the course of a day, with a morning session with four participants, and an afternoon session with another group of three. With the consent of the participants, the sessions were videotaped, ethics clearance for this procedure having been obtained beforehand. The aim was to distil from the discussions, information and thinking on issues related to design patterns, both in theoretical and practical terms. These issues included questions such as the following: What was participants' conceptual understanding of the theory of design patterns and pattern languages? Were the developed patterns based on a sound theoretical framework? Were the patterns developed able to solve practical educational problems? Were the patterns organised in a way that was easy to use and understand? Were there any perceived problems in implementing these patterns? What areas of improvement of these patterns are needed? In response to these questions, participants raised questions of their own relating to clarification of the concepts, the hierarchical structure of organising the patterns and their application in user support.

Notes from the video record of the discussion sessions confirmed that the first validation process had provided not only valuable insights into the usefulness of the patterns but also indicated what level of assistance participants might need to use the patterns.

8.2.1 Pattern improvement through validation workshops: concepts and questions raised by participants

The following captures the essence of the topics and questions discussed. This is based on notes taken from the four-hour videotape of the morning and afternoon workshops. The order of topics and questions has not been altered, so as to show the natural flow and the context of each discussion topic. However, to avoid repetitions, the notes for topics and questions in Workshops One and Two have been combined. In addition,
some explanations have been included to point out connections between concepts and questions discussed at different times.

Participants’ conceptual understanding of design patterns
The following section sets out the key discussion topics and issues generated from the discussions. These notes aim to capture the essence of the discussion contents. They also include some examples used by participants to illustrate their understandings. It was noteworthy that as the discussions progressed, so did participants’ grasp of the concepts. It was clear towards the end of both workshops they had reached a deeper and broader understanding of the concept and the application of design patterns in the educational context. The notes illustrate some examples used in the discussion.

1. What are educational design patterns and what is their functionality?
   1). Patterns connect theory and practice.
   2). Patterns balance competing forces and provide solutions to repeating problems.
   3). The architectural patterns designed by Alexander and colleagues cover different scales of operation, from a pattern for a room, to one for a house, a street or to a neighbourhood, although the patterns used for a house have very little relevance to a street. When applying this example to course design, it can be said that while all courses have both general and specific features, each course will have variations. Another use point to consider is that when a house is built, it can be inhabited by people of different cultures and with different life styles and preference of details. Again this is the same as a course when it is attended by students from different cultures with different needs and learning styles. Although the program is the same each class creates its specific characteristics.
   4). Patterns capture the multi-dimensional aspects of design as they consist of the elements of the description of the context, the problem and solution. Patterns also provide designers with an effective way of representing their knowledge and complex intuitions needed to transform design ideas into sharable resources. The standard format of design patterns also helps the designer to express implicit ideas about design issues in the form of guidelines, instructions and solutions to a specific problem.
5). The standard format and common language used in design patterns also provides designers with a language which is familiar to other designers as they articulate ideas. For example, when Alexander encountered a problem in contemporary architectural design, he first examined how that problem had been solved in more traditional architecture. He then used design patterns to devise solutions for solving the contemporary design problems.

6). Patterns use specific forms to represent ideas, values, principles and guidelines and are used to share experience and good practices among designers. A pattern captures and explains the context of a recurrent problem or conflicting force and provides standard, specific resolutions to the problem addressed. A pattern embeds a theoretical or philosophical framework into the solution and allows designers to use their experience and expertise to achieve flexible and creative outcomes or end products. For example, if 10 people were given a pattern to build a house, that would result in the building of ten houses with the same key features, but there would probably be variations of the pattern within each house. This indicates that the use of a pattern has the advantage of allowing its users to benefit from accumulated knowledge and experience about best practice. But at the same time, it allows them to create new ideas and incorporate features that cater for cultural differences, family styles and individual preferences.

2. Are there different levels of patterns?

Pattern design does involve the use of different scale or levels of detail. While a higher level pattern might set out frameworks, principles and generic features, it will not include detailed descriptions of how the pattern should be realised. For example, a town plan contains many more abstract concepts than does the plan for a house. In contrast, in lower level patterns, detailed instructions are necessary to enable the solution to problems to be understood. Patterns constitute a language which can be used to communicate what needs to be done to solve recurrent problems expressed or manifest at multiple scale levels. In other words, patterns can deal with ‘nested’ problems.
3. **What is the definition of program design? Does it cover an entire degree course, a one-year course or a single course/semester?**

In the first group, one of the participants asked for definition of a pattern design program particularly with regard to its time frame. The answer was that no fixed time frames could be laid down, although a program should be flexible enough to cover any length of time. A pattern can be designed on any scale depending on the design task and context. It should be said the patterns presented at the workshop were more relevant to postgraduate courses as they were developed from the data collected from interviews with five academics in the ALT and AW programs, whose experience was strongly related to postgraduate courses.

4. **Is there a sharp distinction between a group and an individual tutor when talking about program design?**

Since the program design patterns presented were based on interviews with five academic staff who had been involved in designing and teaching two separate online programs, it follows that the patterns were intended for use by a group rather than an individual. One of the key advantages of a design pattern is that it promotes collaboration and teamwork among designers as they share their experiences, ideas, values and knowledge. Technology offers the opportunity and possibility of joint design, joint teaching and greater cooperation within a team or a group.

5. **Can patterns be used across disciplinary domains or are they disciplinary specific and only suitable for education science?**

The patterns presented were designed for non-disciplinary specific use. They provided principles and guidelines which were not intended to be content-specific and were not constrained in any way by disciplinary boundaries. However, these intentions were challenged in the Phase 2 of the validation process, as students with different professional backgrounds perceived the same pattern from different viewpoints, very much influenced by their field of knowledge. This is discussed in more detail in the next section.

6. **How is a pattern different from a template or a model?**
A pattern is more flexible than a model or a template as it allows creativity and variations. Users can make use of their experience and knowledge when applying patterns in educational design. In addition, a pattern is also context specific and driven by the problem-solution approach.

7. **What are the key pattern usability issues?**

Participants in both groups expressed concern about issues related to usability. Pattern design involves quite complex conceptual understandings as users first have to know what a design pattern is and how to use a pattern. Above all, they need to know what patterns are available and how best to select these patterns. Two main questions raised during the discussions were:

1). As the number of new patterns increases, a huge repository of patterns will develop. How can teachers find a particular pattern or rather, how can patterns, which are appropriate to their design needs, be found and how can they know which patterns they should choose?

2). How is it possible to support people involved in pattern selection and what user-support strategies are available?

After some intense discussion participants made the following suggestions

1). For a small scale repository, an *alphabetical* index can assist with the accessing of appropriate patterns. For example when an experienced teacher wants to help a new teacher, rather than simply advising the neophyte to look at all the patterns, he/she will select a group of patterns from the index to address a particular problem.

2). The creation of a macro-pattern to guide users on how to access and use design patterns.

3). Another solution suggested was the creation of two types of patterns, one more detailed and sophisticated for experienced users and another with simpler instructions for inexperienced teachers and designers.

4). If the pattern resources are to be shared within a community, the provision of meta-data on searchability may be relevant and useful.
Another important consideration is: Who will use the patterns and what will be the scale of support available to them? Further questions include: are the patterns designed for small-scale support or for a development team or an individual teacher? Are the patterns designed for community use?

8. How can design patterns be used differently by experienced and novice designers?
For experienced designers a pattern could be used as a checking point to prevent too much dependency on intuition or generalisation. For inexperienced teachers or new teachers, patterns are a starting point, indicating how to get work done, what problems can be anticipated and how might solutions to resolve conflicting ideas be selected? Also, especially at the beginning, the number of patterns used by novice designers should be limited to key problems and guidelines in order to avoid 'information overload' and confusion.

9. What is the connection between SFL and design patterns?
SFL provides some building blocks for instructional design. Its concepts of genre, schematic structure and text types, are useful for designing and describing activities, tasks and the learning environment. It also provides a language which can be used in discussions about the context and design issues.

Pattern design involves three elements: tasks, resources and space, and organisational forms. As demonstrated earlier in this study, written texts play an important role in the quality of teaching and learning. The repertoire of linguistics skills and knowledge used by teachers and students to explain the meanings of texts, could be captured by design patterns. For example, a pattern may remind designers that when performing a particular learning task, students may experience certain language problems. The solution is to use model texts to help students develop written communication skills for academic discourse.
Learning is socially situated (e.g. in a class or in a team). Tasks specify what students need to do. It is important to design a learning environment and tools to facilitate learning activities. And although a community cannot be designed, it is possible to design an environment that enhances social interaction and collaboration within a community.

10. How are the patterns ordered? Are they time sequenced? How are they organised and structured?
It was suggested that there was a need to clarify how strongly the patterns are sequenced or ordered, although this is more a representational issue. Most patterns are presented with no time order. Patterns are simply listed to cover the things considered important and which need to be attended to. Although the patterns are presented in a list form this does not reflect time or order of importance, but is merely a way of representing them logically.

11. How to decide what patterns are to be included? Are these patterns developed based on a particular model?
There is no particular model but the format is based on Alexander’s architectural patterns. The patterns presented in this study are based on the ALT and AW courses, the success of which indicates that they embody good practice and principle.

Level of pattern development: At one level patterns are used to share pedagogical knowledge and experience. At another level, in a more established environment, patterns develop maturity and ensure that good practice and principles are regularly updated and refined.

8.2.2 Key improvements for the second draft of design patterns
As a result of the Stage 1 Validation process, substantial alterations and improvements were made to the design patterns, as follows:
1) The term 'design pattern' was clarified to avoid confusion with the terms 'model', 'template' or the more generalised use of 'pattern' as in fashion design for instance.

2) The way in which the design patterns were presented was restructured to show the inter-relationships between patterns.

3) The term 'program design' was explained and defined.

4) The potential users of the patterns were identified before the patterns were introduced.

5) Suggestions on how best to use these patterns (aimed at particular group of users) are addressed at the end of this chapter.

6) The clarity and language of the patterns was modified and improved to make them less cluttered and easier to understand.

7) More information was added to the literature review (Chapter 2) and the methodology chapter (Chapter 3) both of which were redrafted. This improved the clarity of the terminology and the explanation of concepts and methods used in the development of the patterns.

As evidenced in the data presented above, the feedback, discussions, questions and suggestions generated from the Stage 1 Validation workshop provided invaluable guidelines for the redrafting of the first set of patterns. That also involved the re-examination of the literature review and the methodology sections of this study, and led to the clarification and the addition of more information on some terms and methods applied. It also helped to refine the concepts and terminologies of design patterns to make this clear to potential users. The Stage 1 workshops also generated useful discussions and suggestions on how best to support teachers and other end users of these patterns in their course design.
8.3 Validation to test the usefulness and application of design patterns

As noted above, the second validation exercise was conducted with a group of postgraduate students as part of their curriculum. The author worked closely with the course co-ordinator to develop the course material, which consisted of three parts. Part One provided the students with a list of research papers for pre-reading, focusing on the current research literature on educational design and pattern languages. The students then discussed their understandings of the research papers and terminologies used in a 50-minute session.

Part Two included a brief discussion on how design patterns are situated in the networked learning context and the process of hatching design patterns. Students were then introduced to a list of index patterns and two examples of full task design patterns. Guided by the contents of an evaluation form, the students were asked to discuss these patterns in a 50-minute session.

As an assignment, students were divided into groups of three to develop an index pattern into a full pattern. Although it was accepted that they could use their own design patterns if they wished, they were encouraged to use the supplied index patterns to highlight the good practices and principles embedded in those patterns. This was designed not only to enable students to gain some experience in developing their own design patterns, but also to assess whether they had benefited from the course and how useful the design patterns had been in assisting them to grasp the concepts of educational design.

On the completion of their assignment students were asked to fill in an evaluation form concerning the design patterns, including their pattern development experience. In this study only the data generated from the evaluation form is used for the validation process and student design patterns will not be included in the discussion here. The students’ experience in the actual design (using the index pattern) generated good
feedback for the refinement of the design patterns in the study – discussed in detail later in the chapter.

**Participants**
There were about 20 students in the class. Of these, 12 gave permission for the data in their evaluation forms to be used in this chapter. Eight of those students had no experience while four had educational design experience in the following fields: designing online undergraduate programs or other study programs; designing online programs for financial services; designing online programs for a corporate-sector training program.

**Student evaluation data**
Twelve completed evaluation forms were received, the feedback having been compiled manually. The evaluation form used for this group was the same as that for the Validation for improvement workshops. Although, there were some similarities in replies to some questions, in general the feedback collected from this student group was quite different to that of the academic group. This was probably because these students perceived themselves as learners and potential users, while the academic staff perceived their roles to be that of evaluators and advisors. The summary of the students’ feedback presented below will reveal this difference in more detail.

**Question 1: What is your understanding of design patterns?**
In their replies, the students seem to have adopted the problem-solution based approach used in these patterns. They also indicated that they understood that patterns aimed to provide principles, guidelines and a standard format for representing sharable and re-useable knowledge.

**Question 2: What is your understanding of the ways in which these patterns are to be used?**
The group was able to explain the difference between index patterns and full patterns. As they explained, the index patterns can be used as an overview of highlights to get the context in which the full pattern is situated. Index patterns help establish the
relationship between the full patterns and other patterns in the repository. However, one student saw these patterns as also performing the function of a checklist which could be used to make sure all guidelines were followed. Another function identified by some students was the use of full patterns to measure the consistency of work among trainers and teachers, or trainees and students, to help novice designers to achieve such consistency.

Question 3: Do you see any benefits of using these patterns?
Apart from some advantages discussed in Question 2 above, students mentioned that the index patterns could help identify problems and solutions, while the full patterns provided more detailed information and further deliberation, critique and refinement which encouraged collaboration.

Question 4: Do you see any disadvantages in using these patterns?
Interestingly, students gave conflicting answers to this question. Some students mentioned that the index patterns were too brief and that there was not enough information to guide design work. However, in the previous entry (Question 2) these students also mentioned that the brief information of the index pattern provided a useful overview to assist the location of a pattern.

An important conclusion is that although the index patterns provided a useful overview, they were insufficient to guide design work.

Some students voiced concern about the great number of pattern available, saying that this made it difficult to choose the right one. This concern resembled that raised in the academic discussion group about the usability of the patterns.

This feedback results in the study helped improve the clarity of the explanation given in Chapter 7, section 7.2.2 'Using indexing to show the network structure of design patterns'.
Students responded in various ways to the full patterns, saying among other things, that:

- it was not easy to understand their inter-relationship with other patterns;
- there was too much detail and some patterns appeared to be quite subjective because the theoretical basis and research evidence was not explicit;
- the patterns were too generalized and therefore open to misinterpretation.

This feedback resulted in substantial changes being made to the patterns presented in Chapter 7 in the following areas:

- The addition of Figure 7.2 Index of Patterns to illustrate the inter-relationship of the three sets of design patterns.
- The full patterns were modified to improve their clarity and specifications of the context, problems and solutions. This is to avoid over-generalisation.
- Key design principles embedded in the patterns were supported with in-text citations and references.
Question 5: From the list of both full patterns and index patterns, which patterns do you perceive as most valuable?

Students identified the following index patterns as being most valuable:

<table>
<thead>
<tr>
<th>Patterns</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>I2td1: Sequence of task</td>
<td>Schematic structure is clear and easy to apply into any pattern design</td>
</tr>
<tr>
<td>I2td3: Task design: an instructional text</td>
<td>Can be used to effectively to construct a course with the necessary information and also to reduce isolation in online programs.</td>
</tr>
<tr>
<td>I2td4: Design of course information</td>
<td>They had the potential to allow instructors to build a task in a low risk way to benefit students. Steps provided an opportunity to make choices. The task was designed for the students to get to know each other in order to promote collaboration.</td>
</tr>
<tr>
<td>I2td7: Design of the first task</td>
<td>Practically all students found most of the patterns valuable</td>
</tr>
</tbody>
</table>

Table 8.1 Validation – Index patterns that are most valuable

The full pattern of *designing a reading task* was nominated as the most valuable against the other two patterns of I2td7: Design first task, and pattern I2td1: Sequence of tasks.

Interestingly four students took the question to mean that a comparison should be between index patterns and full patterns. So their nomination result was quite fascinating. One student thought the index patterns were no more valuable than the full patterns. Two considered both were valuable, as index patterns provided a summary (a whole picture) and clear steps, while the full pattern contained more detail. Finally, one student commented that the full patterns were more valuable as they were clear, easily applicable and easy to find.

Question 6: From the list of both full patterns and index patterns, which patterns do you perceive as least valuable?
Again, the students’ replies to this question tended to contradict those to previous questions. Their main comments can be summarised as follows:

Index patterns:

- One student was critical of the presentation of the index patterns because she said they were not well structured. She suggested that the index patterns instead should be presented in tree structures.
- Patterns were least useful for those who did not understand design principles
- People needed to develop full patterns to be able to understand index patterns.

Index patterns mentioned as least useful:
- I2td4: Design an informational text (no specific problem)
- I2td4: Design an informational text and I2td5: Design a procedural text. The two patterns seem to be repetitive.
- I2td9: Task genre (appeared not to solve problem)

Full patterns
Least useful as rated by students: I2td1: Sequence of task (This does not appear to be related to the other patterns.)

Again interestingly, in comparing index patterns to the full patterns, one student commented that the former were less useful because the full patterns provided more information and therefore gave a more lucid picture.

**Question 7: What elements in a full pattern do you consider to be most valuable?**

The feedback and comments on this question were quite consistent. The following is listed in the order of the number of replies:

- The solution, because it provided answers;
- The explanation, because it provided a research-based approach to teaching;
- The introduction;
- the description of how the pattern related to other patterns because it showed 'the big picture';
• The context because it explained the background of the application;
• The description of the problem;
• All elements, because they made the pattern complete.

It was interesting to note that the students’ comments were very much influenced by their professional backgrounds and the fields in which they were working. For example, students with an instructional design background tended to consider language features and styles to be as important as the other elements in the pattern. However, those students with a background in teaching and particularly those with knowledge of language and linguistics saw the language styles and choices mentioned in the patterns as the most valuable. This indicates that students’ pre-knowledge has a direct impact on the way they perceive and/or talk about the usefulness of a design pattern. This is discussed in more detail later in this chapter.

**Question 8: Were the patterns clearly written or difficult to understand?**

Students had made some very useful comments as listed below:

Index patterns were
• easy to understand but sometimes confusing;
• clearly written but could broaden understandings, depending on the user's familiarity with the knowledge embedded in the pattern;
• need a sentence to introduce the context; meaningful names should be given to each pattern indicating the nature of the problem and solutions;
• remove the words ‘design’ or ‘designing’ as they are self-explanatory;

Full patterns were
• too long and repetitive; they need to be concise to keep users interested;
• without pre-knowledge, some could find the grammar section difficult to understand;
• full patterns do not strictly follow Alexander’s format;
• could be difficult to comprehend the first time but became clearer on the second reading when the context was known;
• full patterns were somewhat technical.
Only two students indicated that the full patterns were detailed and complete. The implication of the students’ feedback was that the second draft of design pattern needs further work. This results in the following improvement.

*Data collected in Phase 2 of the validation process led to further modification of the patterns in the following areas:*

For index patterns:
1. Some patterns were renamed to make their titles more meaningful.
2. The structure of Figure 7.2: Index of patterns, was simplified to make the relation of each patterns to the others more evident.
3. The highlights of the guidelines and principles were further redrafted to make them more succinct.

For full patterns:
1. The length of each pattern was further reduced and repetitive elements were removed or reworded.
2. Linguistic or design terms were replaced with non-technical English. If the use of a technical term was unavoidable, a short explanation was provided in the background section of the pattern.
3. Patterns were redrafted to ensure that all had a standard format.

Even though the intention of the second validation was to test the patterns, the results of the testing were also very useful for further refinement of the patterns.

**Question 9: Would your recommend these patterns to colleagues?**

Students were very positive when answering this question. Ten students said they definitely would recommend the index patterns and 11 said the same about the full patterns.

Only one student answered ‘Yes, with some modification’.
Question 10: Please give suggestions to help the study improve the patterns

Index patterns

- more detail (contradicting previous comments);
- removal of the words ‘design’ and ‘designing’ from names of patterns (this student made the same comment as that in question 8);
- add constraints and barriers (it was not clear of what this student really meant here).

Full patterns

- reduce repetitiveness;
- reduce descriptions of language choices and instead use quick tips;
- adhere to the format;
- be more precise and avoid giving too much information

The feedback received from this question was very similar to that on Question 8 and was integrated into the improvement of patterns discussed above.

(An example of a completed feedback form is provided in Appendix 2).

Summary and discussion of student feedback on design patterns

From a very different perspective, the feedback from students in Phase 2 of the validation process, provided valuable insights into the usefulness and application of the patterns. The fact that this group of students was drawn from diverse professional backgrounds was reflected in the different perspectives and values they perceived in the design patterns. Students with a teaching background saw the value of the patterns mainly from the language and genre perspective. This was probably because they were better able to appreciate the theoretical tools embedded in the patterns. In contrast, students with instructional design experience saw the patterns as a template or format which could assist the design process and even act as a standard checking tool for an organisation. Students with experience in course and curriculum design regarded the patterns as providing valuable guidelines for course design. For example, they placed most value on the way the sequence of tasks, course information and the task structures were set out in the patterns. Although students new to the design concept and with little
involvement in educational or instructional design saw the patterns as something which could get them started, they felt they needed help to make the best use of the patterns. The obvious conclusion is that this group of potential designers is much more in need of support than are the experienced designers.

When modifying the second draft patterns, the students’ feedback was used as a point of reference and most of the students’ suggestions were taken up. When dealing with conflicting feedback, those points that best suited the original purposes of the patterns were used.

The validation testing experience also suggested that a short training session similar to the one conducted (four hours) was a very useful exercise for new designers and students of education design. It ensured that they not only gained a clear understanding of the design concept, but also provided them with an opportunity to learn how best to use patterns in a more practical environment.
8.4 Application of design patterns

When addressing application issues, it is important that efficient support strategies be made available to assist new teachers and designers to access and use these patterns. An effective support environment can enhance the potential of these patterns to improve teachers’ design experience.

Support strategies for the use of patterns

Based on the two evaluations described above, the following support strategies for the implementation of the patterns are proposed:

1. A macro-pattern could form a useful induction, guiding users how to use the patterns effectively.
2. Different patterns suited to the needs of beginner users and experienced users could be created. The former could cover the main structure and contents of elements, while the latter could contain more detailed and sophisticated instructions and solutions.
3. Short training workshops would help novice designers gain an understanding of the concept of design patterns and pattern languages. Such workshops could also provide venues for the discussion and explanation of principles and also lay down guidelines related to issues of pattern development and application. For instance in their workshop, the academic participants were able to discuss and understand the difference between a pattern and a model or a template. They also discussed the advantages of using design patterns and how to develop effective support strategies. Importantly, they agreed that the training sessions were useful because they learned from each other and enjoyed that experience.

For experienced designers, a short workshop session could be equally valuable: to enable them to reach common understandings of design issues and exchange ideas and beliefs. Such workshops could be conducted in either a face-to-face or online mode, depending on the availability of venues and the learning mode preferences of the participants.
4. Peer support and providing opportunities for novice designers to work with experienced staff could be another effective support strategy. In the one-to-one situation, the experienced teacher could even select relevant patterns for new teachers rather than simply supplying him/her with a full set of patterns.

5. Based on the training program designed for the Phase 2 Validation process, some recommendations for the training workshop program are as follows:
   1. Workshop time: 3-4 hours
   2. One hour for discussion of reading material
   3. One hour for discussion of the concept of design patterns and pattern languages
   4. Two hours for pattern review or development of patterns.

6. When developing a repository of patterns it will also be important to consider other issues such as:
   5. Who are the main users of these patterns?
   6. Will the patterns developed be used by an individual or a small group?
   7. Will the patterns be for large-scale community use? If so, a more generalised approach would be appropriate.
   8. If there is a target audience, the patterns can be more specific.
   9. What scale of learning-support should be provided?

In summary, this chapter has reported on the process of pattern validation and indicated how the first draft of design patterns was modified in the light of the feedback and suggestions received from the participants in the groups involved in Phases 1 and 2 of the validation process. The outcomes of these processes made important contributions to the compilation of the patterns presented in Chapter 7.
Chapter 9

9 Conclusion

The thesis of this study is that it is possible significantly to improve the understanding of networked teaching and learning in higher education through a combination of pattern language theory and SFL theory. This contention has been supported by means of the application of SFL for detailed discourse analysis of texts used in the networked learning environment. The discourse analysis captured the linguistic resources and knowledge displayed in the texts. The study then applied Alexander’s pattern language theory and design format to represent such knowledge and linguistic resources in the form of design patterns. The three illustrative sample sets of design patterns developed in the study further supported the design-based approach to creating sharable and reusable resources which can be used by teachers to improve their work in teaching and learning.

This concluding section recapitulates some key findings before proceeding to a discussion of the implications of this approach and the contributions the study has made to the field of networked learning in higher education.

9.1 Discussion and findings

In the first section, the literature review focused on three key areas.


2. The concept of design patterns and pattern languages (Alexander, 1979; Alexander et al., 1977; Goodyear, 2004; 2005; McAndrew et al., 2006; Yang and Goodyear, 2004, 2006) and how Alexander’s design principles in architectural design have been applied in instructional design and educational design.
3. Research on educational design in the context of networked learning (de Laat, 2006; Goodyear, 2004; Goodyear & Jones, 2003; Goodyear et al., 2004b; McAndrew et al., 2006; McConnell, 2000). The literature review supported two key claims: first, that SFL and in particular genre theory, can provide a framework for describing, explaining and analysing how text is used as a key medium of communication and interaction in the context of networked learning. Secondly, it was argued that there is a strong congruence between SFL theory and pattern language theory, since the way in which the significant social functions of language are perceived in SFL closely resembles the concept of the social functions of built space in architectural design and analysis, as set out in pattern language theory. Just as SFL can be used to account for and capture the linguistic resources and knowledge of how language is used to enhance teaching and learning, so design patterns can be used to transform such knowledge into reusable and shared resources. This novel and unique combination, it is argued, adds a new and valuable dimension to the spectrum of networked learning research.

In Chapter 3, the crafting of research questions was guided by the two claims discussed above, as well as by the practical aim of improving the quality of teaching and learning in higher education in the context of networked learning. The research questions focused on the four main areas of investigation: 1) tutors’ perspectives in networked learning; 2) how language functions can assist teaching and learning from an SFL perspective; 3) how new knowledge can be captured and translated into design patterns to support teaching; 4) what methods can be used for pattern validation.

Starting with these four key investigations, an empirical research framework was designed consisting of three components: (a) interviews, (b) detailed discourse analysis and (c) the development and testing of design patterns to illustrate the pattern-based approach in educational design.

Answers to the first research question were provided in Chapter 4 through an analysis of interview data. This chapter identified 13 key issues related to the design and delivery of a networked learning program. The findings included the crucial need to
establish a strong program development team, strong commitment and motivation from staff, collaborative team work with students as well as staff, and also the creation of a supportive learning environment with well designed tools and program resources. The provision of staff development and the support for new teachers and designers was also found to be an important issue. These findings are consistent with the results of the research undertaken by Wilson and Stacey in staff development (2004) and networked learning design by Bonk and King (1998), Goodyear (2000), Goodyear and Yang (in press), Salmon (2000) and Swan (2001).

The key findings also provided the main sources for coding samples of program design patterns. They are used to illustrate how patterns can translate proven good practice and knowledge into teaching support resources. (See program design patterns in Chapter 7).

Chapter 5 and Chapter 6 were focused on research question 2. A detailed discourse analysis of online learning tasks within the SFL theoretical framework was provided in Chapter 5. This provided both an explanation and description of the way in which teachers/designers use language/text to effectively communicate with students through learning tasks. It was demonstrated that their role as a program designers could also influence the ways in which tutors used language resources to construe social relationships with their audiences, in this case their students.

Tasks being analysed also revealed a clear schematic structure that reflected a specific genre, for example an informational text, an instructional text or a procedural text. In most cases, a task has a macro-genre structure containing a mix of genres since it is often necessary to explain the context in which a task is located. The requirements of the task also need to be set out together with instructions for students on how to complete the task. This finding is in line with Martin’s work on macro-genre theory of long text (1994).

In the social construction of interpersonal relationships with students, one of the main roles of the teacher is that of a facilitator who provides them with support and guidance (McConnell, 2000; Salmon, 2000; Goodyear, 2000). This relationship is established
through various methods, including the deployment of personal nouns, modality and hedging. For example, the use of the personal pronouns ‘we’ and ‘you’ rather than ‘students’ in the text, has the specific function of shortening the distance between the teachers and learners since it is more inclusive, and thus draws students into the learning community. This supports the work of Hyland (2004), Hood (2004a, 2004b) and Lee (2006) in relation to the construction of interpersonal relationships with readers in academic discourse. Again, the linguistic resources and knowledge from the discourse analysis form the key components to be coded into the samples of task design patterns. (See task design patterns in Chapter 7).

Similarly in Chapter 6, the study used SFL as a theoretical tool for detailed discourse analysis of selected texts from the ALT discussion boards. These texts were written by students and the description and explanation in the analysis unfolded the different strategies and linguistic resources used by these students when they completed the tasks being analysed in Chapter 5. One of the main findings was that experienced writers/students were able to use various linguistic resources such as hedging, modality and the mood device of interrogatives (asking questions), effectively to engage with other students by generating responses from them in their postings in the forum. Experienced writers use these resources to negotiate attitudes and beliefs with their audience in the discussion (Hyland, 2004; Hood, 2004b). Allowing negotiation also signalled an invitation to other students to contribute their points of view to a discussion in order to share ideas and beliefs in collaborative knowledge construction.

It was demonstrated in Chapter 6 how experienced writers (e.g., advanced students) were able to use written texts effectively to engage and participate in discussion groups. The linguistic resources and knowledge identified in the texts were included in the sample patterns for designing model texts for student academic discourse. (See Chapter 7 under the topic of model text design).

Chapter 7 addressed research question 3. Drawing on the findings emanating from Chapters 4, 5 and 6, a design pattern framework was developed. In this Chapter three sets of index patterns and six full patterns were hatched to illustrate the pattern-based
approach. Although these patterns are not extensive enough to cover all areas of educational design in networked learning, they are useful examples which illustrate and support the central claim of the study, viz that SFL and pattern language theories can be unified into a powerful framework for developing a pattern-based approach. Novice teachers can use these patterns to guide their daily teaching practices.

In the final phase of the study, the pattern validation process set out in research question 4 was described and discussed.

Chapter 8 developed a framework for two validation processes. The first validation, in which academic staff participated, was conducted to test and improve the first draft of the patterns. The second draft which resulted from the feedback was tested in the second validation process, conducted with a group of postgraduate educational design students. Each of these two validation processes had a slightly different focus. The first aimed to obtain feedback on the general issues of design patterns while the second sought the students’ evaluation of the revised patterns in relation to their learnability and usability. In turn these validation outcomes were used to modify and craft a third draft and also to identify how these patterns could best be used for novice designers. The validation processes provided important insights into how the professional knowledge and background of participants affected the ways in which they perceived the value of the patterns. For example, participants with a background in instructional design found the patterns most useful in providing a solution and problem-based approach while participants with linguistic backgrounds showed greater appreciation for the SFL framework in the modelling of the patterns. Interestingly, students who had no experience in either of these fields, tended to find the patterns confusing, although they still rated all elements of the patterns as highly as the other students drawn from the two fields mentioned.

The outcomes indicated that the two validation processes were very useful in that the data they provided by the participants’ feedback not only helped to refine the patterns, but also drew attention to questions of learnability and usability, which are key issues when it comes to the implementation process of design patterns. They indicate the
manner in which design patterns are made available to their potential users, who the
users are, how they can know what patterns are available and how to choose the right
patterns. This study has suggested some possible solutions and strategies in dealing
with usability issues. These include the possible use of meta-data to assist accessibility,
the staging of short training workshops to improve learnability and the devising of
support strategies, such as the use of experienced teachers to help novice teachers
locate useful patterns, and also peer support. Successful use of these strategies demands
familiarity with pattern concepts and formats, consistency and predictability. These are
all interlinked: familiarity with pattern concepts and formats results from the
consistency of pattern design and in turn the consistency in the quality of the design
patterns with standardised formats, promotes predictability and familiarity in the
application of patterns.

All of the above indicates that usability determines the potential application of design
patterns, although a supportive environment is needed in the implementation process. If
users are unfamiliar with the concepts, they will not use the patterns to take full
advantage of what the resources are designed to provide.

In summary, the study covered the whole sequence of the design and validation process
and, it is submitted, has produced valuable outcomes. The approaches and methods
provide a framework for educational design and connecting theory with practice. Here,
it is necessary to reiterate that the use of patterns in educational design is a complex
process which requires intensive modelling, including hatching, testing and validating.
But most important as far as the thesis of this study is concerned, the process described
above demonstrates that SFL theory can successfully be coupled with that of pattern
language theory. In the following section, the implications of these findings and their
contribution to the field of networked learning will be discussed.
9.2 Research implications and key contributions

9.2.1 Pedagogical implications of the research

The pedagogical implication of the work on design patterns outlined in this study is that patterns make apparent elements of good practice and principles that can be used as reference points in program design. They can also have ongoing uses for teachers in networked learning courses. For example, the model texts not only illustrate how design patterns can be used to support teaching and learning; the patterns themselves also provide valuable literacy resources to students who may have difficulty with language and academic writing. In addition, novice teachers may apply these patterns to their own writing in order to improve both their interaction with students and the quality of learning resources, since the patterns incorporate encoded examples of linguistic knowledge that can help students develop their writing skills. In principle, they can also use these patterns as pedagogical models to give feedback to students when assessing their discussion contributions and also their written work. The patterns address issues of clarity, logical development, schematic structure of textual organisation and appropriate language choices. Other linguistic resources embedded in the patterns include linguistic strategies for elaboration, clarification and the definition of ideas and concepts of how to engage readerships. Such knowledge offers in-depth insight into the discourse properties displayed in the texts of experienced writers and thus forms an important part of the contribution to the field of networked teaching and learning made by this study.

The findings discussed in the previous section support the argument that well-written texts composed by experienced writers have the potential to affect learning experiences and outcomes. A further implication is that the modelling of, and an apprenticeship in academic discourse is an important issue in networked learning and should be included in the program planning process in order to provide appropriate support to students, in particular to new students and those who have language difficulties. This is also a key pedagogical concern in Hood’s research in academic literacy development in higher education (2004b).
1.2.2 Methodological implications of the research

Another key implication is concerned with networked learning research, in particular methods of online discussion analysis. The study used a strong SFL theoretical framework and a detailed discourse analysis approach to capture examples of well written texts produced by teachers and students. This analysis included identifying the language choices and discursive strategies constituting the complex nature of the linguistic knowledge and competency developed by the writers. The focus was on in-depth conceptualisations and complexity rather than on breadth and generalization, such as are often derived from quantitative methods. Due to the scope of the study, the data set was necessarily limited in order to reveal the in-depth knowledge displayed in these texts. In any case, corpus data generated from a large data set is unlikely to have the depth of findings generated from detailed discourse analysis. The implications of quality were a crucial consideration for generating data which could be coded into design patterns to ensure that their modelling was grounded in good practice and sound principles.

A second methodological implication concerns the development of design patterns. Apart from the intensive work involved in the crafting and modelling of patterns, validation and modification are also crucial parts of the process. Users are particularly interested in what methods are used to help them take full advantage of design patterns. This is a practical implication and promoting usability means developing a support and training system to help users make best use of patterns to enrich their work.

9.2.2 Theoretical implications of the research

It is contended that this study makes significant contributions to the body of knowledge in the field of networked learning, in particular in the area of educational design for networked learning. In the broadest sense, the contributions are two-fold. The first such contribution is the overall thesis of the study, namely that SFL and pattern language theory can be successfully combined significantly to contribute to the theoretical repertoire of networked learning. In arguing that thesis, the study has, for the first time in the literature, demonstrated how SFL can be used as part of the pattern design process. The research has shown that SFL is a useful theoretical tool for detailed
discourse analysis, providing an understanding of how experienced writers deploy various linguistic resources in academic discourse and also how pattern languages can be used for the modelling of design patterns to represent such knowledge.

The second central contribution of the study is the extensive framework it provides for the development of design patterns. That framework sets out 1) the process of collecting data on good practice and knowledge from experienced teachers and the devising of effective strategies for deploying the language resources displayed in the texts; 2) the process of hatching and modelling design patterns and transforming SFL knowledge into reusable resources; and, 3) the process of pattern validation and modification. This study represents an attempt to provide a modelling framework for design patterns and thus provides a significant groundwork for future research in the design field. Finally, the study claims that the knowledge coded in the illustrative patterns constitutes new knowledge grounded in empirical research. Therefore, in their own right, the patterns constitute a significant addition to the body of knowledge in networked learning.
## Key contributions made by this study

<table>
<thead>
<tr>
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<th>Contribution</th>
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<tbody>
<tr>
<td>1</td>
<td>Contribution to the collection of evidence relating to good practice and knowledge in program design and networked learning. Such data were collected by means of empirical research constituted by interviews with experienced teachers. The outcome produced 13 key findings.</td>
</tr>
<tr>
<td>2</td>
<td>Contribution to networked learning theory and the use of SFL. The study developed a framework for connecting SFL and pattern languages. Deep similarities were uncovered, drawing out the social orientations of both SFL and Alexander’s patterns-based approach. The SFL-informed discourse analysis of texts also provided evidence for the coding of design patterns drawing on principles from pattern languages.</td>
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<tr>
<td>3</td>
<td>Contribution to the framework for developing patterns for educational design. This explored and illustrated the process of data collection, pattern development and pattern validation.</td>
</tr>
<tr>
<td>4</td>
<td>Contribution to three sets of index patterns and 6 full illustrative design patterns in the areas of program design, task design and support of student academic written skills. The patterns can be used as guidelines and supporting material for new teachers in their work in networked learning.</td>
</tr>
<tr>
<td>5</td>
<td>Contribution to research into the application and usability of design patterns, in particular through the pattern validation process and the recommendations for user support presented in Chapter 7.</td>
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Table 9.1 Summary of research contributions
9.3 Research limitations and future directions

9.3.1 Limitations of the study

Due to the scope of the study and the extensive work required for detailed discourse analysis of texts and the modelling of design patterns, it is acknowledged that the study has necessarily drawn on relatively limited data sets. For example the number of academic staff interviewed, the texts selected for discourse analysis and the number of participants involved in the two validation processes were all quite small. Findings and implications derived from this empirical research were not intended to be open to wide generalization, such as can be supported by sample surveys. Rather, the aim was to offer in-depth analyses of significant texts and associated artifacts.

The second limitation of the study is that the patterns developed in Chapter 7 cover only three areas in educational design. These are networked learning program design, task design and student model text design. Many more areas need to be explored, including assessment criteria and material development.

In summary, although each data set is necessarily limited to a manageable scope, on the whole the data used and the empirical research conducted in the study has been sufficient for the purpose of the research, the central aim of which is to develop and illustrate a theoretical and pedagogical framework combining SFL and pattern language theories.

9.3.2 Future work

The study has identified several gaps in the field of networked learning and in particular in educational design.

First, there are some major areas of educational concern not yet touched on by the research – examples identified above include educational management and support for staff development. The pattern-based approach and framework developed in this study could be useful for new research with a focus on the development of design patterns for
higher educational management issues, such as policy-making, organisational structural
design and staff development strategies and training.

Second, intending users of educational design patterns need to be able to locate and
apply appropriate patterns. Some ideas have already been put forward in the literature
and in the web-based resources generated by pattern projects, on how to construct,
maintain and publicise patterns repositories. For example, the E-LEN project has
provided a booklet entitled: Design Expertise for e-Learning Centres: Design Patterns
and How to Produce Them (n.d.). This booklet provides valuable resources for
disseminating their research results and a pattern repository. The later TELL project
also made available on the web its pattern book: Design Patterns for Teachers and
Educational (System) Designers (2005). This book contains 184 educational design
patterns supported by six case studies.

Goodyear, de Laat & Lally (2006) have suggested taking community-based approaches
to the creation and maintenance of patterns repositories. More needs to be known about
the likely searching and/or recommending behaviours of teachers in order to create
useful repositories. Metadata indexing helps users access and locate learning object
repositories similar to book catalogues in a library (Agostinho et al., 2004; Lukasiak et
al., 2005). Can this be applied to pattern repositories?

Third, close observational research would be useful into how teachers use patterns in
actual educational design work in order to gain better understandings of how these
patterns will function in practice. Research in this area would also enhance pattern
validation methods and lead to the improvement of the quality of designed patterns.

Fourth, the framework of combining SFL, pattern languages and design patterns could
be useful for research in the interpersonal perspectives on collaboration and team work.
In particular, I would be very interested in using the appraisal theory developed by
Martin (2000), White (1998) and Hood (2004b) to account for student interaction in
online joint projects. For example, how do students negotiate the division of the tasks
involved in the project? Are there interaction differences among the team members?
To what extent do personal style and personality affect their interaction patterns? What appraisal strategies or features appear in their oral and written communications?

Answers to these questions will provide valuable insights into networked learning and evidence for the creation of collaborative design patterns.
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Appendices

Appendix 1: Interview questionnaires

Title of project: Networked Learning: investigating pedagogical approaches for better professional support to teachers

Interview questionnaires
You are invited to take part in a research interview. This research aims to provide better support for the professional development of teachers in higher education who are making use of online networked learning methods. Your agreement to participate in the interview will allow the researcher to capture your online teaching experience and skills and to represent the pedagogical approaches that are being used.

Questions
1. How long have you been involved in online teaching and learning?
2. In your current teaching programs, approximately what proportion is involved in online?
3. What kinds of teaching and learning issues would you say presented most frequently for those online programs?
4. From the students’ evaluation, the Australian Wines Postgraduate course was a very successful program. Could you please tell us some of the key elements that contributed to its success?
5. When you design the AW program do you have a target audience in mind? If yes, could you please describe the profiles of your target group?
6. What had made you believe that this program would work via the online mode?
7. How does the role as a Co-ordinator differs from a lecturer?
8. Are you currently involved in classroom based teaching?
9. If yes, can you please comment on the following differences between classrooms based teaching as compared to online programs.
   • Learning resources
   • Assessments
   • Student profiles
   • Student attitudes
10. What pedagogical approaches do you use to address these differences?
11. For new online teaching staff, can you identify areas of needs for professional development support?
   For example:
   • Theoretical understanding of online learning
   • Knowledge in online material development and organization
   • Technical and digital communication skills
12. Could you please share some of your experience and knowledge on the effective design and delivery of the AW P program?
13. Could you please share your experience on how you developed and
14. What advice would you give to a new teacher who has not taught an online program before and is about to teach the AW course what advice would you give?

15. How do you see for the future of online teaching and learning in Australian Higher Education?

Thank you for participating in this interview.
Appendix 2: Sample of student feedback form

Example of student feedback

Part 1: Your experience in online course design
(Note: answers to part one will NOT form part of your assignment).

1. Have you had previous experience in designing an online course?
   Yes X   No

2. If you answer ‘yes’ to question 1, please describe briefly the course/ courses in which you have been involved.
   Certificate and Diploma courses in IT offered through WebCT platform targeting young adults and adult learners. Collaborative learning through chats, threaded discussion. Assessment included assignment, online tests and written exams.

Part 2: Evaluating design patterns (including index patterns)
(Note: if you find some questions are not relevant to the index patterns please leave them blank).

3. Please briefly explain your understanding of the concept of design patterns
   Design pattern is more than a structured approach to solving design problems. Each pattern expresses a relationship between context, problem and solution. Like a dress pattern, it tells you how to make something, but it is also the thing. Does that make sense?

4. If you are asked to use these patterns to help you with program design, how would you use them? Please explain.
   Index patterns: Guide and example of how others see and derive solutions to similar problems that I am facing
   Full pattern- project and design planning tool, document rationale for particular design object, serve as design template

5. What benefits can you see in using these patterns?
   Index patterns- saves time, useful reference of best practice, adaptability -good source of 'ideas' in JIT situations
   Full pattern- promote focus and clarity in problem solving, also link theory to practice.....within an organisation, index of full pattern serve as depository of community knowledge ...knowledge management and knowledge building
6. What disadvantages can you see in using these patterns?  
   *Probably generality. But as long as it is recognised that they are a guide only not an issue.*

What patterns do you see as most valuable? Please explain.  
*From the list provided, the patterns for language features and designing tasks would probably be the most useful. Language features useful for designers designing across cultures. Designing tasks most common problem.*

7. Least useful? Please explain.  
*From the list provided, the least useful is designing course information text. The schematic structure for content of information can be construed from design pattern for information text. The schematic structure for information text is valuable. Writing for print is different from writing on the web. It would be useful to have an index pattern for informational text on the web.*

8. For the full pattern only - What elements in the full pattern do you see as most valuable, e.g., the introduction, the explanation of problems or the solutions to these problems?  
   *All elements are useful. For anyone looking for examples of how others have solved a similar problem, the explanation of problem and solution would be the most valuable elements.*

9. For the full pattern only - Would you add/delete any part of the pattern?  
   *No*

10. Is the pattern clearly written, difficult to understand (e.g., too technical) or simply confusing? Please explain.  
    *In areas where theoretical or technical knowledge is required, it would be helpful for experts to provide reference to knowledge sources so that novice can build knowledge?*

11. Would you recommend these patterns to your colleagues? Please explain.  
   *Yes. See benefits.*

12. You are most welcome to make suggestions in how to improve these patterns.  
   Index patterns: how about a design pattern for developing index patterns?
Appendix 3: Full text of ALT Assignment one