Variation in Student Learning in Accounting

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ABSTRACT

Why do students learn different things when appearing to have the same classroom experience? This problem is a growing one, given that the ‘massification’ of higher education has created more varied cohorts of students.

Students all encounter what appears to be the same teaching experience and yet have vastly different learning experiences. In the accounting discipline in particular, accounting is taught to graduates and undergraduates preparing for managerial roles in a variety of areas. Teachers of accounting in higher education do not teach only potential accountants, but students from a wide range of disciplines.

The question of why the same apparent experience leads to different learning outcomes is central to this study. The question is posed: ‘how do a range of accounting students from different backgrounds and with different experiences tackle an accounting assignment which involves the analysis and interpretation of financial statements?’

Students were interviewed about: what they believed the task of the accounting assignment of this study to be; how they identified the task requirements; and the strategies employed to complete the task. They also completed a questionnaire about the way they studied.

Transcripts were analysed using phenomenographic methodology, with an outcome space, plotting intentions and strategies derived for each aspect of the assignment. Both questionnaire results and student responses within categories of description were analysed for statistical significance.

Categories of description were derived for three aspects of the assignment. They were: approach to/experience of: group work; theory to practice; and understanding financial statements. These were matched respectively with John Biggs 3P model of student learning which comprises presage, process and product. A division between higher and lower order categories was made based on Ference Marton and Roger Saljo’s deep and surface learning approaches. In two of the aspects of the assignment a focus on the text
of the assignment and its specific requirements exemplified a surface approach; a focus beyond the assignment and its requirements into the wider economic environment in the search for meaning exemplified a higher order approach. In approach to/experience of group work a focus on using the group for expedience exemplified a lower order approach, and a focus on the synergistic benefits of group work exemplified a higher order approach.

The majority of student responses were at the lower order level, although one cohort made up of local post-graduate students, was predominantly at the higher order levels in all three approaches/experiences. The matching of aspects of the assignment with the 3Ps provided some insights into the areas in which academics could exert some influence to assist students to achieve qualitatively better outcomes.
ACKNOWLEDGEMENT
I gratefully acknowledge the academic guidance, support and encouragement of Professor Elaine Martin in the preparation of this thesis. The level of support was given generously and unstintingly and maintained throughout the thesis, even during her own illness.
STUDENT DECLARATION

I declare that the thesis:

- Contains no material which has been accepted for an award of any other degree or diploma.
- To the best of my knowledge, contains no material previously published or written by another person except where due reference is made in the text of the thesis
- Is not the work of a joint research.

I also declare and acknowledge that I have used, with permission, the services of a professional editor in the final preparation of this thesis. The assistance given by the editor addressed only issues of style and grammar, and not matters of content.

Irene Tempone
8th March, 2001
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CHAPTER 1     INTRODUCTION

1.1 The question
Why do students learn different things when appearing to have the same classroom experience? This problem is a growing one, given that the ‘massification’ of higher education has created more varied cohorts of students (Marginson, 1993; Martin, 1999).

Students all encounter what appears to be the same teaching experience and yet have vastly different learning experiences as evidenced by learning outcomes; outcomes which can be externally defined and assessed or described in the students own terms. In the accounting discipline in particular, accounting is taught to graduates and undergraduates preparing for managerial roles in a variety of areas. Teachers of accounting in higher education do not only teach potential accountants, but students from a wide range of other disciplines. The issues of how the individual students, who constitute a class and appear part of the same set of teaching/learning activities, can experience learning differently and in fact learn different things and also the question of why students learn differently are explored.

John Biggs considered the question of why the same apparent experience leads to different learning outcomes when he examined different theories or levels of teaching which might affect learning outcomes (Biggs, 1999). Biggs addresses the problem in relation to assessment. The difference is also central to this study where the question posed is how accounting students tackle an accounting assignment, in particular, an assignment which involves the analysis and interpretation of financial statements. Biggs model is considered extensively in Chapter 2.

1.2 Problems faced
The world of work is changing rapidly with increased globalisation posing threats to the economic systems of the 20th century. Market places are now international rather than local as information technology has created place independent workplaces (Giddens, 2000). There is far less certainty than ever before. The accounting profession is under pressure to ensure its members maintain their place in the new globalised economy. Information and its analysis, interpretation and immediate transmission are paramount

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to maintaining a competitive edge. Accounting firms are now generating much of their income from non-accounting/auditing services (Richardson & Tempone, in press; Thomas, 1998; Thomas, 2000). These services come from a variety of areas, including management, human resources and information technology.

Universities servicing the professions through certification of undergraduates are also under the same pressures to maintain a competitive edge in the globalised economy and academic market place. Administrators are investigating means of delivering similar or improved outputs with less input (Martin, 1999). The demands on business schools and universities generally, for different and more efficient outputs derives from the different demands placed on accountants in the new market place.

This pressure is forced back onto academics who are teaching greater numbers of students with less contact hours and there are more administrative duties attached to the increased numbers of students (Martin, 1999; Di Virgilio & Evans, unpublished). Academics also need to maintain their own professional development in order to keep abreast of the constant changes in accounting standards and regulations. They are also teaching a more diverse group of students who might not achieve the results of the past with the same delivery methods which suited previous students.

1.3 The subject: accounting for managers
The subject which is the focus for this investigation is Accounting for Managers. It is offered at both the undergraduate and post-graduate level at Swinburne University of Technology. The first topic of the subject, analysis and interpretation of financial statements, and its assessment, is the same in both undergraduate and post-graduate courses. Student cohorts comprise local and overseas post-graduate and undergraduate students. These students have differing objectives, levels of ability, and cultural and education backgrounds. Learning objectives of the subject are to assist managers with no accounting background to become financially literate and also to work in teams. A key aspect of the course is the analysis and interpretation of financial statements. For the assessment at the centre of this thesis, students are given a set of three years financial data with a background scenario, some company objectives, and a brief to report to management on their findings. The details of the subject and the assignment are presented in Chapter 3.
1.4 Problems faced by students

The issue students typically grapple with in this subject is how to read and interpret financial statements in a professional manner: how to make sense of the statements so that meaningful and informed decisions can be made on the basis of those statements. This is typically referred to as financial literacy. Another challenge students face is to work constructively in teams; whether in the form of group discussion, preparation or presentation of assignments and projects.

Some student cohorts have little or no access to the business environment and therefore find difficulty in relating the financial statements to any concrete experience they may have had. Others, with business experience, find this experience less daunting as they are able to compare classroom activities with ‘real life’ activities which involve dealing with accounting information and its analysis.

Some students, particularly those from different cultural backgrounds, have either no experience or a negative experience of group work. Other students thrive on group work. The range of experiences and perceptions of group work are present within each cohort and often the group-based way of working which is strongly encouraged within the course becomes as significant a problem for some as does the attaining of financial literacy itself.

The problem academics face is to ensure an acceptable minimum standard of work in all students, and how to do this in the face of many external pressures.

1.5 Pressures on academics and universities

The academic environment has changed significantly in recent years, with increasing pressure on academics and universities to become more outcome oriented, customer focused (particularly at the full-fee paying post-graduate level) and accountable; all with more limited resources than previously available. Classes are larger; student groups more diverse, both culturally and educationally; contact time has lessened; and qualitative outcomes are expected to be higher (Martin, 1999; Di Virgilio & Evans, unpublished). Students are expected to work in groups, not only for the reported benefits to students, but for the time and therefore reduced staff costs of assessment of student work (Tempone & Martin, 1999; Tempone, Lasky, & Evans, 2000).
Other demands come from professional groups which expect attainment of graduate attributes/generic skills on exit, with graduate skills testing being trialled in Australian universities (Australian Council for Educational Research (ACER), 2000). The accounting discipline’s professional accrediting bodies require annual audits of core curriculum to ensure generic skills are addressed across undergraduate courses in all accredited Australian universities (Australian Society of Certified Practising Accountants & Institute of Chartered Accountants in Australia, 1996).

The changed economic circumstances have increased employment flexibility and mobility and reduced continuity of employment; with graduates expecting several career changes during their working life. This is contrary to post-war employment conditions. Education for life-long learning is perceived to be critical for the new social order, and is a dominant feature of universities’ and schools’ mission statements (Candy, Crebert, & O’Leary, 1994; Candy & Crebert, 1991; Candy, 1991; Cropley, 1979; Swinburne University of Technology School of Business, 1998). These pressures on academics, with the resultant effects on student learning are considered further in Chapter 2.

1.6 This study

The problem addressed in this research is one of student learning in accounting and how academics can facilitate qualitatively better learning outcomes for students in the rapidly changing globalised environment. Issues of student learning, in general have been addressed extensively in the existing literature. They have not been addressed as extensively in relation to student learning in accounting. This study is an attempt to redress this.

This study takes a phenomenographic approach to student learning, supported by a study process questionnaire, and explores, within the structure of Biggs 3P model, the variation in accounting students’ approach to learning. The particular approaches identified in the study were approaches to/experiences of:

1. Group work
2. Theory to practice
3. Understanding financial statements.
The results of the study indicated variation within each of these three aspects of student learning in accounting, and further explored the variation between differing cohorts of students. Cohorts comprised local and overseas post-graduate students and local undergraduate students, all undertaking an introductory accounting subject, Accounting for Managers. Details of the study are elaborated upon in Chapter 3. An overview of the thesis is provided below.

1.7 Literature
This study is structured on the Biggs 3P student learning model (Biggs, 1999; Biggs, 1993a). It considered deep and surface approaches to learning and the relatedness of student approaches with student outcomes (Saljo, 1979; Saljo, 1984; Marton, 1988; Marton & Saljo, 1976a; Marton & Saljo, 1984; Ramsden, 1992).

Phenomenography underpins the method employed in the study. Phenomenography results in hierarchically ranked categories of description which comprise an outcome space (Marton, 1993; Svensson, 1977; Marton & Booth, 1997; Saljo, 1994). The Structure of the Observed Learning Outcomes (SOLO) by Biggs and Collis has also been used to assess student learning according to the hierarchical ranking of learning outcomes (Biggs & Collis, 1982).

The Biggs 3P model was related to the three areas of approach/experience identified in the results of this study. The 3Ps are presage, process and product. Presage was aligned with group work, process with theory to practice and product with understanding financial statements.

Presage factors represent those the student brings to the experience and also their expectations of the new experience. Both student and teaching presage factors exist and impact on learning outcomes. Student presage factors include prior knowledge and abilities and preferred ways of learning. Teaching presage factors include contextual factors, the students’ perception of the classroom, the teaching, and the assessment (Biggs, 1993a; Sangster & McCombie, 1993; Pask, 1976; Kolb, 1984; Wierstra & de Jong, 1999; Auyeng & Sands, 1996). Preferred ways of learning encompass dominant personality types of accounting students, as determined by the Myer-Briggs Type Indicator (MBTI) (Booth & Winzar, 1993; Jacoby, unpublished; Briggs & Myer, 1987).
Accounting students failure to engage with the subject matter in a meaningful way is also an issue of student presage (McKay & Kember, 1997), with academics and the profession querying the suitability of graduates for the accounting profession (McKay & Kember, 1997; American Accounting Association, 1989; Institute of Chartered Accountants in Australia, 1994; Patten & Williams, 1990).

This study identified group work, a preferred way of learning, as a presage factor. Groups in a learning environment were affected by size, composition and selection of groups, as well as the level of group harmony or dissonance of which cultural factors and productivity of individual members may be contributing factors (Rudduck, 1978; Latting & Raffoul, 1991; Jalajas & Sutton, 1984-1985; Long, 1995; Hofstede, 1991; Ryan, 1996). Contextual presage factors encompass the way in which the students perceive the classroom, the workload and the assessment (Entwistle & Ramsden, 1983; Entwistle & Tait, 1990; Bowden, Masters, & Ramsden, 1987; Sharma, 1997; Jackling & Wigg, 1997; Gow, Kember, & Cooper, 1994; Roush & Smith, 1997).

Process factors in the 3P model consider the actions taken to achieve certain outcomes. In student learning the debate is around the placement of approaches, as either process factors (Biggs, 1993a) or midway between process and product (Trigwell & Prosser, 1997). Studies have linked surface approaches with lower order outcomes and deep approaches with higher order outcomes (Entwistle & Ramsden, 1983). Students can be pushed into surface approaches by the adoption of certain teaching and assessment strategies, but not as readily into deep approaches (Bowden et al., 1987; Ramsden, Beswick, & Bowden, 1986). Studies which comment on the ways in which this has been attempted indicate that problem solving and experiential learning may have some success (Laurillard, 1984; Andresen, Boud, & Cohen, 1995; Boud & Feletti, 1991).

The functionality of organisational groups was considered a process factor. Alignment of group members to common goals has a strong influence on the achievement of those goals (Senge, 1990).

This study classified the relationship of theory to practice as a process factor. Theory to practice at both a philosophical and operational level were considered (Gadamer, 1975; Bowden & Masters, 1993; Laurillard, 1984; Candy et al., 1994; Ballantyne, Bain, &
Packer, 1997). Academics have identified the inability of students to put theory into practice when confronted with a real-world situation as a problem to be addressed (Laurillard, 1984; Yap, 1997; Wiggin, 1997). Employers have identified similar problems with graduates, with calls on and by the profession for academics to address those problems (Johns, 1997; Institute of Chartered Accountants in Australia, 1994; Patten & Williams, 1990; American Accounting Association Committee on the Future Structure Bedford Committee, 1986).

The debate between academics, employers and other stakeholders has centred on the importance of generic skills/graduate attributes, such as problem solving, critical thinking, analysis and communication, being developed in undergraduate courses. Some professions have been prescriptive as to the skills to be incorporated into courses (Institution of Engineers Australia (IEAust), 1999), while others have made comments which they anticipate academics will act upon (Johns, 1997; Institute of Chartered Accountants in Australia, 1994). This includes the accounting professional bodies, the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia auditing the generic skills addressed in accounting undergraduate courses (Australian Society of Certified Practising Accountants & Institute of Chartered Accountants in Australia, 1996). Pressure for generic skill development has not been limited to the accounting profession. The debate surrounding employability of arts graduates has been tempered with reports of high level generic skill development within arts degrees (Norton, 2000; Dench, 2000; Macintyre, 2000). The quest for generic skill development has been linked to the need for students to become life-long learners in order to manage the technological changes which face them on graduation (George, McCausland, Wache, & Doskatsch, 2000; Tempone & Martin, 2000; Scoufis, 2000). A Graduate Skills Assessment Test has been commissioned by the Department for Education Training and Youth Affairs, to compare the level of generic skills in university students on both entering and exiting university. The findings of this first round of testing support the claims about both accounting and arts students in relation to generic skills with arts students testing at a higher levels (Australian Council for Educational Research (ACER), 2000).

Product, the third element of Biggs 3P model focuses on the outcome of the process employed in the learning process. This study classified approach to understanding
financial statements as the product of the assignment. Learning outcomes can be ordered hierarchically using both phenomenography and the SOLO taxonomy. Qualitatively better outcomes are linked with deep or higher order approaches to learning, and lesser outcomes with surface or lower order approaches to learning. Study Process Questionnaires have been used to establish student approaches to study and learning (Entwistle & Ramsden, 1983; Biggs, 1988; Australian Council for Educational Research, n.d.; Kings, unpublished; Booth, Luckett, & Mladenovic, 1999).

Generic skills have been identified by the accounting profession in Australia and overseas as weaknesses in graduating students (Nelson, 1995; American Accounting Association, 1989; Institute of Chartered Accountants in Australia, 1994). Workload and generic skill issues have also been identified by exiting students as areas of dissatisfaction over a number of years (Johnson, 1997; Johnson, 1999; Graduate Careers Council of Australia, 1999; Martin, 1999).

In summary, literature of relevance to this study derived from student learning literature, and in particular the Biggs 3P model and is further elaborated on in Chapter 2. Deep and surface learning approaches were fundamental to the study, with phenomenographic methodology underpinning the study. Student learning in accounting had not been extensively researched, but significant contributions to the literature on student learning have been considered.

1.8 Method

The study examined variation in student approaches to/experiences of learning in accounting. Students completed an assignment on the analysis and interpretation of financial statements and were interviewed on how they approached the assignment. They also completed questionnaires on how they approached study in general.

The cohorts of the study were from the Australian Program of Training for Eastern Europe (APTEE), Graduate Certificate students and Undergraduate students. All three cohorts were undertaking initial studies in accounting in a subject called Accounting for Managers.
Phenomenographic methodology was used throughout the study in both the gathering of
data and the analysis of interview transcripts. Support of the method underpinning the
thesis is provided in Chapter 3.

1.9 Results
The results are in two parts: first on the variation in approach/experience of students to
the three aspects which emerged from the analysis of the interviews on completion of
the accounting assignment; second on that variation by cohort. The three aspects
reported on are approach to/experience of:

1. group work
2. relationship of theory to practice
3. understanding financial statements.

The categories of description developed for each aspect of the assignment are contained
in Table 1.1.

Table 1.1
Table 1.1 is contained in the back pocket at the end of the thesis.

In brief, the results indicated that the majority of the students operated at the lower order
levels, however when examined by cohort, the Graduate Certificate students were
operating more frequently at the higher order level. Just what this means in terms of the
way the different students and different cohorts perceived and tackled this assignment
and the outcomes they achieved is the focus of this study. Full details of the results of
this study are provided in Chapter 4.

1.10 Conclusion
If academics can know more about the precise nature of differing learning experiences
of students, they can know more about how to address them in order to facilitate
qualitatively better learning outcomes for students. The thesis takes up the challenge of
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CHAPTER 2 LITERATURE

2.1 INTRODUCTION AND THEORETICAL FRAMEWORK

This review examines research into student learning, and in particular, student learning in accounting. The focus is how the individual students, who constitute a class and appear part of the same set of teaching/learning activities, can experience learning differently and in fact learn different things. The question of why students learn differently and learn different things can be deconstructed into three component parts, each of which has a theoretical base supported by literature. These three parts are:

1. the student learning literature
2. the group work literature
3. the literature on theory to practice.

The fundamental theoretical background is that of student learning. Associated with this is the literature on learning in groups and different cultural backgrounds. The ways in which students relate theory to practice is the third major grouping of literature considered in this thesis.

The study is structured within the 3P model of student learning developed by John Biggs. This model also provides a major theoretical background within the student learning literature (Biggs, 1999; Biggs, 1993a). The other major theoretical foundation, again from the student learning literature, is found in the work of Ference Marton and Roger Saljo on deep and surface approaches to learning (Marton & Saljo, 1976a; Marton & Saljo, 1976b). These two major references are discussed first in this literature review. The remainder of the review is divided into those aspects which are relevant to Biggs’s notion of:

1. presage factors
2. process factors
3. product factors.

In comparison to the research on student learning, there is limited research specifically on accounting students and learning approaches. The key studies in student learning in
accounting will be examined (Booth & Winzar, 1993; Auyeng & Sands, 1996; Sharma, 1997; Booth et al., 1999). As student learning in accounting is the focus of this research, such literature will be considered as it pertains to each key stage in the literature review, rather than in isolation.

2.2 Student learning

The two key branches of student learning literature to be addressed are deep and surface approaches to learning, and Biggs 3P Model of Student Learning.

2.3 Deep and surface approaches to learning

Deep and surface learning approaches to learning are the subject of considerable discourse in the literature as they are seen to be of significant impact on learning outcomes (Marton & Saljo, 1976a; Marton & Saljo, 1984). A deep approach is associated with qualitatively better learning outcomes; a surface approach with lesser outcomes. Teachers and academics are clear about the contextual factors which push students into surface approaches and consequently outcomes of lesser quality: there is not agreement on the factors which guide students into deep approaches and qualitatively better outcomes. Higher and lower order are terms frequently used to represent deep and surface approaches.

The earliest and seminal research into ‘approaches’ and their impact on learning outcomes was undertaken by Marton and Saljo together and by Saljo alone (Marton & Saljo, 1976a; Saljo, 1979). Marton and Saljo, in their study, asked students to recall how they handled a learning task and how it appeared to them (Marton & Saljo, 1976a). The task was to read an article they knew they would be questioned about later. The interview with the student was transcribed, and the transcriptions analysed. Marton and Saljo were interested in the phenomenon of how the differences in the learning process accounted for the differences in learning outcome. They described learning experiences, subsequently called ‘deep’ and ‘surface’ approaches, and these approaches were seen to be a function of what it was the students focused on.

The students who described a ‘surface’ approach focused on the text itself, while those with a ‘deep’ approach focused on the meaning of the text. These approaches were...
related to the learning outcomes. Students who adopted a surface approach achieved qualitatively poorer learning outcomes while students who adopted a deep approach achieved qualitatively better learning outcomes. Marton and Saljo assert that, “if there are qualitative differences in the outcomes of learning it seems very likely that there are corresponding differences in the process of learning” (Marton & Saljo, 1976a p. 7).

Saljo focused on students’ understanding of what constituted learning for a range of students (Saljo, 1979). His study investigated how students made sense of what they read. The study consisted of an initial interview concerning the student’s usual method of reading; the reading of a set text; an interview based around comprehension of that text; a discussion about learning; and two standardised tests. The study involved 90 students, with differing levels of formal education, ranging in age from fifteen to seventy-three, with sessions run with individual students. The intention of the study was to match conventional age students in the education level with adult students with comparable education levels. The common factor with all students was that they were currently undertaking, or just about to undertake, some formal education. Saljo concluded that students learn differently, rather than more or less, and described five qualitatively, not quantitatively, different conceptions of what learning consists of among adult students. Student responses to the question of what they understood by learning could be categorised as follows:

1. Learning as a quantitative increase in knowledge. Learning is acquiring information or ‘knowing a lot.’
2. Learning as memorising. Learning is storing information that can be reproduced.
3. Learning as acquiring facts, skills, and methods that can be retained and used as necessary.
4. Learning as making sense or abstracting meaning. Learning involves relating parts of the subject matter to each other and to the real world.
5. Learning as interpreting and understanding reality in a different way. Learning involves comprehending the world by reinterpreting knowledge (Saljo, 1979).

In Saljo’s conception of learning, categories 1, 2 and 3 are qualitatively different to categories 4 and 5. Categories 1, 2 and 3 reflect a surface approach to learning while categories 4 and 5 epitomise a deep approach to learning.

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In Saljo’s conception of learning, categories 1, 2 and 3 are qualitatively different to categories 4 and 5. Categories 1, 2 and 3 reflect a surface approach to learning while categories 4 and 5 epitomise a deep approach to learning.
Further, conceptions 4 and 5 in essence, “lie very much in an emphasis on the assumption that knowledge is construed by individuals as a result of an active effort on the part of the learner to abstract meaning from a discourse and also to relate this meaning to an outside reality” (Candy, 1991 p. 251).

A further study by Marton, Dall’Alba and Beaty confirmed these five conceptions of learning and added a sixth, changing as a person (Marton, Dall’Alba, & Beaty, 1993).

Marton and Saljo regard a surface approach as having a focus on memorisation; seeing learning as a more or less passive transmission of what is on paper into the head of the learner, while a deep approach primarily refers to the realisation of the fact that the studies the learner is engaged in deal with some aspect of the real world and thus by studying, one is trying to improve one’s understanding of it (Marton & Saljo, 1984).

**Deep and surface/holistic and atomistic**

Learning approaches can also be divided into deep/surface and holistic/atomistic aspects to understand both what it is the student is attending to when examining the material under investigation, and how the student structures or organises the material when examining it. These two aspects are referred to by Svensson as the ‘referential’ (in answer to the ‘what’) and ‘structural’ (in answer to the ‘how’) components of students’ approaches to learning (Svensson, 1977). The referential aspect, what it is the student is attending to, includes both deep and surface approaches; while the structural aspect, constitutes how the student organises the structure and framework of that which is studied. These approaches to learning are illustrated in Figure 2.1.
Svensson’s work considers the differences in how students organise the information, either as discrete and segmented or considered as a whole. The former is described as an atomistic approach, while the latter, is described as holistic in approach (Svensson, 1984). Within the original Gothenburg investigation:

the difference between a holistic and an atomistic approach was found to be the most crucial difference between interactions with complex learning materials (Svensson, 1984 p. 64).

When examining Saljo’s higher order conceptions of learning, these are seen to be deep/holistic, in that, in referential terms the student is attending to or searching for meaning, and in structural terms, is doing so while treating the material as a whole rather than as discrete parts. It is this higher order processing that is required when

### Figure 2.1

Approach to learning

**APPROACH TO LEARNING**

**HOW**

- ‘Structural’ aspect: the act of experiencing, of organising, of structuring

**WHAT**

- ‘Meaning’ aspect: that which is experienced; the significance of the task

**HOLISTIC**

- Preserves the structure, focuses on the whole in relation to the parts

**ATOMISTIC**

- Distorts the structure, focuses on the parts, segments the whole

**DEEP**

- Focusses on what the task is about (e.g. the author’s intention)

**SURFACE**

- Focusses on the ‘signs’ (e.g. the word-sentence level of the text)

*Source: Based on Figure 1 in Marton (1988), p. 66*

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When examining Saljo’s higher order conceptions of learning, these are seen to be deep/holistic, in that, in referential terms the student is attending to or searching for meaning, and in structural terms, is doing so while treating the material as a whole rather than as discrete parts. It is this higher order processing that is required when
students engage in problem-solving activities, and which will be considered further when examining the application of theory to practice in differing contexts. The research cited above, and undertaken by Marton, Saljo, Dahlgren, Svensson and others, was the beginning of the development of a research method called 'phenomenography.' This methodology is attributed to Marton, who described it as a view of learning described in terms of changes in a person’s conception of aspects of reality (Marton, 1981). The Gothenburg experiment:

broke the dominant tradition in research on learning in several important ways. First it provided a rigorous qualitative methodology which allowed students’ experiences of learning to be studied more systematically. Then it challenged the predominant conception of learning as the accretion of elements of knowledge—as the degree of verbatim correspondence between the student’s answer and the information presented. The research also emphasised the crucial importance of both ‘intention’ and organising principles in affecting the outcomes of learning, and finally showed the importance of analysing those outcomes in terms of the specific content of the learning task (Entwistle & Marton, 1984 p. 213-14).

Phenomenography, which is the method of investigation used most extensively in this study, is examined briefly, and in detail in the following chapter (Method).

Student learning is often considered, by students and by teachers, in quantitative terms; that is, students learn more or less than other students. As already suggested however, this student learning research suggests that students in fact learn differently, rather than in terms of more or less.

When considering why students learn differently, student intentions need to be examined as these intentions determine what it is that is learned. What it is students intend to do when approaching a task has implications for the outcomes of that learning task; put simply, as intentions determine what it is that students learn.

2.4 Biggs 3P Model of Student Learning
Biggs offers the 3P model as a way of explaining why students learn differently. This model connects where students are when they approach the learning task with what they
do learn, and both of the above aspects with the outcomes. Biggs has adapted the model from Dunkin and Biddle’s presage-process-product model from the context of classroom teaching (Dunkin & Biddle, 1974). Biggs asserts the outcome of learning is affected not only by learning approaches but also, that these approaches are affected by a range of presage factors concerning both the student and the classroom context in which the student finds him/herself in. The model is illustrated in Figure 2.2. The 3Ps stand for presage, process and product.
Figure 2.2
The 3P Model of Classroom Learning (Biggs, 1993a p. 75)

PRESAGE

STUDENT
- Prior Knowledge
- Abilities
- Preferred ways of learning
- Values, Expectations

TEACHING CONTEXT
- Curriculum
- Teaching Method
- Classroom climate
- Assessment

PROCESS

TASK PROCESSING

NATURE OF OUTCOME:
- Structure
- Detail

PRESAGE

STUDENT
- Prior Knowledge
- Abilities
- Preferred ways of learning
- Values, Expectations

TEACHING CONTEXT
- Curriculum
- Teaching Method
- Classroom climate
- Assessment

PRODUCT

NATURE OF OUTCOME:
- Structure
- Detail

Feedback

Meta
- Direct effects (e.g. ability)
- Learning

Feedback

Meta
- Direct effects (e.g. time)
- Teaching
Biggs adapted the original Dunkin and Biddle model by introducing feedback lines. These feedback lines represent the impacts of process and product on presage and subsequent modification of final outcome and future presage factors. He has further adapted his own model to a 3P model of teaching and learning to reflect the learner-centredness of each stage. This is illustrated in Figure 2.3.

**Figure 2.3**
The 3P Model of Teaching and Learning (Biggs, 1999 p. 18)
Structure of literature review

The structure for the remainder of this literature review is based on Biggs 3P model of student learning. Table 2.1 below illustrates the 3Ps and the literature relevant to this study matched against the components of the 3Ps. These will be addressed in the sequence presented in Figure 2.2.

Presage will be divided into student and teaching presage factors. Student presage will comprise: prior knowledge and abilities; preferred ways of learning; and personality types.

The literature on groups and group work is considered as an aspect of preferred ways of learning, and is structured in the following way:

- Student learning groups
- Group dissonance (homogeneous and heterogeneous groups)
- Self-selection of groups
- Productivity
- Cultural factors
- Learning intentions (group or individual).

Teaching presage comprises how students perceive the following: contextual presage factors; the classroom context; how it is taught; and how it is assessed.

The second of Biggs 3Ps is process. There are two key areas of literature relevant to process in this study: first, the literature on groups in an organisational context as a process factor; and second, the literature on the relationship of theory to practice. In theory to practice the review comprises consideration of the key stakeholders and concerns and their impact on student learning in accounting. These are:

- Employers and professional organisations
- Educational institutions
- Academics
- Competencies
- Generic skills/life-long learning.
The third factor in Biggs 3P model is product. There are two key areas of literature considered salient to this literature review: first, Biggs and Collis’s SOLO taxonomy; and second, the literature on student learning in accounting, in particular that which addresses the dissatisfaction of the accounting professional bodies with accounting graduates.
Table 2.1
Biggs 3P model as the structure for this review

<table>
<thead>
<tr>
<th>Presage</th>
<th>Student Presage</th>
<th>Prior knowledge and abilities</th>
<th>Groups and group work in the context of student learning</th>
<th>Student learning groups</th>
<th>Group dissonance – homogeneous and heterogeneous groups</th>
<th>Self-selection</th>
<th>Cultural factors</th>
<th>Learning intentions: group/individual</th>
<th>Self-selection</th>
<th>Cultural factors</th>
<th>Learning intentions: group/individual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teaching Presage</td>
<td>Contextual presage factors</td>
<td>Perception of the classroom context</td>
<td>Perception of how it is taught</td>
<td>Perception of how it is assessed</td>
<td>Perception of how it is taught</td>
<td>Perception of how it is assessed</td>
<td>Perception of the classroom context</td>
<td>Perception of how it is taught</td>
<td>Perception of how it is assessed</td>
<td>Perception of how it is taught</td>
</tr>
<tr>
<td></td>
<td>Process</td>
<td>Groups as a process factor</td>
<td>Groups in organisations</td>
<td>Employers and professional organisations</td>
<td>Educational institutions</td>
<td>Academics</td>
<td>Competencies</td>
<td>Generic skills/life-long learning</td>
<td>Groups in organisations</td>
<td>Employers and professional organisations</td>
<td>Educational institutions</td>
</tr>
<tr>
<td></td>
<td>Product</td>
<td>SOLO taxonomy</td>
<td>Student learning in accounting</td>
<td>Dissatisfaction by the profession</td>
<td>SOLO taxonomy</td>
<td>Student learning in accounting</td>
<td>Dissatisfaction by the profession</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5 PRESAGE FACTORS

The Macquarie Dictionary defines presage as, “a presentment or foreboding, a prophetic impression, something that portends or foreshadows a future event, an omen, prognostic, or warning indication, prophetic significance, augury, a forecast or prediction” (Delbridge & Bernard, 1998 p. 910). Presage factors are observable and give an informed observer a foresight of expected learning outcomes. Presage factors exist prior to actual engagement in learning and comprise both teaching and student presage factors. These two sets of presage factors interact.

Teaching presage factors are contextual, and include: the superstructure set by the teacher and the institution; the course structure; curriculum content; methods of teaching and assessment; and classroom climate.

Student presage factors include learning-related characteristics of the student such as: prior knowledge, existing skills and experience; values and expectations concerning achievement; and a predisposition to engage in academic activities according to prevailing motives and strategies.

Researchers do not agree with the placement of learning approaches in their models. Biggs places approaches as a process factor in the 3P model, while Trigwell and Prosser place learning approaches between process and product (Biggs, 1999; Biggs, 1993a; Trigwell & Prosser, 1997).

Regardless of the placement of presage factors, approaches to learning have attracted the most attention in the literature as the factors that not only have the greatest effect on student learning outcomes, but are also the most responsive to teacher influence in attempts to direct student learning. Biggs further identifies particular components that affect approaches to learning as presage factors (a general orientation to learning) and process factors (a description of immediate engagement with a specific task). The presage factors are then divided into student and teacher factors.

2.5.1 Student presage factors

In the Biggs 3P model of classroom learning, student presage factors, as seen in Table 2.1, represent one of the two components of the presage factors considered to be the...
first P in the 3P model. Student presage factors are those which the student brings to the experience and these will be different for each student as they arise through unique previous experiences. It is not possible to alter these factors, although it is the teacher’s role to identify and work with these factors in order to direct students into deep approaches to learning wherever possible, because deep approaches have the potential to direct the student into qualitatively better learning outcomes. The student presage factors can be further broken down into prior knowledge, abilities, preferred ways of learning and values and expectations (Biggs, 1993a).

**Prior knowledge and abilities**

As seen in Table 2.1, the first of the student presage factors is prior knowledge and abilities. This is one of the factors which can affect product or learning outcomes. There is debate in educational spheres as to whether prior knowledge should be assumed, allowed for, or ignored. There are two key ways in which prior knowledge and abilities can be considered: first at the macro level in the institutional domain in terms of prerequisites, challenge tests and the like; and second, at the micro level where the individual student uses prior knowledge and abilities as part of their technique to deal with a new experience and try to make sense of it. Some examples of gauging prior knowledge in Australian universities are presented.

At the macro level the use of challenge tests in Economics at first year university to stream students with differing levels of prior knowledge is one example of an attempt to address the issue of prior learning. The study of linguistics has strict entry levels and prerequisites to account for prior knowledge. In the discipline of Accounting, universities differ as to whether they will acknowledge and allow for prior knowledge at the first year intake. The School of Business at Swinburne University currently does not collect data on students’ prior knowledge in accounting and does not allow for it, while both the University of Melbourne and Monash University allow for prior knowledge. This is based on results at Year 12 level rather than non-certificated knowledge, and leads to students being streamed according to success in the subject at secondary school. The policy at Swinburne formerly allowed for prior knowledge and streamed students accordingly, however anecdotal evidence suggested that those with prior knowledge underperformed when compared to those without; the policy was changed as a result. There are limited and mostly anecdotal cases in business faculties where non-
certificated work experience, where a person can verify they have been working at a high level of competence in the particular discipline area, can be used as a guide for assessing prior knowledge and thereby exempting the student from the subject. The Swinburne Graduate School of Management, contrary to the School of Business, lists both ‘credentialled’ and ‘uncredentialled’ prior learning as equally acceptable bases for exemption (Swinburne Graduate School of Management, 1999).

In the accounting discipline, Sangster and McCombie examined the relationship between the background and variable prior learning and concluded there was a relationship between prior learning and student performance. Students were given a case study involving a set of accounts with financial data for four years, and then asked a series of questions about the company. Some analysis of the data was required in order to be able to respond to the questions. The results indicated that second-year students with prior learning performed better than first-year students although first-year students with prior learning failed to perform better than first-year students without prior learning. This is attributed by the researchers to a failure of the students to see the broader picture; to develop analytical skills; even though the students had some degree of financial literacy and general understanding of the commercial environment in which companies were involved (Sangster & McCombie, 1993). Analytical and interpretive skills are seen to be critical in this specific task. The research of Sangster and McCombie, similarly to this research, focused on an accounting task that was the analysis and interpretation of financial statements.

At the micro level, the student often uses prior experiences to decode new information, once there is recognition of some prior learning in the area. Quite often that early recognition is only partial and leads to a mismatch of the new information with the old information. In such cases, prior learning can be a hindrance to learning as the student does not engage with the content on the assumption that the material is already known (Evans, Unpublished).

**Preferred ways of learning**

As seen in Table 2.1, the second component of student presage in Biggs 3P model is the students’ preferred ways of learning. Pask examined students’ strategies in learning, and identified two basic learning strategies, namely the serialist and holistic strategies (Pask,
Pask’s conclusions were that students adopting a serialist strategy work their way step by step in a straightforward logical manner through an issue, keeping to the bare essentials of the matter. The holist strategy works quite differently, seemingly illogically and following no order, although perhaps the order simply follows a different set of rules. The holist survives on anecdote, illustration and analogy, while the serialist uses these sparingly, if at all. Pask concludes that although some students are disposed to act ‘like holists’ whenever given the opportunity and some ‘like serialists’, the student with the ‘versatile’ learning style (one which can operate as a holist or a serialist depending on the subject matter) will readily adapt their learning strategy to the requirements of the particular task. Pask calls the serialist style ‘operation learning’, and the holistic style ‘comprehension learning’. There is a parallel with Marton and Saljo’s deep and surface learning.

Learning styles are relatively stable attributes, preferences, or habitual strategies employed by learners to process information for problem-solving (Kolb, 1984). Kolb’s learning style inventory (LSI) was created to measure four individual learning styles of students. The test was a nine-item self description questionnaire. Each item asked the respondent to list in rank order four words in a way that best described his/her learning style. One word in each item corresponded to one of the four learning modes:

1. Concrete Experience (sample word: ‘feeling’);
2. Reflective Observation (sample word: ‘watching’);
3. Abstract Conceptualisation (sample word: ‘thinking’); and
4. Active Experimentation (sample: word ‘doing’).

The LSI measured an individual’s relative emphasis on these four learning abilities, plus two combination scores that indicated the extent to which an individual emphasised abstractness over concreteness (AC-CE) and the extent to which an individual emphasised action over reflection (AE-RO).

Kolb’s study can be examined along with Pask’s study on learning strategies to determine if there is any propensity on the part of accounting students to adopt a particular learning style which will have a consequential impact on learning outcomes.
Preferred learning styles may also be influenced by cultural factors. Studies by Hofstede identified an individualism/collectivism index along which different cultures are plotted (Hofstede, 1991). In his results, Hofstede’s procedure was to identify the most typical values endorsed by each nation.

Hofstede’s unique studies examined IBM employees from across 50 different countries. The major variable between the employees was cultural background as they were all selected from middle management with substantially similar backgrounds in all respects except their country of origin. Hofstede identified four basic cultural differences. (The four dimensions of culture identified in Hofstede’s study were: power distance; collectivism versus individualism; femininity versus masculinity; and uncertainty avoidance.) The difference most pertinent to this study is the degree of individualism in society. Extreme collectivism and individualism can be considered as opposite poles of Hofstede’s second identified variant of national cultures (Hofstede, 1991). Hofstede described this variant in these terms:

Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onwards are integrated into strong, cohesive ingroups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede, 1991 p. 51).

Hofstede ranked national responses and derived an individualism index with all countries ranked in the study. Countries ranked with the highest scores were USA—91; Australia—90; and Great Britain—89; indicating a high level of individualism, to Panama—11; Equador—8; and Guatemala—6, indicating a low level of individualism and therefore a high level of collectivism. Yugoslavia, as the only representative of the Eastern European nations represented in the study, ranked 27 on the individualism index and therefore indicated a high level of collectivism (Hofstede, 1991).

The work of Hofstede has been used in a study by Auyeng and Sands into the cross-cultural influences on accounting students on both their preference for learning styles and their approaches to learning. Hofstede argues that the purpose of education is perceived differently between the two poles of the individualism-collectivism dimension. In the individualistic society, there is a tendency towards learning to cope
with new, unknown, unforeseen situations, whereas in the collectivistic society learning is often regarded as an adaptation to the skills and virtues necessary to be an acceptable group member (Hofstede, 1991).

Auyeng and Sands, one of very few studies into learning styles of accounting students, conclude that there is a difference in learning styles determined by cultural preferences as based on different cultural positioning along Hofstede’s collectivism-individualism index. Auyeng and Sands used Hofstede’s line of argument to suggest that this core dimension of cultural variability explained differences in accounting students’ learning styles (Auyeng & Sands, 1996). The study reported on three groups of accounting students from Hong Kong, Taiwan and Australia, to establish whether there were cultural factors which influenced their preference for a learning style, as measured by Kolb’s Learning Style Model. Hong Kong and Taiwan were selected as they were assessed as being high on the collectivism index while Australia was high on the individualism index.

Conclusions from the Auyeng and Sands study were that students from Hong Kong and Taiwan were more abstract and reflective, as well as less concrete and active. On the other hand, Australian students in the study were more concrete and active (Auyeng & Sands, 1996). The Hong Kong and Taiwanese accounting students exhibited a different learning style to that exhibited by Australian accounting students. Auyeng and Sands consider the data provided strong evidence to support their hypothesis that the learning styles of accounting majors in Hong Kong, Taiwan and Australia reflected their collectivistic or individualistic cultural orientations.

Groups and group work
As seen in Table 2.1, a significant branch of literature to be considered as part of students’ preferred ways of learning is their preference for group work. The presage factors in Biggs 3P model have two distinct aspects; those which exist in the context and those which relate to students’ previous experience of learning. Students’ experience of group work can be viewed as a presage factor that incorporates both of these aspects. Students’ experience of working in groups is contextual inasmuch as they expect or do not expect to work in groups based on the environment students have both come from and are currently a part of. Their preference for group work however, is a
personal one that some students have a greater or lesser propensity for. In this study, where one cohort of students was made up of overseas students, they could have a preference based on their previous overseas cultural experience of working or not working in a group environment.

Literature on group work of relevance to this study comes from two main discipline areas: groups as an operational tool in the literature on organisations management; and groups as a vehicle for facilitating student learning in the student learning literature. The literature on groups can be seen in part as a presage factor, as the preference for working in groups rests in the individuals preferred means of operation. It can also be seen as a process factor, as the success or dysfunctionality of groups can contribute to the organisation’s goals being achieved or subverted. For this study, groups will be considered in both contexts, namely the literature on student learning groups which is most salient to presage and the literature on organisational groups which is most salient to process.

All types of groups exist for the purpose of a common task, whether it be an organisational, personal or educational problem to be solved. It is the task that brings the group together. The motivation for using groups in these contexts is a belief that by working in concert, individuals can achieve a better result than individuals working separately. Group dissonance however, is a critical factor in determining whether the group can achieve the goals it has set for itself, or whether its energies will be diverted into settling conflict within the group. Group dissonance arises due to the heterogeneity, as against homogeneity, of the group. One important contributing factor to this heterogeneity is cultural difference (Latting & Raffoul, 1991).

**Groups in the context of student learning**

As seen in Table 2.1, the literature on groups and group work is salient to this review as it represents a significant factor in student presage; in particular the preferred ways of learning. The most critical area of literature related to groups and group work is around the area of groups in the context of student learning. Contemporary literature on organisational change and the development of the learning organisation emphasises the function of the group in assisting personal knowledge to contribute to the communal knowledge of the organisation. In the student learning literature however, the function
of the group shifts the emphasis to the knowledge itself. The group can assist in achieving a different order of knowledge not usually attainable by the individual acting alone. In this regard there are parallels between organisational learning and student learning in groups.

There is literature which focuses on the group as being important for the process of learning and literature which emphasises the product and other literature that emphasises both. Group work is a series of actions, which concerns the way in which students manage their own learning. Groups formed for student learning come together with a common task; in this study, to complete an assignment. The issue at hand is whether the group will lead to, as in organisations, a qualitatively better output than is possible with the work of the individuals acting alone, and also, what factors can impede this process. The literature on student learning in groups is considered as both presage and process in the Biggs 3P Model of Student Learning. The relationship between approaches to learning and the way students work in groups will be addressed.

**Student learning groups**

As seen in Table 2.1, student learning groups are a part of the student presage factor of preferred ways of learning. Within the literature on groups and group work in a student learning context, a number of key areas have been identified as having an effect on learning outcomes. These include: student learning groups; group dissonance; methods of group member selection; productivity of groups; cultural factors; and learning intentions of the group as distinct to those of the individual.

To consider the first of these, student learning groups, Rudduck established the relationship between the leaderless group (which is how students approached group work in this study) and the independence of the learner (Rudduck, 1978). Of the three examples of leaderless groups, syndicates represented the group most widely used. Students in Rudduck’s study concluded that with syndicate work: self selection of the group is critical; learning is greater than in lectures; four or five students is the optimum size; passengers cannot be afforded; and the syndicate gives members freedom to be critical. The second group Rudduck identified was the breakaway task-related sub-group that was part of the larger group. This smaller group overcame the difficulty in a large group of ensuring all participants had done some preparation and provided a less
threatening environment in which the quieter students could voice their opinions. The third was the seminar group where Rudduck found the greater the informality, the greater the dependence on the group leader because of social ambiguity. The size, composition and selection processes of groups were deemed critical when evaluating their learning outcomes. These factors will be considered later in more detail (Rudduck, 1978).

Collier’s work of relevance to this study is group work, as typified by the syndicate method (Collier, 1985). The syndicate method has the bulk of the work consisting of assignments, carried out on a cooperative basis by the syndicate working as teams. Collier notes two distinctive characteristics of syndicates; heightened motivation of the students, and the development of higher order skills. It is to this end that many graduate and undergraduate courses have embraced the use of syndicates as a means of challenging students to reach a new level of understanding.

**Group dissonance: heterogeneous groups diverting creative energy**

As seen in Table 2.1, group dissonance and its outcomes represent another key area in the literature on student learning groups. The success or otherwise of groups in achieving qualitatively better learning outcomes is affected by the factors that encourage syndicate group members into deeper learning outcomes by providing the heightened motivation that can lead to the development of higher order skills. The factors that impede this process will now be considered.

The second area of literature around student learning in groups deals with factors which contribute to or detract from the achievement of the group’s desired learning outcomes. A major factor, which impedes the achievement of goals within a group setting, is group dissonance. This can be seen at the organisational level (Seagal & Horne, 1994), and also in the context of student learning (Lattin & Raffoul, 1991; Jalajas & Sutton, 1984-1985). The findings of Jalajas and Sutton indicate that while it is critical that students self-select their groups, homogeneity within groups can be problematic as it leads to groupthink; heterogeneity can lead to conflict, an excess of which can lead to dysfunctionality rather than the qualitatively improved results that are hoped for when groups are formed. Finding the optimum composition of a group is a difficult task, albeit one with substantial rewards in higher education.
Long, in a study of the Australian Program of Training for Eastern Europe (APTEE) fellows at Swinburne University, raised the issue of cultural differences in the students’ perception of group work and interaction with each other. The notion of a group seemed to the APTEE students not simply defined as one of many ways of working, but an object to be resisted. Their objects of organisational discourse were heavily imbued with political significance. It appeared that group members had significant difficulty engaging with each other, and that deep hostilities were present within the class (Long, 1995). Long’s work related partial success or otherwise of the group to the level of dissonance within the group, with cultural difference being the major source of that dissonance.

This study raises the question whether the individual’s learning is fostered or hampered by the group, with group dissonance being a major factor in retarding the learning process. Energy is diverted away from student learning to dispute resolution. This reinforces earlier studies where excessive dissonance and dysfunctionality hindered the learning possible using the group process (Latting & Raffoul, 1991; Bradford, 1978).

‘Social loafing’ is also a factor affecting group performance when considered by Western researchers. Social loafing is a condition whereby the larger the team is, the less effort will be contributed by any one individual (Latane, Williams, & Harkins, 1979). The reverse was observed by researchers in China and Israel, who found that workers in fact worked harder than did individuals on their own. Team members from the US however, showed the familiar social loafing effect (Earley, 1989). On the Hofstede collectivism/individualism index, the US is rated highest of all cultures represented, and thereby represents the extreme, rather than the mean response (West, 1996).

Some caution is required when applying Hofstede’s results, as his dimensions do not assert that all teams in a culture will behave in a certain way, rather how they might behave (Hofstede, 1991). Cultural divergence in team activities, as found by variances in social loafing, varies according to the individualism/collectivism index. The index is a ranking without a statement as to the norm. Earley contends that countries toward the mean of the index ought to be considered the norm rather than the US, Australia and UK that are at the extreme of individualism (Earley, 1989). Later studies confirm these
cultural differences and their effect on work ethics based on collectivist cultures. McMurray, in findings of a study into work attitudes of Asians and Australians, noted the observed differences in their work ethics, based on ‘the conservative principles found in their collectivist culture’ (McMurray, 1999).

Self-selection, groupthink and homogeneous groups—effect on creative energy

As seen in Table 2.1, a further factor which contributes to or detracts from the group’s ability to achieve qualitatively better learning outcomes is the impact of group member selection. Abelson and Babcock, comment on process factors when identifying variables that impact on course-related learning goals. The learning goals Abelson and Babcock identified were:

1. To improve students’ skills in working with others
2. To enable students to learn from one another
3. To enrich students’ experience with the course content.

The size of student groups and the method of selection, two factors which directly affected the achievement of the learning goals, were under the instructor’s direct control. When groups are student-selected, the groups tend to be more homogeneous than instructor-selected groups (Abelson & Babcock, 1985-1986).

Jalajas and Sutton in their study contend that if the self-selected groups are too homogeneous the group’s performance may suffer (Jalajas & Sutton, 1984-1985). Smith and Noakes also support the notion that diverse teams outperform monocultural teams on performance criteria (Smith & Noakes, 1996). Hackman and Morris argue that merely creating a group is likely to produce friction (Hackman & Morris, 1975). While conflict might be functional if it helps prevent ‘groupthink’ (excessive ingroup pressures toward unanimity) and results in creative exchange of ideas (Latting & Raffoul, 1991), conflict can become dysfunctional when it is personalised and results in group avoidance of tasks and each other (Bradford, 1978). The challenge is to determine the optimum level of diversity within the group that will generate high levels of performance without creating the dissonance which restricts high group performance, while still allowing for student self-selection. Latting and Raffoul’s study found perceptions of learning from the group were directly associated with initial preference to
be in a group and task interdependence. Perceived group-based learning was inversely associated with the amount of interpersonal conflict experienced (Latting & Raffoul, 1991 p. 53).

Bowen and Jackson cautioned that self-selected groups may tend to be homogeneous (in their study, culturally homogeneous), which could result in a decrement in performance (Bowen & Jackson, 1985-1986). Hofstede had the opposite findings in a case study where a culturally homogeneous group, consisting of a consultative group of workers, were an important part of the process of increasing worker involvement in decision making, and ultimately into the assimilation of Turkish guest workers into the Dutch work community of the Philips Corporation (Hofstede, 1994).

Productivity

As seen in Table 2.1 productivity is a further student presage factor which impacts on learning outcomes of groups and group work in the context of student learning. These factors derive from the student’s preferred ways of learning which is seen to impact on learning outcomes. A factor considered in the context of a group of accounting students is the productivity of the group when high levels of tension were experienced in the group. A study which considered the group process in the accounting discipline, specifically in advanced taxation, noted one group with extremely high levels of tension and disharmony, unresolved until nine weeks into the semester (Ryan, 1996). Even after this resolution there remained the unresolved problem of a ‘lazy’ student. This conflict had the effect of ‘firing up’ the other members of the group who were determined to complete an excellent essay despite what they called their ‘handicap’. Ryan’s most conflict ridden group in fact produced the best academic result, with their paper being accepted at an international accounting conference. This is contrary to Bradford’s contention that excessive tension and conflict within a group make for a dysfunctional group, but consistent with Latting and Raffoul’s assertion that a certain level of conflict is helpful in promoting productive group results. Social loafing, as raised earlier, also appears to be a factor in many of these studies, whereby the larger the group, the less particular individuals may feel obliged to contribute to that group.

There are aspects of student learning groups which focus on the product or outcome of learning in Biggs 3P model including studies by Collier and by Martin (Collier, 1985;
Martin, 1996b). The nature of the outcome, the detail and structure, can be seen to be qualitatively different depending on the process involved in the learning experience. These will be considered further when considering Biggs product factors.

**Cultural factors**

As seen in Table 2.1 cultural factors contribute to the student presage factor of preferred ways of learning. A major factor impacting on the operations of the group is the cultural backgrounds of the group members. Many studies undertaken have been within the social science disciplines. Martin’s interest was in the learning process within the discipline of medicine; Hofstede and others drew their subjects from the business disciplines (Martin, 1996b; Hofstede, 1991). This study draws on students from the business disciplines and from culturally diverse backgrounds.

Based on Hofstede’s findings a certain expectation exists about the responses of the Eastern European cohort of students compared to the Australian cohorts in relation to their preferences for and commitment to group work. Hofstede does not make claims about all individuals from a particular culture, but comments on likely responses from a particular culture compared with those of another. Earley’s research on social loafing shows different results in countries with low individualism on the index as against countries with a high value for individualism, as does the work of McMurray. Group activities may therefore differ from country to country, based on the cultural preference for group work and working collectively, as against achieving results as an individual working alone (Hofstede, 1991; Earley, 1989; McMurray, 1999).

**Learning intentions within groups as distinct from individual learning**

As seen in Table 2.1 learning intentions are the final factor which influence the preferred ways of learning component of student presage, in particular with a preference or otherwise for group work. This factor considers the differing learning intentions of the group as against the learning intentions of individual group members. In earlier studies cited on group work, the focus of the research was the process factors, namely, the way in which students approached the learning activity. One study with elements of both process and product by Berry involved a three year program in a UK university that aimed to encourage students to work in groups and to reflect upon the processes and the context in which the programme ran (Berry, 1993). The program was awarded
the Coopers & Lybrand, Deloitte prize for innovation. The research was with accountancy students. The focus in this research, while referring to process, is on the product of learning, namely the outcome of the group activity. Martin, in research into perceptions of learning by overseas-trained doctors, made observations of the group process. Doctors studying in groups to prepare for the examination to qualify to practice medicine in Australia formed quite different types of groups that reflected the way in which they chose to, and were able to learn as part of, or separate from the group. Martin identified isolate learning and social learning, with isolate learning focusing on reliance on the self, rather than the group, to make learning meaningful, and a reluctance or inability to go beyond the information readily available or the experiences provided. Social learning focused not on the answering of specific questions as an end in itself, but as a part in a larger pattern of sense and meaning that they were attempting to put together (Martin, 1996b). Their interest was on the end product of the activity, namely learning of a qualitatively better nature, through working collaboratively, than each of the individuals could achieve working alone.

The use of groups in student learning can be seen to provide qualitatively different learning experiences for students, provided they are predisposed to working in groups and are able to successfully manage group dissonance. Group dissonance can be seen to work both positively and negatively in terms of effect on the outcome of the group. Studies by Long and by Latting and Raffoul exemplify the negative effects where group dissonance diverts energy away from creative thinking, while studies by Seagal and Horne and by Ryan exemplify that dissonance being channelled into creative energy enhances the group’s outcome (Long, 1995; Latting & Raffoul, 1991; Seagal & Horne, 1994; Ryan, 1996).

This research, while building on the abovementioned studies into group work, specifically addresses the question of the relationship between learning outcomes of individuals and the students’ intentions and perceptions of the group process, with particular reference to the impact of cultural background on these perceptions and reactions to group work.
Personality types
As seen in Table 2.1, the final student presage factor considered for this review is that of personality types as they impact on preferred ways of learning which have an effect on learning outcomes. There has been significant research which indicates that accounting students prefer structured learning situations. Booth and Winzar reached this conclusion after considering reports on personality types as determined on the Myer-Briggs Type Indicator (MBTI) of both practising accountants and accounting students as compared with students in other subject areas (Booth & Winzar, 1993).

The MBTI, a self-report inventory that provides a quantified objective score measure based upon Jungian personality types using four dimensions, has been widely used in the study of personality profiles and biases. The indicator identifies four dimensions, each with two opposing poles. A person undertaking the MBTI is classified to be one or other of the poles for that dimension, based on the dominant responses given, although the Indicator does not take account of the degrees of dominance (Briggs & Myer, 1987).

The four dimensions are:

1. Extroversion vs Introversion
2. Sensation vs Intuition
3. Thinking vs Feeling

Studies on practising accountants in both the UK and USA have found a personality profile for practising accountants, with a 1980 study by Jacoby:

based on a sample of staff from the auditing, taxation and management consultancy specialisations of three ‘Big Eight’ public accounting firms, with high frequencies of all TJ (Thinking Judgement) types (55%), STJ (Sensation, Thinking, Judgement) type comprised about 40% with ISTJ type (Intuition, Sensation, Thinking, Judgement) being the dominant single type (Booth & Winzar, 1993 p. 111).

One of the few studies to investigate MBTI profiles of accounting students was undertaken at three Australian universities in 1987 and 1992 by Booth and Winzar.
Their findings endorse the study by Jacoby with the bias in the sample towards the two STJ types (42.8%) with the ISTJ type the most common (26.7%) (Booth & Winzar, 1993).

The predominance of ISTJ personality types among accounting students indicates to academics that:

- many accounting students should prefer structured learning experiences which present rules and concepts; develop arguments in a step-by-step fashion; use repetitive, concrete, tangible examples with only minor variation on a theme; and give specific assessment feedback on work with tangible reasons for errors. The STJ majority of accounting students may prefer teaching strategies that are highly logical, systematic and structured, and start from concrete examples and rules rather than general concepts (Booth & Winzar, 1993 p. 114).

When examining the contextual issues which impact on learning approaches, teachers could consider the type of teaching environment to which accounting students personality types have a positive bias. If teachers could teach to these strengths they could also address the weaknesses of that personality type and attempt to strengthen these areas. Such areas, as identified by Moody, and Lawrence are: communication skills; dealing with unstructured problems; undervaluing of the human side of problems; and reaching premature closure on problems (Moody, 1988; Lawrence, 1982; Booth & Winzar, 1993).

2.5.2 Teaching context presage factors

Contextual presage factors
As seen in Table 2.1 the second aspect of presage in Biggs 3P model is the teaching context, and of specific relevance to this study, how students perceive the teaching context in terms of the classroom context, the teaching and the assessment. The students’ perceptions of these factors impact on student learning. Students’ perceptions of curriculum; method; assessment and climate; of what it is that is taught and how it is taught; how it is graded; and in what context it is taught will be addressed as the teaching presage factors which influence student learning.

Ramsden, as referred to earlier, indicates that student approaches to learning are influenced by the educational environment. Ramsden draws attention to the relation
between the student’s perception of the environment and learning approaches as a means of understanding the impact of the contextual environment on approaches:

They are inseparable from both the content and the context of student learning, both as previously experienced and as currently experienced (Ramsden, 1992 p. 64).

The contextual factors which inhibit or empower the student are:

the quality of interaction with lecturers, the curriculum and assessment, and at the most general level, the atmosphere or ‘ethos’ of the course, programme of study, or institution (Ramsden, 1992 p. 65).

Entwistle also linked the contextual environment with approaches to learning when he considered the link between good teaching and freedom to learn with deep approaches, and a lack of choice, a heavy workload, and assessment which required the reproduction of facts with surface approaches (Entwistle, 1989).

How students perceive the classroom context
As seen in Table 2.1 student perception of the classroom context is a component of teaching presage which has an impact on learning outcomes. It specifically examines the way students perceive the teaching context. Entwistle and Ramsden’s Course Experience Questionnaire which identified eight dimensions of learning environments arose from an extensive study undertaken across a number of academic departments at the University of Lancaster. The study consisted of three phases. First, after pilot questionnaires were administered and modified, 248 students completed questionnaires, and exploratory interviews occurred with students and staff on approaches to learning. In the second phase, the modified questionnaire was given to 767 first-year students. The final phase was to qualitatively analyse the interview data, with a further surveying of 66 universities throughout Britain with 2,208 students completing an approaches to studying inventory and the course perceptions questionnaire. It was possible, from the results of the three phases, to assess the effects of academic departments on students’ approaches to learning (Entwistle & Ramsden, 1983).
The way in which students perceived these context factors influenced their learning, as qualitatively, not quantitatively, defined. These key perceptions were: relationships with students; commitment to teaching; workload; formal teaching methods; vocational relevance; social climate; clear goals and standards; and freedom to learn (Entwistle & Ramsden, 1983). This research draws attention to the contextual presage factors that the teacher can influence in order to create the environment in which the student is most likely to adopt deep approaches to learning.

Contextual factors fall into three main areas, namely how the students perceive what is taught, how it is taught and how it is assessed. The results of the Lancaster studies indicated that where students perceived these contextual factors to exist in a positive manner, they were more likely to engage in deep approaches to learning approaches (Entwistle & Ramsden, 1983).

For students to engage in deep learning approaches, they need to see the relevance of the curriculum to their needs, whether they be long-term career needs or short-term needs. Entwistle and Tait confirmed the findings of earlier studies which associated deep approaches with perceptions of relevance and surface approaches with heavy workloads (Entwistle & Tait, 1990). Their study was carried out on 431 first-year students registered for Bachelor of Engineering Degree in Scotland, for the purpose of identifying correlates into success and failure in the degree. An extensive questionnaire was applied where the students were required to respond in class time. In the accounting discipline where the curricula is heavily influenced by the requirements of the professional accounting bodies, students must find the relevance of the curriculum in terms of long-term career goals. In other disciplines without such external influence on the curricula students might find relevance in more immediate matters such as lectures, tutorials, presentations and work requirements.

Hodgson, in a study on learning in lectures, identified two means by which students could experience relevance in lectures (Hodgson, 1984). There was held to be a vicarious experience of relevance, where the student experienced the enthusiasm and interest of the lecturer in the material, and an intrinsic experience of relevance where the student could make the material personally relevant.
The teacher’s choice of detailed curriculum content can be one factor that leads students into or dissuades students from a deep approach to learning. While the surface/deep approach to learning distinction is not meaningful in all contexts, the distinction will be meaningful if the material has a text that presents arguments, scientific principles and constructs, and/or is intended to provide a coherent way of explaining or analysing a phenomenon. Should the learning material be of a different kind, (listing, for example, as does Saljo, German prepositions that take the accusative case), this distinction might not be at all applicable or enlightening. Learning of this kind has the character of acquisition of information, and mastery of the task is probably to a large extent a function of the time and energy devoted to memorising (Saljo, 1984).

There are studies which indicate discipline content and assessment methods have considerable impact on the approaches students take. Meyer and Parsons contend, when discussing differences in approaches to learning, that those differences may be contextually determined (Meyer & Parsons, 1989). Bowden, Masters and Ramsden in a study of assessment demands on students across seven disciplines, provide some confirmation of this assertion in their findings that first-year accounting students were superficial learners whose orientation was not directed at searching for understanding (Bowden et al., 1987). The question may be addressed of whether the reported ‘superficial learners’ in the study of accounting, as reported by Bowden and others in Australia and in the Bedford Committee Report in the US, were in some way influenced by the content selected from the discipline or in response to the manner in which the subject was taught and more particularly, assessed (Bowden et al., 1987; American Accounting Association Committee on the Future Structure Bedford Committee, 1986).

Studies have been undertaken which examine the relationship between the educational context within which students learn and the learning approaches adopted by accounting students. Sharma reported on two such studies which examined the relationship between learning approaches of accounting students and the impact of context on learning approaches (Sharma, 1997). The first comprised a phenomenographic study to identify accounting students’ conceptions of learning. The study focused on second-year accounting and finance students undertaking a major in accounting. Students were asked “what do you mean by learning,” and given twenty minutes to respond (Sharma, 1997 p. 131).
Five learning conceptions were identified using phenomenographic analysis and categories of description were determined. The five were arranged hierarchically, commencing at the lowest level with learning as memorising and reproducing, through to learning as acquisition of knowledge, and learning as application; while the higher order conceptions were learning as understanding and insight; and finally, learning as interpreting reality and construction. The results indicated that 75% of the accounting students involved in the study considered learning to be either acquisition or application of knowledge, leaving only 20% with the two higher order conceptions of learning in accounting being understanding and insight and interpreting reality and construction and 5% with the lowest order conception of learning as memorisation.

Sharma concluded from his study that the conception that learning is memorisation and acquisition of knowledge was consistent with the surface approach, while underlying the deep approach was the conception that learning was understanding and interpreting reality, forming generalisations to new situations and having the ability to think in the abstract (Sharma, 1997).

The second study aimed to determine which approaches the students took to learning and the environmental conditions in which they undertook their learning. Sharma administered a questionnaire comprising 22 items adapted from the short version of the Approaches to Study Questionnaire (ASQ), and nine items adapted from Ramsden’s Course Experience Questionnaire (CEQ) (Richardson, 1990; Moses, 1986). The results of this second study indicated that:

students’ learning approaches were found to be associated with their perceptions of the learning context. Hence, if we are to alter students’ learning approaches, then we could start by altering the learning context. By discouraging reproducing orientations and encouraging meaning orientations to studying we maybe able to produce better quality accounting students (Sharma, 1997 p. 143).

The factor of most concern to students in this study was their fear of failure with the pressure of work leading to students memorising, rather than thinking about what they have to learn. As raised by Ramsden, one of the surest ways of directing students into surface approaches to their learning was to overload their work (Ramsden, 1992).
Jackling and Wigg in a study involving three cohorts of students studying a common first-year accounting course at three campuses, concluded that the impact of background variables such as prior knowledge, tertiary entrance score and motivation to study accounting were significant factors in explaining performance of first-year accounting students (Jackling & Wigg, 1997). The factor of particular significance for teachers from the Jackling and Wigg study was the perception by students of the importance of the role of memory in performance. When it was perceived to be high, performance was poor. In those circumstances, students would rote learn. These findings were supported by Gow, Kember and Cooper who undertook a study with accounting students in Hong Kong. The study concluded that when students perceived workload too heavy and assessment excessive, they adopted surface approaches (Gow et al., 1994).

Roush and Smith reported on accounting programs in Australia and New Zealand that have incorporated many of the curriculum revisions sought by US reformers of accounting education. They asserted that reforms in accounting education, to achieve their objectives, must emphasise a shift from content knowledge to higher-order thinking skills. Traditional classroom teaching practices such as large lecture groups do not encourage these skills. Consultative teaching approaches lead to better quality outcomes, namely, “abstract thinking skills, ability to make reasoned judgements in a variety of situations, self-directed and life-long learners,” whereas traditional styles lead to “narrow-ranged cognitive skills, highly capable while being directed in structured situations, but with a need to develop value adding skills on the job” (Roush & Smith, 1997 p. 201).

The studies mentioned stress the importance of the context in which the student finds him/herself on the learning approaches students may take, which then impact on the learning outcomes achieved (Sharma, 1997; Jackling & Wigg, 1997; Sangster & McCombie, 1993; Roush & Smith, 1997). Although studies cited in student learning indicate that it is difficult to create a context in which students will tend to adopt deep approaches, they also point out that it is relatively simple to create a context in which students will tend to adopt surface approaches (Martin & Ramsden, 1987; Ramsden, 1992; Marton & Saljo, 1984). The challenge for educators is to encourage students by steering away from the latter environment and doing as much as is possible to provide
the former environment, which along with many other factors may encourage students into deep learning approaches.

**How students perceive how it is taught**

As seen in Table 2.1 another student presage factor in Biggs 3P model related to teaching context is students’ perception of how the material is taught. This will impact on learning outcomes. If teachers wish to encourage students to engage with the subject matter, Ramsden proposed, as a result of his examination of the literature, two basic teaching strategies. The first was to:

- discourage students from using surface approaches. For the teacher, this implies avoiding excessive workloads, busywork, and unnecessary time pressures; shunning assessment practices that require recall or rehearsal of trivial detail; abandoning all attempts to devalue students’ tentative steps toward understanding; avoiding cynical comments about the subject matter and students’ grasp of it (Ramsden, 1992 p. 151).

The second was to actively encourage:

- deep approaches through engaging students responsibly and actively with the subject matter, which is much harder (Ramsden, 1992 p. 151).

This encouragement into deep approaches implies helping students to become aware of their current conceptions: to make them aware that there are different conceptions; focusing on central issues that are problematic for students; and finding ways of integrating the ‘knowing how’ of a subject with the ‘knowing what.’ These strategies are not dependent on particular teaching methods, although certain methods do have particular limitations. Ramsden proceeds to discuss limitations of various teaching methods, including lectures, small groups, computers and other media, textbooks and clinical and practical work. He further asserted that “deep approaches are associated with activity and responsibility in learning” (Ramsden, 1992 p. 151). Although there is not one particular teaching method which leads to deep approaches, Ramsden argues that the teacher should select methods which generate engagement and activity and reject methods that leave the student passive and inactive and with no responsibility for the learning.
Other studies that attempted to actively discourage students from adopting surface approaches were found to have the opposite effect. Ramsden, Beswick and Bowden found in their study at Melbourne University that the attempt to teach students about deep and surface learning approaches in an effort to direct them toward deep approaches had the reverse effect, that of directing students toward surface approaches (Ramsden et al., 1986).

Ramsden, Martin and Bowden found that success at the Year 12 level was linked with a lack of focus on surface approaches (Ramsden, Martin, & Bowden, 1989). Learning skills needed to be content specific, not learned in isolation (Martin & Ramsden, 1987). In their study which was used to raise the standards of study, Martin and Ramsden conducted one program using generic skills only, free from the content of the course, while the other program based those skills within the content provided in the curriculum. Their results indicated the latter group was more successful in developing more advanced conceptions of learning, but also achieved better results in both essays and examinations. Based on this study the separation of the ‘what’ from the ‘how’ of learning appears to have been unsuccessful.

These findings can be extended to the development of generic skills required for life-long learning. They cannot be content free but need to be a by-product, albeit a critical and highly desirable by-product of the university curriculum as found in the Martin and Ramsden study. The importance of embedding generic skills in the content was given in an accounting context when Johns, of the ASCPA, made the Occasional Address to School of Business Graduands (Johns, 1997). Further studies undertaken, for example in the field of information literacy, confirm the success of programs which are embedded in discipline content rather than taught in isolation (George et al., 2000; Scoufis, 2000). Generic skills will be addressed in greater detail in the Theory to Practice section of this review.

How students perceive how it is assessed
As seen in Table 2.1, the third component of the teaching context aspect of student presage is how students perceive assessment. This can impact on learning outcomes. The type of assessment used can impact on the approach to learning. If assessment is seen to test for surface learning, then students are more likely to adopt surface
approaches and less likely to seek out deeper approaches which search for meaning. Marton and Saljo found that while being a reasonably simple matter to direct students into surface approaches by giving the questions asked a surface focus, it was more difficult to direct students into deep approaches using the same tactics (Marton & Saljo, 1984). Their explanation for this was that in the group directed towards deep approaches, by way of the types of questions asked, students had differing interpretations of what was demanded of them. Only about half the group interpreted the questions in the way they were intended. Ramsden also indicated that it was an easier task to discourage students away from surface approaches, “by avoiding excessive workload . . . by shunning assessment practices that require recall or rehearsal of trivial detail . . . ” than toward deep approaches (Ramsden, 1992 p. 151).

Regardless of the direction that teachers attempt, if the assessment leads to success for the student adopting surface approaches, that is what the students will regard as most highly regarded by the teacher and therefore adopt that approach. Collier reports that, “the attempts by lecturers to cultivate critical thinking are often belied by the dominance of categories 1 and 2 in their assessments, thus, whether intentionally or not, placing a premium on ‘reproduction’ learning” (Collier, 1985). Categories 1 and 2 referred to by Collier are those from Bloom’s Taxonomy, namely knowledge and comprehension (Bloom, 1956).

2.5.3 Conclusion: presage
Presage factors in Biggs 3P model are of two types: factors that are dependent on the previous experiences of the student, and factors that the student perceives to exist in the learning context. Researchers have identified the main student presage factors as prior knowledge of the student and preferred ways of learning of the student. These are able to be identified and allowed for by teachers, but are not able to be changed as they are historically derived properties. Preference for group work is seen as one of these preferred ways of learning which students bring to a course. Within that preference, there are contextual factors affecting the successful operation of groups, over which teachers can exert some influence.

Factors that the student perceives in the context can be modified by teachers in an attempt to achieve desired results in student learning. These context factors are the
classroom context: what is taught; how it is taught; and how it is assessed. Ramsden and Entwistle’s Course Experience Questionnaire established student perceptions about courses at universities across the UK. The analysis of this data has provided a base for later researchers. Studies have indicated that attempts to direct students away from surface approaches have met with more success than attempts to direct students toward deep approaches. Assessment is seen to be a critical factor in directing students toward particular approaches, as it is the assessment criteria which students focus on as the real goals of the course, as against the stated objectives.

Literature on student learning in accounting draws attention to the failure of students of accounting to engage in a meaningful way with the subject matter (McKay & Kember, 1997). These concerns are expressed by the profession as well as by some teachers of accounting. The profession and other interested parties have expressed dissatisfaction with graduates and questions the universities for producing accounting graduates who are not always well suited for the demands of the accounting profession (American Accounting Association, 1989; Institute of Chartered Accountants in Australia, 1994; Patten & Williams, 1990; Accounting Education Change Commission, 1992).

While not specifically related to accounting students, but to students in general, when examining learning approaches Ramsden points out that approaches should not be confused with learning styles. Learning styles are long-term characteristics of students, and approaches represent a short-term learning response to a particular learning environment. Some factors which have been raised in the literature as possible explanations for the failure of students to engage with the subject in a meaningful manner are: the contextual factors in the environment in which accounting is taught at universities; the demands of the discipline as presented in universities; cultural factors; and personality types of the students. The contextual environment pervades the other factors, as it is the student’s response to those contextual factors which is dependent on the other three factors which impact upon the learning approaches students take. In the area of student learning in accounting, some of these contextual factors in the environment are also present. Pressure from the profession (Johns, 1997), self-selection of students (Jacoby, unpublished), and personality types of accounting students (Booth & Winzar, 1993) are presented as factors contributing to a predominance of surface approaches observed in accounting students (Gow et al., 1994).
Factors within the teaching environment are the areas over which teachers can have some influence. An understanding of the way in which the environment impacts on particular students is critical to the academic. The choice of content matter from the discipline itself is influenced by regulations in the accounting field and pressure from the professional (accrediting) bodies to add more content to an already tightly packed curriculum. This increasing workload is recognised by many researchers as a factor which steers students towards surface approaches in order to cope with the demands of the course (Ramsden, 1992). Cultural factors as identified by Hofstede in the collectivist/individualist index have led researchers to identify differences in learning styles to be attributable to the cultural background of the students, with some having a greater propensity for styles which are more concrete and active rather than abstract and reflective (Hofstede, 1991). These may also impact upon students willingness to engage in group work in a functional and successful manner. These cultural factors are also seen to impact on career choices, which then affect the graduates coming out of accounting faculties and feeding into the profession. Personality types are also seen to impact on learning styles. Dominant personality types have been identified in both the profession and in student cohorts with the weaknesses of those personality types matching the weaknesses the profession claims is exhibited in accounting graduates (Booth & Winzar, 1993). Studies have indicated that excessive workloads, traditional teaching styles, objective assessments and sequential rather than integrated courses all mitigate against the desirable learning outcome of being a life-long and self-directed learner (Boud & Feletti, 1991).

2.6 PROCESS FACTORS
The second stage in the 3P model is process. Process is defined as, “a systematic series of actions directed to some end, a continuous action, operation or series of changes taking place in a definite manner, the action of going forward or on” (Delbridge & Bernard, 1998 p. 919). The ‘process’ of the model has two quite different meanings: the metacognitive one of deciding how, as a general strategy, to handle the task in context; and the tactical meaning which simply refers to what cognitive processes, whether higher or lower level, are used (Biggs, 1993a). There is general agreement that presage affects deep and surface approaches and that the approaches taken will have an effect on outcome; that when students perceive certain presage factors to be present in a positive manner they are more likely to adopt a deep approach:

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Students who described favourable conditions for learning in relation to a subject or topic (e.g. helpful teaching) were likely to describe a deep level approach to a task connected to it, while the reverse was true if the conditions were unfavourable (i.e. a surface level approach was described, often by the same student (Entwistle & Ramsden, 1983 p. 135).

There is some discussion regarding the placement of approaches to learning in either the realm of presage, process or product. Biggs’s graphical presentations of the 3P model (Figures 2.2 and 2.3) have approaches as process factors. Trigwell and Prosser show approaches graphically as midway between process and product (Trigwell & Prosser, 1997).

There is a difference between student characteristics and approaches to learning. "Approaches to learning are not something a student has: they represent what a learning task or set of tasks is for the learner" (Marton, 1988 p. 75). In trying to change approaches, the attempt at change is not directed to students, but towards students’ experiences, perceptions, or conceptions of something. Efforts are directed at the modification of the environment in which the student finds themselves; to vary some of the presage factors which impact on the student.

Student intentions are closely related to the learning outcomes students achieve. Research into intentions has been prolific, as exemplified by variation in learning approaches, most notably by Saljo in his work on students’ understanding of what learning constitutes. Saljo, in the study previously described, identified five different understandings of what learning consists of among a group of adult students (Saljo, 1979). These conceptions of learning were then ranked hierarchically to reflect whether students were adopting surface or deep approaches to learning. Conceptions focusing on memorisation, recall and on unrelated parts of the task were indicative of a surface approach that focused on the ‘signs’ of the task (Ramsden, 1992). Conceptions focusing on an intention to understand and find meaning of the whole rather than unrelated parts and to relate knowledge to previous knowledge were indicative of a deep approach to learning which focused on ‘what is signified’ in the task (Ramsden, 1992 p. 46).

Biggs extends this bipolar description of approaches to learning to encompass a third category, namely an achieving approach (Biggs, 1991). Biggs describes ‘surface’ as
having an extrinsic motive with a strategy which focuses on selected details and reproduces accurately; ‘deep’ as having an intrinsic motive with a strategy to maximise understanding, discussion and reflection, while ‘achieving’ with an achievement motive having a strategy to optimise organisation of time and effort. The achieving approach describes the ways learners organise the educational context around them, rather than their engagement with learning tasks. It couples motivation to perform well with ‘good study habits’ (Ramsden et al., 1989). The ‘achieving’ approach is unique to Biggs’s research although this study has used questionnaires that classify student learning approaches into achieving orientations, reproducing (surface) orientations and meaning (deep) orientations of students in their approach to study. The current study will report on the shortened form Approaches to Study Questionnaire administered to students that identifies the three learning approaches identified by Biggs (Kings, unpublished a).

Laurillard considers the process factors that are at play when students are involved with problem solving (Laurillard, 1984). Laurillard’s study began with a small group of 12 university students studying the second year of a combined science course. Students were asked, via an open-ended questionnaire, how they went about a problem-solving exercise that was part of their set coursework. A more wide ranging study was undertaken with a group of 31 university students, with at least three separate interviews conducted with each student. The thrust of Laurillard’s research was that the problem could be viewed as an educational problem rather than a subject specific problem with the students focusing on solving the problem in context, namely in the context set up by the teacher, rather than solving the problem in its inherent subject matter context:

The problem-solving task may therefore fail to ensure that the student learns about the subject matter. They do learn something about the ‘problem in context’, but that includes knowing about how to get good coursework marks, about reading between the lines, about interpreting the lecturer’s behaviour, and so on (Laurillard, 1984 p. 132).

Laurillard identified a serious difficulty when a teacher aimed at successful learning in a problem-solving task. There are similarities that will be examined between Laurillard’s work and this study as they both involved problem-solving exercises where the risk for the students is that they concentrate on the ‘problem in context’ rather than the problem itself. Ramsden’s ‘imitation subjects’ consider a similar problem, of students apparently
engaging with the subject but in fact only being involved in a process which enabled them to acquire factual knowledge of use in a very limited range of situations (Ramsden, 1992).

2.6.1 Groups as a process factor
As seen in Table 2.1 preference for working in groups has been seen earlier as a preferred way of learning in student presage. It exists in the individual student and has developed through prior educational and cultural experiences; groups, and their functionality. It can also be seen as a process factor, most clearly in the literature on groups in organisations, where the group process determines the quality of outcomes the organisation hopes to achieve.

Groups in organisations
Bohm, a leading quantum theorist known for his work on thought, argued, in private dialogues with Senge, that thought is “largely a collective phenomenon. Since thought is to a large degree collective, we cannot just improve thought individually” (Senge, 1990 p. 140). It is through dialogue, Bohm contends, that people begin to see the collective nature of thought. Dialogue allows people “to participate in this pool of common meaning that is capable of constant development and change” (Senge, 1990 p. 140). It is within this context of synergistic benefits of team work that organisations have devoted such energy to develop strong learning teams. As stated by Senge, Arie de Geus, a former coordinator of Group Planning at Royal Dutch/Shell observed, “teams, people who need one another to act, are becoming the key learning unit in organisations” (Senge, 1990 p. 236). This is supported by Senge’s view that, “almost all important organisational decisions are now made by teams, either directly or through the need for teams to translate individual decisions into action” (Senge, 1990 p. 236).

Organisations have recognised the power of teams and have devoted considerable resources to team building. Team building, while often seen as a necessary precursor, does not equate with team learning which is essential when building learning organisations (Senge, Kleiner, Roberts, Ross, & Smith, 1994). The term ‘learning organisations’ emanates from the concept of the combined actions from members of the organisation changing their organisations for the better. Senge and others report that learning organisations can be viewed in a number of different ways. Three of Senge’s nine perceptions, of relevance to this review, are presented.
In learning organisations:

- Every individual in the organisation is somehow stretching, growing, or enhancing his capacity to create.
- People are more intelligent together than they are apart. If you want something really creative done, you ask a team to do it—instead of sending one person off to do it on his or her own.
- The organisation continually becomes more aware of its underlying knowledge base—particularly the store of tacit, unarticulated knowledge in the hearts and minds of employees (Senge et al., 1994 p. 51; Senge, 1990 p 50).

Senge refers to ‘alignment’ in team learning (Senge, 1990). When a group of people functions as a whole, there is said to be alignment. While an unaligned team can have individuals who work hard, their efforts do not efficiently translate to a team effort.

“Individuals in aligned teams do not sacrifice their personal interests to the larger team vision; rather, the shared vision becomes an extension of their personal visions” (Senge, 1990 p. 234). As a learning unit, the team creates conflict that can then be the catalyst for generating a higher level of learning which is not possible through individual effort.

In summary therefore, organisations are keen to utilise not only the resources which their individual employees bring to the organisation, but also the contribution of teams of employees where outcomes are better than those possible by the individuals working alone. Resources are allocated to institute successful team structures to operate either on a permanent or an ad hoc basis within the organisation.

There are negative factors which work against the successful operation of teams. Group dissonance or disharmony can have positive or negative effects on the output of teams. Seagal and Horne contend that, “each team member brings differences which can create discomfort or conflict which consumes energy rather than releasing it for creativity and new learning. When the differences are known and understood, however, they can be utilised for superior team functioning” (Seagal & Horne, 1994 p. 71). It is how teams manage group dissonance that sets apart the successful team.

The Belbin model for teams actively promotes heterogeneity in groups; using the differing roles to achieve group objectives. In Australian studies by Barry, the
identification of gaps in the distribution of team roles in particular case studies provides some explanation of the difficulties those teams had in successfully completing tasks (Barry, 1996). A team comprised of members with homogeneous roles had great difficulty in meeting the goals of the particular team. The Belbin model identifies the key roles necessary in effective teams, as: coordinator; plant; monitor evaluator; one or more implementers; team worker; resource investigator or completer/finisher; and with specialists as required (Belbin, 1993). Certain combinations of team roles led to more effective teams regardless of whether an individual was closely aligned with his or her functional role (Mottram, 1982).

In the organisational context, groups are used as they can achieve a qualitatively better result than the same individuals working independently. Organisations devote considerable human and financial resources to team building exercises as they are aware of the contribution of efficiently functioning teams to the achievement of organisational goals. There are synergistic benefits open to the group, provided the group dissonance can be channelled positively into creative energy to address the problems facing the group.

2.6.2 The relationship of theory to practice
As seen in Table 2.1 the relationship of theory to practice is the second key area of literature of relevance to process in Biggs 3P model. There are a number of stakeholders and issues of concern and they comprise: employers and professional organisations; educational institutions; academics; competencies; and generic skills/life-long learning.

There have been a number of studies on the theoretical relationship between theory and practice examining how students make sense of a concept in different contexts; whether all students make the same sense of the concept and its importance in the fostering of deep approaches to learning. One branch of literature, as examined in the area of competencies, focused on the immediacy of travelling the path from theory to practice, that is, the solving of immediate problems such as those faced by the particular student within a particular problem, whether it be an assignment or problem to be solved in the short-term, usually within the classroom context. The other branch, as examined in the area of generic skills, took a long-term perspective and examined the approaches required by the student intending to prepare for life-long learning. This context is more
varied but is usually characterised by a time lag separating the initial experience of the theory with the application into practice. Examples of this could be the work placement component of a degree or even the workplace of the graduate.

The role of the teacher is to foster in the student an understanding of the relevance and applicability of what is learned in a range of different contexts, rather than an ability to perform well in both contexts. The student who has made the leap from theory to practice is the one who can, in a range of situations, look back to the relevant theories and understand, because of a meaningful engagement with those theories, which is relevant to the new problematic situation. It is the ability to recognise the salience of a theory in a particular setting which is indicative of a deep approach, while the ability to respond to that situation alone resembles a surface approach.

Bowden and Masters while drawing attention to the essential interrelatedness of theory and practice, concluded that it was a necessary element in the road to understanding, not an optional add-on. Their work straddles both the long-term and short-term perspectives of life-long learning and competencies as desirable learning outcomes:

Understanding is unlikely to be complete if it is not integrated with real life experience. Generic capacities derive their meaning through interaction with some concrete knowledge domain or real-world practice (Bowden & Masters, 1993 p. 157).

Candy, Crebert and O’Leary focused on the importance of developing in students and providing the students with the tools to become life-long learners (Candy et al., 1994). Boud stressed the importance of experiential learning as a means of interchange between theory and practice in order to bring about long-term learning (Boud, 1993). Laurillard highlighted the importance of real problems for students to tackle so that they could recognise the elements of those problems and take them into future learning experiences (Laurillard, 1984). Tempone and Martin considered iteration between theory and practice a critical step in developing generic skills necessary for life-long learning (Tempone & Martin, 2000).

Studies have been examined which highlight the way students and teachers express the problem. Teachers conceptualise and are aware of the two contexts in which the
applications of theory to practice occur, and the resultant problems faced by teachers, students and employers. A number of examples can be cited from a Committee for University Teaching and Staff Development (CUTSD) publication on teaching academics’ ‘stories’ and how they view the different contexts in which learning outcomes need to occur (Ballantyne et al., 1997). The aim of the project was to promote academic reflection and discourse on the quality of teaching in universities. Invited nominees, selected from lists of exemplary teachers provided by Department Heads in every university in Australia, were interviewed to draw out their understanding of teaching practice (Ballantyne et al., 1997). These stories illustrate academics’ experiences when trying to make the connection between the theory learned in the classroom and the practical application required in the workplace and are considered later in this review.

In contrast to the stories given by academics about how their students move from theory to practice in their conceptualisation of phenomenon, Gadamer provides a highly theoretical view, and concludes that:

application is neither a subsequent nor merely occasional part of the phenomenon of understanding, but co-determines it from the beginning (Gadamer, 1975 p. 289).

Taylor expands on Gadamer’s four quadrants of the circle of understanding:

The first quadrant consists in acknowledging the traditions, prejudices and social structures of our culture. The second is in helping the student to appreciate the unity and integrity in a body of knowledge as a whole, thirdly understanding involves students in applying what they learn to their own practical circumstances and self understanding such that their learning, in Aristotle’s words, becomes ‘part of themselves’ rather than merely a set of learned propositions, procedures or behaviours . . . Finally, understanding is dialogic in nature: it can only come about if student and teacher, student and student, student and the author of a book being read engage in a conversation which is directed not so much towards the student as the 'centre' of learning but towards the justifiability of what is said (Taylor, 1993 p. 62).

Taylor provides the above hermeneutic understanding of this relationship between theory and practice and in fact, infers that practice should not be downgraded as the less
superior method of learning, but acknowledged as a necessary precursor for some
students in their attainment of understanding:

In all these pursuits western society has come to regard as
axiomatic the view that progress is made by the application of
scientific or other theories and paradigms to technical tasks
(Taylor, 1993 p. 59).

This research examines this relationship between theory and practice and considers the
differing nature and significance of this relationship for the overseas and the local
students.

The theoretical conceptualisations of the role of practice as a necessary element in the
path to understanding highlight the learning process as a circle which a student must
negotiate in order to achieve understanding. Gadamer argues that application co-
determines understanding from the beginning of the process. Taylor elevates practice as
an equal partner and a necessary precursor to the attainment of understanding. Bowden
takes a similar view by considering understanding to be incomplete if not accompanied
with real-life experience (Bowden & Masters, 1993).

Stakeholders
As seen in Table 2.1, there are a number of stakeholders with an active interest in the
relationship of theory to practice and its impact on student learning outcomes.
Stakeholders have varied opinions on what this experience should incorporate for the
student. Employers, universities and academics have different ideas of desirable
learning outcomes, with differing notions of how to achieve the outcomes. Desirable
learning outcomes are currently being expressed in terms of competencies or skill-based
indicators by both employers and teachers, particularly those involved in the Technical
and Further Education (TAFE) sector of tertiary education. At another level, employers
and universities are demanding life-long learning skills as the only skills worthy of a
student’s efforts, as any skills learned will most likely be obsolete on graduation. Life-
long learning skills are intended to equip the graduate to deal with new situations in the
workplace as generic skills such as critical thinking, problem-solving, team-work and
organisational skills. Students able to apply theories to practical situations in the
academic context are not necessarily able to do so in the non-academic setting, whether
it be the work experience placement or the graduate placement. It is more likely that a student undertaking a deep/holistic approach to learning can see the relevance of theory learned in an academic setting and take it to a practical setting removed from the classroom. There are a number of stakeholders with concerns about, and vested interests in, the ability of students to practise accounting.

Employers and professional associations
As seen in Table 2.1, employers are stakeholders concerned with the relationship of theory to practice as it impacts on student learning outcomes. Employers have two, sometimes incompatible, conceptions of desirable learning outcomes for accounting graduates. The proficient student, on graduation, may not always be the graduate most able to adapt to changes over their career. Employers select graduates on what they perceive to be the most critical factor. Anecdotal evidence suggests that with some employers it is current capability, which aligns with competencies as the dominant learning objectives in their mind, while others are seeking potential for future development which aligns more closely with life-long learning skills as the dominant learning objectives.

The role of employers in influencing the accounting curriculum shows their concern is not only to have students who are currently competent, but who have the ability to sustain competence over the years by adapting to new technologies and other changes in the work environment. For students to do that, they require graduate attributes such as the ability to think critically, to work in teams, to communicate well, sometimes parcelled together and referred to as the ability to be a life-long learner, to enable them to move into the new areas demanded by a changing profession. Given that much of the content of many accounting courses will have changed by the time students graduate, it is critical for them to take away from university the ability to think creatively, to solve problems which they encounter and to be able to communicate effectively. These abilities, often referred to as generic skills or graduate attributes, will carry them through changes in their careers, while actual content may not be sufficient to sustain them through periods of rapid technological change. The professional bodies require an annual audit of generic skills addressed in undergraduate accounting courses (Australian Society of Certified Practising Accountants & Institute of Chartered Accountants in Australia, 1996)
The professional accounting bodies are comprised of practising accountants who take up positions on committees or advisory boards of the professional associations. By way of this involvement in professional associations, some employers are taking a more active role in the direction and delivery of curricula in universities. Professional bodies are responsible for accreditation of university courses in accounting and so can exert considerable influence. While their involvement has traditionally been to influence the content of curricula, the thrust in recent times has been to demand that generic skills be highlighted as having increasing importance, as it is these skills which equip the graduate for the rapid pace of technical and technological change in the workplace.

At the last Swinburne University Accounting Department re-accreditation review, the representatives from both professional associations, the Institute of Chartered Accountants in Australia (ICAA) and Australian Society of Certified Practising Accountants (ASCPA – now CPA Australia), were particularly interested in the existence or otherwise of oral presentations as part of assessment and group assignments which required good team-working skills to successfully complete. They were also interested in class sizes in tutorial sessions (Swinburne University of Technology School of Business, 1998).

Johns, the Director of Education and Membership of the ASCPA when giving the occasional address at the Swinburne University Graduation ceremony in October 1997, drew the attention of the graduands to the importance of generic skills such as teamwork, communication skills and critical thinking to the accountant of the future (Johns, 1997). These generic skills are seen as additional to the curriculum rather than substitutes for existing content areas. At the same time university administrators are trying to reduce contact hours for delivery of courses by up to one third (Di Virgilio & Evans, unpublished). A problem exists in trying to meet the conflicting demands of the particular stakeholders in accounting education, namely: the profession, employers, university administrators, and academics.

Other groups of employers are still heavily focused in the particular skill areas and have aligned themselves in their thinking with the TAFE sector which focuses on competencies which can be articulated. The main concern of employers is the quality of the graduate available for initial employment, with the longer-term focus on the
capacity of that graduate to adapt to changing technology and professional demands existing as a background concern. As a result, their assessment of learning outcomes depends initially on the graduate’s current grasp of technical demands as well as their responsiveness to change and new demands which may bear little relation to the curriculum of their undergraduate years.

Further evidence of the interest of employers as a stakeholder in accounting education is provided, from an academic’s perspective, in the CUTSD publication on teaching academics’ stories (Ballantyne et al., 1997). Yap comments on the demands of employers on graduates. In highlighting the discrepancy between university and the work place, Yap quotes an accounting professional as stating, “these university students are useless—they just do not understand anything out here in the real world” (Yap, 1997 p. 61). Based on her own experience, Yap concurs as evidenced by her following comments:

> When we were sent out to a client, we’d have no idea how to apply what we’d learned to their particular accounting system. We all had to follow quite a steep learning curve to get from the facts that we’d learned to being able to apply them (Yap, 1997 p. 61).

Candy, when referring to American studies entitled “Educating managers: executive effectiveness through liberal learning”, highlighted the difference between graduates with a highly technical education and graduates with a more liberal education. Given the rate of change occurring currently in technical fields, perhaps the more liberal education might prepare students better for handling change throughout their professional careers. The studies tracked and compared the careers of graduates with a technically-focused degree rather than a liberal degree and found that: there was “a ‘sleeper’ effect of liberal education:

> Those with a more technically oriented undergraduate education tended to enjoy relatively rapid career advancement early after leaving university, but just as often their career progression would come to a sudden halt after a few years. Those with a liberal arts background, on the other hand, tended to enjoy a slower and less spectacular start to their careers, but often rose ultimately to greater heights and to more influential career positions. The clear implication is that those with a liberal background rather than just technical competence seemed to have some generic competencies...
which did not manifest themselves until later in their careers, in positions which demanded thinking skills, communicative competence, interpersonal effectiveness, and the ability to go on learning (Candy et al., 1994 p. 80).

There has been a similar debate in the Australian media questioning the employability of Arts graduates, and the viability of Arts degrees as a consequence. Rebuttals to these criticisms have focused on the generic skills of arts graduates (Norton, 2000; Dench, 2000; Macintyre, 2000).

Educational institutions
As seen in Table 2.1, educational institutions are another major stakeholder with an interest in the relationship between theory and practice as it affects processes students adopt, which lead, as identified in the Biggs 3P model, to desirable or undesirable learning outcomes. While this study is limited to the higher education sector, the TAFE sector is also an active stakeholder in the academic development of accounting students and takes a different position on learning objectives to that taken in the higher education sector. In discussing the role of employers as a stakeholder, it can be seen that many have aligned themselves with the TAFE sector in terms of their demands for competency-based learning objectives (Preston & Walker, 1993; Chapman & Holmes, 1990).

Accounting schools in tertiary institutions face multiple and sometimes conflicting concerns. They are concerned to maintain their accreditation for accounting courses, to increase employability of their graduates, and to develop graduates who will continue to post-graduate studies and contribute to the development of knowledge in the discipline. Their concerns are therefore to develop graduates who are able to keep abreast with current changing practice. Their aim in student learning is to ensure that students have not only engaged with the material to be learned but are able to apply that learning to other contexts as and when required. This could be in a work place component of university education, or ultimately in graduate employment.

Universities are aware that life-long learning is the key to the success of future graduates:

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Universities are aware that life-long learning is the key to the success of future graduates:
Our new breed of graduates will need to be life-long learners, and will constantly need to update their skills and qualifications to keep pace with the workplaces in which they will be operating (Rachinger, 1997 p. 17).

Not only does this indicate a need for the generic skills necessary for life-long learning, but also a need to constantly update competencies and skills to equip the graduate for future changing demands:

Graduate attributes such as communication, teamwork, flexibility, initiative, leadership, interpersonal skills and customer focus are required by employers (Rachinger, 1997 p 17).

These coincide broadly with the generic skills universities are committed to nurturing in their graduates, namely: communication, teamwork, decision making, problem solving, application of knowledge to the workplace, independence, organisation and evaluation (Business /Higher Education Round Table, 1992). Skills to equip a student for life-long learning are now seen as the most viable option universities can take to equip their graduates for the rapidly changing environment they will face on graduation and beyond.

Academics
As seen in Table 2.1 academics are another active stakeholder group with an interest in process as defined in Biggs 3P model. Process has an impact on the learning outcomes students achieve. Teaching staff, while sharing many of the objectives of the university, have a more immediate concern that the students engage with the material to be learned. Academics are concerned that while some learning might occur within the context of the classroom, this learning is not always able to be put into practice. Their concern is that students are able to tackle practical problems in the classroom and in the workplace, and that they are able to work with, and see, the relevance of this material in a range of different contexts. Recognising the applicability of theory to differing contexts is a key objective for academics involved in teaching. It is the differing contexts in which this testing of theory occurs which are of interest in this study.

There is the application of theory to practice within a classroom context, and the application of theory to practice in a real workplace situation, which can occur at
sometime in the future either as part of the course structure as in co-operative education or on graduation. A number of illustrative examples will be presented to indicate teachers’ concerns and their objectives in terms of students’ transferring of theory in one context to a practical application in another context, or conversely, the recognition in practice of the applicability of previously learned theories to the context at hand.

Mention has already been made of non-problematic problem solving such as that of the ‘problem in context’ by Laurillard, as an example of the application of theory to practice in a classroom rather than workplace situation. The students engaged with the problem, but at a more superficial level than if they were doing so in a workplace environment (Laurillard, 1984). It appears the problem can be re-created in the classroom, but what is often emphasised and rewarded in the classroom is the process, rather than the ability of the student to engage with and solve a realistic problem.

Wiggin, in teaching Human Factors and Aviation Psychology, expressed fears that students were unable to apply what they had learned in the classroom when they went out to fly:

I came to the conclusion that it was my problem, and that my teaching wasn’t helping them to see the link between what we were doing in the classroom and what they were doing when they were flying (Wiggin, 1997 p. 249).

Wiggin used critical incident techniques from a research setting and applied similar principles to the teaching/learning setting in order to assist the students in taking the classroom instruction into the practical situation where they needed to apply those theories learned (Wiggin, 1997 p. 249).

Crebbin, in her story, noted the difference students experienced when the work they were doing had ‘real outcomes’. Her students, working in multi-disciplinary teams, negotiated actual work contracts with local employers who had real problems that needed solving. These stories are examples of the application of theory to practice in one context, namely the classroom, not being readily transferable to another context, namely the workplace. The issue Crebbin addressed was identifying theory learned in
the classroom context necessary for the workplace context to be dealt with as successfully as classroom experiences (Crebbin, 1997).

In a recent study into work-based university education the Course Experience Questionnaire was developed into a Work Experience Questionnaire to survey students about, among other things, the contribution of the workplace to their generic skills (Martin, 1996a; Entwistle & Ramsden, 1983). The skills mentioned in the questionnaire included: problem solving; analytical skills; team work; confidence with unfamiliar problems; and planning and organisational skills. Martin’s study examined the impact of work placement components of university courses on the overall professional development of the students and developed a questionnaire to measure the effectiveness of student learning in these programs. Eight courses were involved in the initial study, with seven of the eight completing the Work Experience Questionnaire. Detailed interviews with students, staff and employers were conducted in four of the placements.

One of the conclusions of Martin’s study was that:

Where there is close guidance of experiences and continued joint support by both workplace and university supervisors, students claim to have developed more specific generic skills and to have had more satisfying experiences (Martin, 1996a p. viii).

The common theme of concern to academics is that students be able to learn in such a way that the essence of that which is learned is easily transferrable across differing contexts. If Saljo’s five conceptions of learning are considered, it would appear to be only possible if students engage in deep approaches to learning. Learning involves comprehending the world by reinterpreting knowledge. This can be demonstrated when a student recognises applicable theory in a practical situation not experienced before, and when a student is able to apply theory to a range of differing contexts. The challenge for academics is to design and deliver programs which have embedded within them the generic skills necessary to equip the student to make the links between what is presented and learned in the classroom with experiences in the outside community, such as the work-experience placement or the graduate experience itself, exist.
Issues in the relationship of theory to practice

Competencies

As seen in Table 2.1, competencies, and the teaching of competencies, are seen to be an issue of concern in the relationship of theory to practice; a process factor in student learning. To assess whether students have been successful in iteration between theory and practice, competencies can be examined (Tempone & Martin, 1999). Much of the current focus within the TAFE sector is on competency-based learning, defined as:

instruction being characterised by the precise definition of competencies to be achieved under specified conditions, which become the performance objectives for the skill formation process (Chapman & Holmes, 1990 p. 8).

The emphasis is on creating the environment whereby the student converts theoretical knowledge to a practical application of that knowledge with the aim of equipping the student to successfully perform similar activities in the workplace. Learning outcomes are defined in terms of competencies that accounting graduates should have on completion of the course. These are specific skills that the students can achieve mastery of throughout the course, but without which they cannot be said to have completed the course.

Recognition of prior learning allows for some of those skills to have been acquired prior to the commencement of the course. There are fears in the wider higher education sector that:

in less than a decade competencies approaches have come to dominate much of Australian public policy on education and training, industrial relations and micro-economic reform (Preston & Walker, 1993 p. 116).

Competency-based training focuses on immediate conversion from theory to practice with successful practice being the key performance indicator.

Competency-based training is currently the path along which the TAFE sector appears to be travelling and represents a short-term perspective on the process of development whereby theory is applied almost immediately to practice, as the means by which
assessment of the understanding of the theory can be undertaken and certificated. This provides certification for students requiring validation of particular programs undertaken, although the focus tends to be on skill mastery rather than on flexibility to be able to manage changed conditions in the future.

Generic skills/life-long learning

As seen in Table 2.1 an issue of concern in the relationship of theory to practice in student learning is the level of generic skills students exit university with, and their propensity for life-long learning. The objective of iteration between theory and practice is to develop generic skills for life-long learning (Tempone & Martin, 2000). Literature abounds on the best means of developing generic skills, and iteration between theory and practice is considered to be one important mechanism (Tempone & Martin, 2000).

The second perspective on learning outcomes is more long-term and focuses less on the body of knowledge to be learned and more on the generic skills required for learning, and continual learning. According to UNESCO the first component of their definition of education is that, “it should last the whole life of each student” (Cropley, 1979 p. 17). Cropley embedded the statement within the context of a ‘system of lifelong education.’ Suggestions are made by teachers and students as to the teaching approaches which are more likely to foster these life-long learning skills. Studies which stress the importance of mastery of generic skills are given as exemplars of the approaches teachers might take when these skills are deemed to be key learning objectives.

Universities, particularly departments where courses are dictated somewhat by the content demands of their accrediting professional bodies, are currently involved in the debate between a liberal education which prepares students for life-long learning, and a technically-focused education which prepares students for the current technical requirement of their profession. Given the rate of change currently occurring in technical fields, the more liberal education might prepare students better for handling change throughout their professional careers. As mentioned earlier in the discussion on educational institutions, the work of Rachinger identifies not only the need for generic skills, but the generic skills themselves that are prized by employers (Rachinger, 1997). Testing for generic skills in selected universities has been trialled this year (Australian Council for Educational Research (ACER), 2000).
If life-long learning is something to be valued, it must be encouraged in students. Candy, Crebert and O’Leary asked staff, students and graduates to nominate teaching approaches that they felt did most to promote learning outcomes that translated into life-long learning skills. Their results indicated these learning outcomes would most likely result from teaching approaches that focused on:

- Self-directed and peer-assisted learning
- Experiential and real-world learning
- Resource-based and problem-based learning
- Reflective practice and critical self-awareness.

The study gave detailed attention to each of these teaching approaches. Candy, Crebert and O’Leary commented on self-directed learning, stating that:

There is evidence to show that there are significant gains in learning outcomes to be derived from increasing learner self-direction. A student who has developed the skills of being self-directed in the process of learning about something, not only ends up with the knowledge, but also with the confidence to be able to ‘do it again,’ to be able to apply the skills acquired in one learning context to another (Candy et al., 1994 p. 129).

A further example of teachers encouraging students to make the connections between theories learned in the classroom and practical applications in other spheres, whether they be the classroom, the work placement or the graduate placement occurred in the Faculty of Medicine at the University of Newcastle where a core portion of the curriculum is dedicated to self-directed learning (Candy et al., 1994). The Faculty thereby alerts students to the value it places on such learning outcomes as a sense of inquiry, personal agency and the acquisition of a repertoire of learning skills.

Peer mentoring shifts the locus of responsibility from the teacher to the learners. The Faculty of Law at the Queensland University of Technology believed the Peer Assisted Study Sessions are supported at the institutional level:

because it is believed that its use will promote students adopting cooperative approaches to learning, will increase students’
autonomy and assist in the development of life-long learning skills (Candy et al., 1994 p. 133).

The Faculty of Law at Queensland University of Technology no longer uses this system.

Candy makes an insightful comment about experiential and real-world learning, which reinforces the thrust of this review in that teachers are always seeking to make learning tasks more relevant by having them presented in different contexts so as to more closely represent the workplace:

In their attempts to bring down the barricades which for decades have separated learning at university and learning in the workplace, teachers in higher education have made increasing use of guest presenters, ‘sandwich’ courses, internships and practicums, site visits and field trips, self-directed project work, collaborative learning teams and a variety of other devices to make learning tasks more comparable with those encountered in the world of work (Candy et al., 1994 p. 12).

Candy, Crebert and O’Leary provide examples from faculties as diverse as medicine, visual arts and law, and activities such as clinical practice, role-plays and work experience.

Problem-based learning is an approach to structuring the curriculum which involves confronting students with problems from practice which provide a stimulus for learning (Boud & Feletti, 1991). Whatever the problem, whether it be in making a clinical diagnosis, considering ethical issues, designing a structure or painting a picture, the process of solving it draws on critical, creative, logical and lateral thinking skills and usually pushes out the student’s conceptual boundaries into unfamiliar but related fields. Candy concludes that problem-based learning takes on different forms within different disciplines. In some, such as medicine, engineering or law, it is a response to a known problem, whereas in other disciplines such as architecture and the visual arts, problem solving is more proactive in order to create and frame problems to be solved as much as to solve problems already posed by the client or the environment (Candy, 1993).

Reflective practice and critical self-awareness is the fourth teaching approach most likely to develop life-long learning skills. Schon sets the analogy of a swamp and a
nearby mountain to explain the difference between the two forms of knowledge; an epistemology of practice and the theoretical abstraction which most people are taught at university. Most professional practice, he argues, goes on in the swamp where professionals have to deal with messy, indeterminate and often unique problems, whereas most professional education occurs ‘on the high hard ground’ of routine, scientifically-based and predictable events and circumstances—the stuff of theory and abstraction (Schon, 1987). Martin’s study into work-based university education required students to reflect on, among other things, the relevance of their placement while they were undertaking the experience of work (Martin, 1996a). They were asked to comment on the contribution of the work place to the development of certain generic skills such as problem solving, analytical skills and team work.

If academics intend to encourage students in their attainment of generic skills, research has indicated that teaching programs need to be content specific, not learned in isolation (Martin & Ramsden, 1987). In their research aimed at raising the standards of study, Martin and Ramsden reported on a course where one program was conducted using generic skills only, free from the content of the course, while the other program based those skills within the content provided in the curriculum. Their results indicated the latter group not only to be more successful in terms of developing more advanced conceptions of learning, but also achieved better results in both essays and examinations. Based on this study the separation of the ‘what’ from the ‘how’ of learning appears to have been unsuccessful. These findings can be extended to the learning of other generic skills required for life-long learning. They cannot be content free, but a by-product, albeit a critical and highly desirable by-product of the university curriculum.

Generic skills are therefore seen to be those skills acquired during the undergraduate experience which not only might be necessary for the student to succeed in the course undertaken, but particularly useful to equip the student to adapt to changing environmental and technological situations in the future. Graduate attributes such as critical thinking, problem solving, team work and organisational skills are deemed to be vital for the graduate to manage in the future environment. Some suggested teaching approaches which staff and graduates feel develop such life-long learning skills are self-directed and peer assisted learning, experiential and real-world learning, resource-based
and problem-based learning, and reflective practice and critical self-awareness. The development of these attributes are found to be more successful if presented in a content specific manner rather than ends in themselves.

2.6.3 Conclusion: theory to practice
Employers, universities and academics have different ideas of desirable learning outcomes, with differing notions of how to achieve these outcomes. Desirable learning outcomes are currently being expressed in terms of competencies or skill-based indicators by both employers and teachers, particularly those involved in the TAFE sector (Chapman & Holmes, 1990). At another level, employers and universities are demanding life-long learning skills as the only ones worthy of a students’ efforts as any specific technical knowledge learned will most likely be obsolete on graduation (Johns, 1997). Life-long learning skills will equip the graduate to deal with new situations in the workplace as generic skills such as critical thinking, problem solving, team work and organisational skills have been developed at university. Students able to apply theories to practical situations in the academic context are not necessarily able to do so in the non-academic setting, whether it be the work experience placement or the graduate placement. It is more likely that a student undertaking a deep/holistic approach to learning can see the relevance of theory learned in an academic setting and take it to a practical setting removed from the classroom.

From the literature presented, the stakeholders in learning and its relevance and applicability post-university, comment on the importance of iteration between theory and practice as a critical generic skill in the process towards life-long learning. Students who have engaged with the subject matter in a context which attempts to replicate a real life situation engage in learning at a deeper level than those who engage with the material in a classroom context only (Tempone & Martin, 2000). The issue over which researchers have not reached agreement is how to replicate a real-life experience while students are still at university.

2.6.4 Conclusion: process
Researchers have developed questionnaires to determine student approaches, the most notable being the Study Process Questionnaire and the Learning Process Questionnaire. When taking intervention to direct students into deep approaches, academics must be
wary of students focusing on the learning activity and reproducing ‘problems in context’ or ‘imitation subjects’ rather than focusing on the actual problem or subject matter and seeking out the meaning inherent within the discipline. The impact of groups in the approaches students take to tasks has been seen to vary based on their previous experiences of, and preferences for, group work, as well as impacting on the learning outcomes of groups.

2.7 PRODUCT
As seen in Table 2.1, product is the final factor in Biggs 3P model of student learning. Product is defined as, “a thing produced by any action or operation or by labour, an effect or result, something produced, a thing produced by nature or by a natural process” (Delbridge & Bernard, 1998 p. 920). The product of learning focuses on ‘how much’ was learned while the qualitative evaluation addresses the quality of learning and tends either to be subjective, or neglected.

2.7.1 Structure of the Observed Learning Outcome (SOLO)
As seen in Table 2.1 the Structure of the Observed Learning Outcome (SOLO) taxonomy is a means of assessing the outcome or product of student learning. The 3P model can be contextualised when the SOLO hierarchy is applied to student responses (Biggs & Collis, 1982). Study Process Questionnaires (SPQ) of various types have been used by many researchers in a number of disciplines to assess surface, achieving and deep orientations to learning as well as to assess responses in terms of the SOLO taxonomy (Trigwell & Prosser, 1991; Entwistle & Ramsden, 1983; Booth et al., 1999). This method has filtered down to the secondary school level, with the Year 12 Common Assessment Tasks (CATS) using a similar grading system to assess how well each of the assessment criteria have been addressed by students, with the highest ranking being given to extended abstract and relational responses and the lowest positive grade to unistructural responses (Green, 1996).

The focus, reported in the literature, on identifying what it is that students engage with when learning, what their intentions are, and whether students are adopting surface or deep approaches to learning, stems from a desire to guide students into deep
It is believed that deep approaches intrinsically lead to higher levels of student satisfaction and ultimately to higher quality outcomes and better grades. Ramsden relates the experiences of student satisfaction to the approaches they take:

It is also evident that approaches are related to how much satisfaction students experience in their learning. Deep approaches are related to higher quality outcomes and better grades. They are also more enjoyable. Surface approaches are dissatisfying; and they are associated with poorer outcomes (Ramsden, 1992 p. 53).

Entwistle and Ramsden correlated levels of approach to final degree classifications in the Lancaster study where 31 percent of the surface students achieved the highest honours degrees compared with 61 percent of the deep students (Entwistle & Ramsden, 1983).

One clear response to these findings would be to direct students toward deep approaches. In work mentioned by Marton (Marton & Saljo, 1984) and by Ramsden, Beswick and Bowden (Ramsden et al., 1986) it can be seen that it might be relatively simple to guide students into surface approaches by what teachers do, whether intentionally or unintentionally, but it is not an easy undertaking to direct them into deep approaches. A recent study however, by McKay and Kember provides a glimmer of hope that this is achievable in certain circumstances (McKay & Kember, 1997). Their study was undertaken at the Hong Kong Polytechnic University. Biggs Study Process Questionnaire, (SPQ) was administered repeatedly throughout the course to gauge changes in learning approaches as students progressed in response to changes in the course that attempted to direct students into deep approaches. This was done by changing the focus from a teacher-centred to a student-centred one; by changing the mix of teaching; and with greater emphasis on continuous assessment. Contact hours changed to allow for additional individual study and project work:

The SPQ results, reinforced by the interview data, demonstrate that students can be encouraged to assume a deep learning approach if the contextual factors associated with a student-centred approach are in place (McKay & Kember, 1997 p. 66).
A method of assessing outcomes for deep and surface approaches is the use of Biggs and Collis’s SOLO taxonomy. It is an hierarchical taxonomy that contains five levels of outcome to classify the structural complexity of students’ responses. The categories are not content-specific, but are assumed to apply to any kind of subject matter. The levels are:

1. **Prestructural**: Use of irrelevant information or no meaningful response
2. **Unistructural**: Answer focuses on one relevant aspect only
3. **Multistructural**: Answer focuses on several relevant features, but they are not coordinated together
4. **Relational**: The several parts are integrated into a coherent whole: details are linked to conclusions, meaning is understood
5. **Extended abstract**: Answer generalises the structure beyond the information given: higher order principles are used to bring in a new and broader set of issues (Biggs & Collis, 1982).

If academics are to compare and assess learning outcomes, they must be able to judge when learning has occurred. An example from economics of when learning has occurred is when a student changes their thinking about how price is determined from one of the value of the object to one of price as being system dependent (Dahlgren, 1984):

> There has been movement from one way of conceptualising a phenomenon to another, qualitatively distinct one. The student looks at the phenomenon, at some aspect of the world, quite differently (cited in Ramsden, 1992 p. 36).

Boulton-Lewis contends that the SOLO taxonomy can be utilised as a tool at each of the 3P levels. At the presage stage it can be used to assess prior knowledge and abilities; at the process stage to explicitly shape the product by facilitating effective approaches to learning; and at the product stage to facilitate assessment (Boulton-Lewis, 1995).
2.7.2 Student learning in accounting

Introduction

As seen in Table 2.1, student learning in accounting is the outcome of student learning, and is a product factor. While there has been considerable research and subsequent literature in the area of student learning, there has been noticeably little research in the area of student learning in the discipline of accounting, apart from studies by Booth, McKay and Chan (Booth et al., 1999; McKay & Kember, 1997; Booth & Winzar, 1993; Chan, Leung, Gow, & Hu, 1989). The literature shows the predominance of students not engaging with the subject matter in a meaningful way when studying accounting and the dissatisfaction of the profession with many of the graduates entering the profession, as they are not able to deal with the subject matter as it presents in the real world, with resultant recommendations for changes to accounting education (US Study 1986, 1994; American Accounting Association Committee on the Future Structure Bedford Committee, 1986; Accounting Education Change Commission, 1992; Institute of Chartered Accountants in Australia, 1994; Patten & Williams, 1990). This presents a problem for accounting faculties as the approaches to learning and studying in a subject have ramifications for the learning outcomes of those students.

The question to address is why these conditions occur. Some of the factors which have been presented in the literature as having some impact are: the cultural factors which affect preferences students have when choosing their career; personality biases of the students; and contextual factors which exist in the environment of accounting faculties.

Dissatisfaction by the profession with accounting education

As seen in Table 2.1 dissatisfaction by the profession with accounting education has an impact on product in the Biggs 3P model of student learning. The outcomes of student learning in accounting, as adjudged by the accounting profession and other stakeholders, is deemed to be poor. The accounting profession identified poor student learning outcomes, but left the solution to the problem with accounting academics. Other professional bodies, such as Institution of Engineers Australia, have been more prescriptive in demands on its academics as to which generic skills must be incorporated into the curriculum (Institution of Engineers Australia (IEAust), 1999). There is therefore growing dissatisfaction by the profession with the standard of graduates entering the accounting profession having an impact upon universities and
their programs. Accounting education has been dominated by the accounting profession and its professional bodies which accredit university courses; and in some cases examine students for entry into the profession as in the US, or into certain parts of the profession, as in Australia in the case of public practice.

Poor results in the US Certified Practising Accountants (CPA) examinations, which must be undertaken prior to admittance into the profession, have resulted in pressure being applied back into university courses to improve the quality of graduates. Accounting faculties and universities are judged by the proportion of students who pass the CPA examinations. CPA examination pass rates became a performance measure for universities, as they began to compete against each other based on the pass rate of their graduates (American Accounting Association, 1989). The deficiencies in the CPA examinations however have led to the same deficiencies in accounting education: because the CPA exam fails to test critical thinking, analysis, synthesis and professional judgement, motivation has existed for accounting educators to increase emphasis upon the memorisation of accounting rules, rather than the theoretical concepts upon which the rules were based (Nelson, 1995 p. 64).

The escalating demands to learn increasing quantities of accounting rules and an increase in the workload of students, have been shown to have a negative effect on the learning approaches students take.

One of the key factors, as discussed earlier, which pushes students into adopting surface approaches to learning is an excessive workload (Ramsden, 1992). This workload is increasing considerably in response to increases in regulatory bodies and their output, namely the number and complexity of regulations which accountants must comply with to satisfy statutory obligations. Concern for developing desirable graduate attributes, and the role they have in developing life-long learners, is of concern to the profession as well as to academics. Other professional bodies, for example the Institution of Engineers Australia (IEAust) have already mandated the graduate attributes to be addressed in undergraduate courses (Institution of Engineers Australia (IEAust), 1999).
The profession is critical of accounting education, as expressed in the Bedford Committee Report, for its inability to provide graduates who meet the demands of the accounting profession (American Accounting Association Committee on the Future Structure Bedford Committee, 1986). A question has been raised as to whether the teaching in introductory accounting courses is affecting students’ career choices by presenting incorrect stereotypes from which students make those career choices. Although most business courses have a common first year, the content and method of delivery of first-year accounting courses does not reflect the type of work and skills an accounting graduate, performing at a level deemed appropriate by the profession, would need. Friedlan suggests that:

accounting courses that provide students with realistic perceptions of the discipline will cause students who fit the needs of the profession to choose careers as accountants (Friedlan, 1995 p. 57).

The profession fears that success in undergraduate courses is not dependent on graduate attributes desirable in exit students, namely critical thinking, problem solving, team working, but rather that they are able to succeed by rote learning, good memorisation and other attributes normally associated with learning at a superficial level.

The profession is sending mixed messages to universities. Graduate attributes necessary for successful careers as accountants, such as communication skills and the ability to work in teams are desired by the profession, with no advice as to what content, if any, needs to be shed to make way in the curriculum for the time necessary to develop these critical generic skills (Johns, 1997). Studies have shown that when generic skills are integrated into the curriculum those programs meet with greater success than programs in which they are taught in isolation (Ramsden, et al, 1986). Universities need to consider demands of the profession in order to maintain accreditation of their courses, and at the same time meet their own professional benchmarks in providing work of a standard which is intellectually demanding and within reasonable limits of workload and appropriate assessment.

The Course Experience Questionnaire (CEQ) is administered to all graduates of Australian universities four months after they have completed their course of study, and seeks their agreement or disagreement along a 5-point scale on the 25 items in the
questionnaire. These items relate to the following five facets of their course: the quality of teaching; the clarity of goals and standards; the nature of the assessment; the level of the workload; and the enhancement of their generic skills (Johnson, 1997).

The 1998 CEQ showed an improvement in student satisfaction, in the areas of appropriate workload and generic skills, when compared to the earlier years (Johnson, 1997; Johnson, 1999). The 1999 CEQ improved marginally for appropriate workload compared and markedly for generic skills (Graduate Careers Council of Australia, 1999). The accounting profession, as represented by employers and professional associations, expresses some degree of dissatisfaction worldwide with the quality of graduates entering the profession. This can be attributed, in part, to unrealistic expectations by the profession of what attributes universities can nurture in their graduates. It could also stem from the contributing factors affecting the choices made by graduates when deciding to major in accounting. The subjects are presented, at the introductory levels, in a different manner than that required of the accountant in practice. The student who excels in undergraduate studies may not excel in the profession and likewise the graduate with the attributes required for a successful professional life may not have excelled in undergraduate studies.

2.7.3 Conclusion: product
The end product of the student’s background, environment, intentions, and processes is the outcome of learning. One model of assessing learning outcomes is Biggs and Collis’s SOLO Taxonomy, which assesses all student output on a non-content specific measure of learning outcomes. The measures range from pre-structural through to extended abstract responses (Biggs & Collis, 1982). Phenomenography assesses learning approaches and equates deep approaches to learning with a search for meaning, which may lead to more meaningful learning outcomes (Marton & Saljo, 1984). Ramsden relates the experiences of student satisfaction with higher quality outcomes and better grades (Ramsden, 1992). The accounting profession, in its dissatisfaction with accounting graduates, is expecting accounting academics to address the issues of the product of student learning and looking back into the presage and process factors for input factors to vary this output.

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2.8 Conclusion: student learning

The literature on student learning examines both quantitative and qualitative assessments of student learning. The qualitative measures are of greater relevance to this study. Students do not in fact learn more or less than each other, but can be seen to learn quite differently from each other. There are certain factors that cause students to learn in a qualitatively different manner. Studies on conceptions of learning undertaken by many researchers in disciplines as diverse as physics, literature, medicine, education, health sciences and linguistics have all established that there are qualitative differences in student learning. The reason for the qualitative differences have been attributed, in many cases, to student intentions when they set out to learn. Students come with pre-existing attributes and values and learn in an environment that is controlled by the teacher. It is useful to understand which of these factors influence student intentions and thereby, the learning approaches students take. It has been shown that deep approaches to learning lead to meaningful learning outcomes. Research has focused on how teachers can modify the environment to create a climate where the student is directed to influence the student, into deep learning approaches and thereby into more meaningful learning outcomes.

2.9 Conclusion

In this literature review Biggs 3P Model of Student Learning has been used as a framework for consideration of the factors that contribute to positive and meaningful learning outcomes. The model has been deconstructed into its component parts; presage (both student and teacher presage factors), process and product. Current research has focused on teacher presage factors, as they are the factors most able to be directed by teachers, and approaches to learning as the significant process issues, as deep approaches are seen to have a strong relationship to meaningful outcomes (Entwistle & Marton, 1984). While it is clear that deep approaches lead to meaningful learning outcomes, it is not as clear how to direct students into those approaches. Surface approaches are simple enough to lead students towards, by designing questions or assessment which test for surface learning. The reverse for deep approaches is not as simple a task and has been the subject of many studies (Ramsden et al., 1986).

The preference for working in groups as a means for facilitating individual student learning is affected by a number of issues. These can be considered as presage factors...
where the student has an in-built preference for working or not working in groups. This preference can arise through prior experience, both in the educational and the workplace environment, and through cultural factors that suggest a leaning toward working alone or in an interdependent relationship with colleagues (Tempone & Martin, 1999; Long, 1995). The research into how students learn within a group context can be viewed as part of the process or product factors in Biggs 3P model, of which the former is most salient to this research. It is clear that the motivational factors achieved within the group context are seen to be one of the greatest contributors to enhanced individual student learning. While a certain amount of conflict is deemed healthy to encourage intellectual debate and motivation, excessive dissonance (Jalajas & Sutton, 1984-1985) leads to dysfunctional groups that can have negative effects on the learning (Hackman & Morris, 1975). The literature surrounding students ability to take theoretical learning into a practical situation and to be able to relate learning in a practical situation back to theoretical models is then examined. Stakeholders in this activity are identified and their particular interest in the process explored. These factors all influence the final outcome, which is the product of student learning (Laurillard, 1984; Martin, 1996b; Martin, 1996a; Crebbin, 1997; Tempone & Martin, 2000).

The processes students adopt when working towards achieving those learning outcomes have also been considered. Much has been written on how teachers can assist students towards achieving a deeper understanding of the material at hand by applying that new material in a real-life context. Creation of that context is problematic (Laurillard, 1984; Martin, 1996a; Tempone & Martin, 2000).

For teachers to be the most effective, they need to identify those factors beyond and within their control, and attempt to create the learning environment which fosters the type of student learning that they not only desire for graduates, but that the profession is seeking in its graduates. Those graduates need to be able to grow and adapt in a constantly changing technological world, where much of the content of their university courses could be obsolete, but where the generic skills they have acquired while studying that content remain with them for their lifetime.
2.10 Objective of this research

What is known in the literature relates to student learning in general and to the ways in which students approach learning experiences and how their intentions have an influence on the learning outcomes they achieve. The original objective of this study was to determine if there was generalisability of the findings in the student learning literature related to accounting students, and whether there were particular differences in this area due to the specific requirements of the discipline and the governing and accrediting professional bodies. This was refined to determine variation in student approaches to learning in accounting in a specific task, namely the analysis and interpretation of financial statements. There is limited literature on student learning in accounting, however with the help of this study, the sense students make of a practical exercise, which relates to professional practice, will be better understood. In particular, accounting students’ experience of building templates will be examined and evaluated from the perspectives of both local and overseas students to determine if the same strategies adopted by two cohorts of students belie differing intentions and ultimately result in differing learning outcomes. The development of templates as a bridge between theory and practice will be addressed.

Group work literature addresses groups as both presage and process factors. Student learning groups are considered presage factors and organisational groups are considered process factors in the Biggs 3P model. The literature on pedagogical use of groups is further developed in this study to determine specific features of learning outcomes derived through the group experience in an academic environment where the learning outcome is an assessable piece of work. Principles developed in other spheres such as organisations will be assessed to determine applicability of process factors in a pedagogical context.

Student experiences will be examined to determine intentions in relation to learning outcomes. As well as the Biggs 3P model, Biggs and Collis’s SOLO taxonomy will also be used to assess learning outcomes (Biggs, 1993a; Biggs & Collis, 1982). From a methodological perspective, this study also addresses both the definition, of and placement of, approaches within the Biggs 3P model and changes to both of these factors given current research findings (Trigwell & Prosser, 1997).
2.11 Summary of significant studies

The studies most useful to this research can be summarised by topic. In the area of student learning, the studies most relied upon were by Biggs, Marton and Saljo, Ramsden, Biggs and Collis, Martin, Bowden, and Entwistle. In the area of groups and cultural factors, the studies were by Hofstede, Latting and Raffoul, Jalajas and Sutton and Long. In the area of student learning by accounting students the studies relied upon were by Auyeng and Sands, Chan, Booth and Winzar, Jacoby, Sangster and McCombie and Sharma. In the area of theory to practice, the studies relied upon were by Bowden, Taylor, Candy Crebert and O’Leary, Wiggin, Yap, Crebbin, Boud and Laurillard. In the area of generic skill development, the studies relied upon were by Martin, Ramsden, Bowden, the Graduate Careers Council of Australia and the Australian Council of Educational Research.
CHAPTER 3  METHOD

3.1 INTRODUCTION
The objective of this study is to determine variation in student approaches to learning in accounting in a specific task, namely the analysis and interpretation of financial statements. The study involved the analysis of both interview transcripts and questionnaire results which required students from three cohorts to reflect specifically on how they approached the assignment in question and generally on how they approached study. Phenomenographic methodology was employed both in the interview format and structure and in the analysis of the interview transcripts.

SPSS for Windows was used to determine if the strength of relationships between approaches across the whole cohort and between the individual cohorts was statistically significant. Due to the small population, although statistical results supported the direction of the qualitative results of the study, they were not statistically significant.

In this study, the analysis of the interview transcripts appeared to fall into three categories. It was decided to structure the analysis around these three categories with reference to Biggs 3P Model of Student Learning. There were clear similarities between this study and the way in which Biggs structured the student learning model developed from the Dunkin and Biddle model (Biggs, 1993a; Biggs, 1999; Dunkin & Biddle, 1974).

The three structural aspects of the student learning model: presage, process and product, matched the three aspects of the assignment to emerge from the analysis, namely approaches to/experiences of:

1. Group work
2. Theory to practice
3. Understanding financial statements.
The Biggs 3P Model of Student Learning provided the basis for analysis, whereby the three aspects of the assignment were matched with Biggs 3Ps, as illustrated in Table 3.1.

Table 3.1
Alignment of approaches with Biggs 3Ps

<table>
<thead>
<tr>
<th>Biggs 3Ps</th>
<th>Approaches identified in this research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presage</td>
<td>Approach to group work</td>
</tr>
<tr>
<td>Process</td>
<td>Approach to the relationship of theory to practice</td>
</tr>
<tr>
<td>Product</td>
<td>Approach to understanding financial statements</td>
</tr>
</tbody>
</table>

The three aspects of student approach were also considered in the light of Biggs’ Structure of Observed Learning Outcomes (SOLO) taxonomy of learning outcomes (Biggs & Collis, 1982).

The study involved a mix of qualitative and quantitative data which were analysed using both qualitative and quantitative techniques. The study was concerned with student experiences, and as qualitative methodologies are better equipped to deal with interpretation and layers of meaning (Tesch, 1990) they were the dominant focus of the analysis with quantitative analysis serving a supporting and secondary function.

3.2 Background

Qualitative research is well suited to certain research problems, such as research that attempts to understand the meaning or nature of experience of persons, and to obtain intricate details about phenomena such as feelings, thought processes, and emotions that are difficult to extract or learn about through more conventional research methods (Hutchinson & Wilson, 1994). Qualitative research produces findings not arrived at by statistical procedures or other forms of quantification, even though that data may be coded and analysed quantitatively.

Quantitative data and analysis is most commonly used in the sciences, but also in the social sciences for determining the existence of, and the strength of relationships between variables and to take the observed phenomena into a statistically tested
measurement of relationships. The resulting statistics can be used to support or refute hypotheses about particular relationships. Studies which involve large data sets provide more generalisable results than those with very small data sets (Judd, Smith, & Kidder, 1991).

Statistical data gathering and analysis is an example of positivism as a research method. Positivism considers what can be known, and how it can be known, measured and quantified. The investigator’s commitments have no influence on the data and generalisations are based solely on objective evidence (Alexander, 1982; Johnson, 1997). While this objectivity is aligned to the sciences and scientific findings, it provides a useful means by which the social sciences can be observed and investigated.

Post-positivism takes as its theoretical position the reverse of the tenets of positivism. The key factor of relevance to this study is that it accepts the involvement of the researcher in the investigation and does not rely solely on objective scientific evidence, and accepts that facts themselves have to be reconstructed in the light of interpretation (Alexander, 1982; Johnson, 1997). There is methodology in the social sciences which does not attempt to quantify and measure but to interpret and actively involve the researcher in the collection of and sorting of experiences to establish what it is the researcher can know about a phenomenon, and how that knowing can be of use to, and of influence in, the wider environment. This is known as post-positivism or modernism. What can be known is a product of the interaction between the researcher and the researched and exists within that relationship. Phenomenography is an example of this.

A further development is post-modernism or post-structuralism, which examines and accepts what it is that is salient in the knowing, and examines the possibility of a multiplicity of positions, acknowledging the contradictions implicit in them and accommodating ambiguity (Hutchinson & Wilson, 1994). Grounded theory is an example of post-modernism.

A useful structure for considering qualitative research methods and their objectives is provided by Tesch who argues that there is not in fact qualitative research, but qualitative data, namely data that is based in language rather than in numbers. Tesch groups research according to its focus or direction. The four groups are:
1. Research that studies the characteristics of language
2. Research that aims at the discovery of regularities
3. Research that seeks to discern meaning
4. Research that is based on reflection (Tesch, 1990).

For example, content analysis and discourse analysis fall into the first group—research that studies the characteristics of language—as they are involved in both language as communication and in the process of communication itself respectively.

Phenomenography falls within Tesch’s second group—research that aims at the discovery of regularities—where researchers are interested in the structure of the data. Tesch identifies two directions of this research; one of identification of elements and exploration of their contents, and the other of discerning patterns.

Of the latter research direction, that of discerning patterns, phenomenography is a research method for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them (Marton, 1986).

The third research direction, research that seeks to discern meaning, is exemplified by phenomenology, case study and hermeneutics. This process seeks meaning by finding themes and connections between patterns. Phenomenology is based on the study of the ordinary ‘life-world’. Finding common and unique aspects in these individual themes allows the researcher to crystallise the component parts of the phenomenon. The result is a description of the general structure of the phenomenon studied (Giorgi, 1975). Case studies are studies in which researchers concentrate on a single case. “Hermeneutics itself is a very old type of text study that was originally confined to theological documents. The word simply means ‘interpretation’” (Tesch, 1990 p. 59). “A singular event is understood by reference to whatever it is a part of” (Polkinghorne, 1983 p. 221).

Of the fourth direction, research as reflection, heuristic research carries farthest the notion that the researcher is the research instrument. The researcher is both the researcher and the researched. “To immerse oneself wholly in one’s own experience and
that of others is the hallmark of heuristic research” (Tesch, 1990 p. 61). “It requires a subjective process of reflecting, exploring, sifting and elucidating the nature of the phenomenon under investigation” (Douglas & Moustakas, 1985 p. 40).

Considering the nature of this study, the methodology deemed to be the most appropriate for the analysis of qualitative data was phenomenography, while positivism underpinned the analysis of statistical data.

3.3 Methodology for this research
The research question in this study was to determine variation in the way in which different cohorts of students experienced accounting and the learning of accounting. Phenomenography is:

a method for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them, it was deemed a highly suitable method for the study, as its focus was on variation and different experiences (Marton, 1986).

Aspects of other research methods are present in phenomenography, such as hermeneutics in the data analysis and elements of heuristic research, but the dominant methodology used in this study is phenomenography. Ference Marton is considered to be the originator and foremost authority on phenomenography. Other writers in the field still defer to Marton when defining phenomenography (Saljo, 1994; Bowden & Walsh, 1994; Trigwell & Prosser, 1997).

Marton also describes phenomenography as “the anatomy of awareness as seen from an educational point of view” (Marton, 1993 p. 4425).

Marton and Booth describe phenomenographic research as:

a way of experiencing something . . . and the object of the research is the variation in ways of experiencing phenomena. At the root of phenomenography lies an interest in describing the phenomena in the world as others see them, and in revealing and describing the variation therein, especially in an educational context (Marton & Booth, 1997 p. 111).
Marton and Booth argue that this:

implies an interest in the variation and change in capabilities for experiencing the world, or rather in capabilities for experiencing particular phenomena in the world in certain ways. These capabilities can, as a rule, be hierarchically ordered. Some capabilities can, from a point of view adopted in each case, be seen as more advanced, more complex, or more powerful than other capabilities. Differences between them are educationally critical differences, and changes between them we consider to be the most important kind of learning (Marton & Booth, 1997 p. 111).

The aim of a phenomenographic study is to map the variation in ways of seeing and experiencing a phenomenon within a given sample. Large samples are rarely used because the salient feature of the outcome is not how common a view might be, but the nature of the variation in the range of defined experiences. Through exploring the range of ways of seeing phenomenon a fuller understanding of how that phenomenon is experienced is developed and as a result, salient teaching interventions can be planned.

Phenomenographic interviews and subsequent analysis of data were considered to be the most fruitful data collection methodology for this study. This is a methodology designed specifically for use in pedagogical experiences where the researcher is attempting to identify the experiences of students, as a cohort, of particular phenomena rather than to track and analyse the experiences of individual students (Marton, 1986). Students also completed questionnaires about their approaches to study to understand their intentions when undertaking learning experiences (Entwistle & Ramsden, 1983; Kings, unpublished a).

This study explores how students approach and thereby experience an accounting task. The research interest was in plotting variation in students experiences of particular phenomena, and to this end, phenomenography provided the most suitable means of collecting the data, analysing it, and plotting results in hierarchically ordered outcome spaces. This occurred through a phenomenographic analysis of interview data gathered from students shortly after completing an assignment.

In phenomenographic analysis, the range of conceptions expressed by the participants are mapped on a two dimensional matrix which models an ‘outcome space’. The two
dimensions of the matrix represent what it is that is focused on by interviewees (the referential dimension), and how what is focused on is experienced by the interviewee (the structural dimension). This was completed for all three aspects of student approaches to learning in the assignment under review. There was a separate study of each area of focus, with variation within and between the cohorts examined in the light of these foci.

The mapping exercise typically shows that some participants experience the phenomenon in less complex ways than others but it also shows how the different responses are related. The responses once analysed and mapped present a hierarchy of understanding of the phenomenon with higher order conceptions incorporating lower order ones. While it is not suggested that the findings from a phenomenographic study will be exactly reproducible with every cohort of students it is argued they have a useful level of generalisability and this has been shown empirically (Marton & Booth, 1997).

The analysis was in line with established phenomenographic method (Marton & Booth, 1997). The first phase involved a selection from the transcripts of comments or ‘utterances’ (Bowden & Walsh, 1994; Marton, 1986) made which were relevant to the question investigated, in this case: how students perceived the assignment and how they went about completing it (Marton & Booth, 1997). The meaning of the utterances is found both within the utterances themselves and within the context of the interview from which the utterance was taken (Bowden & Walsh, 1994; Marton, 1986; Marton & Booth, 1997). The selected relevant quotes contributed to a pool that formed the basis for the next stage of the analysis. The analysis was not an attempt to develop an understanding of the individual student’s approach to the issue in question, but to gain a global understanding of the range of awareness of the phenomenon under analysis.

The emerging experiences of all three aspects were:
1 the experience of group work
2 the experience of the relationship of theory to practice
3 the experience of understanding financial statements.
These formed the three foci of the study and the same phenomenographic method was employed in the analysis of each. The pool of meaning for each aspect of the task was represented by categories of description which represented hierarchically arranged levels of awareness of the particular phenomenon which were then mapped on to a matrix and the relationships between categories explored in two ways. A grid emerged which plotted the range of meanings of what the task was for the students against the range of how the students attended to the task. First, on the basis of these pools of meaning, similarities and differences were sought in terms of what it was students focused on in their descriptions (the referential dimension) and how they described the object of their focus (the structural dimension). Once categories of description were determined and illustrative quotations were provided to support the meanings, a test of common-sense validity was applied by checking if these ways of seeing and experiencing made sense to teaching staff familiar with the subject and the task.

Second, a test of inter-judge validity was conducted. Several pages of quotes which had helped the researcher develop the individual categories were collected together in a random order. Descriptions for each of the categories for each approach were created. Two external judges were asked to place each of the quotes within one or other of the categories of description and a check was made to see whether the independent judges could categorise transcripts in a way similar to the original researcher. There was iteration between the researcher and judges until close to eighty percent agreement was achieved. The aim was for the judges to assign exemplary transcripts to the categories created.

The question
This study investigated variation in the way students of accounting approach learning activities and the resultant variation in learning outcomes. Different cohorts of students when given the same assignment, approached it, prepared and completed it differently. This study identified differences in approach.

Data of this study
Three types of data were used in this research. The first and primary source of data was the interview transcripts, transcribed from tape-recorded interviews conducted by the researcher with individual students. These interviews were analysed for common
themes which formed the basis of the findings of the study. The second source of data was the coding of the themes identified in the interviews and the allotting of numeric identifiers to particular responses. This was then entered into SPSS for Windows and analysed (also in SPSS) for statistical results. This source of data represented the quantification of qualitative data. The third source of data was the questionnaire results with responses given in a Likert scale of preferences and coded and analysed using SPSS for Windows. The Study Process Questionnaire, and its variants, were developed from qualitative research into the same paradigm as this study, namely student learning. The scales of the questionnaire were based on student approaches to learning. The questionnaire examined approaches to learning generally, while this study was highly specific and focused on the specific approaches students took in the assignment under review. The quantitative analysis of the questionnaire results was not statistically significant due to the sample size, however the findings supported the results of the first two sources of data in the study.

The cohorts

The students were taken from three cohorts, the Australian Program of Training for Eastern Europe (APTEE), Graduate Certificate and Undergraduate student populations. The students were all undertaking an introductory accounting course, where no previous knowledge of accounting was assumed. The focus of the course was on accounting for management which has an end user approach, rather than accounting per se which has both an end user and prime preparer of information approach.

Interviews A1–A11 comprised APTEE students, who were Eastern European middle managers participating in an AusAid project in Australia taking Accounting as part of a post-graduate course in Business Administration. All of these students already held Masters Degrees in other disciplines. They all had work experience, but this was confined substantially to government departments. Very few had business experience, and their accounting experience was quite different to that of western accounting. The objectives of their accounting system were often diametrically opposed to the objectives of profit-focused western accounting in contrast to stewardship reporting which had been predominant in eastern bloc countries.

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Interviews G1–G11 comprised candidates in the Graduate Certificate of Business Administration Course, a course where an initial degree was not a pre-requisite. These students were middle managers, many of whom had commenced but not completed tertiary studies, but who found their potential for promotion in their organisations restricted due either to a lack of formal qualifications, or if they had technical qualifications, a lack of a business background.

Interviews U1–U13 comprised Undergraduate students taking Accounting as a First Year Unit. This unit was compulsory and many would not do further studies in accounting in their degree. They were mostly straight from secondary school and had completed the Victorian Certificate of Education (VCE) in the previous year.

Sample transcripts of interviews from each cohort are attached as Appendix 1. Names of students have been changed to a randomly selected initial to ensure privacy.

The assignment

The assignment for this subject was the focus of interviews. The assignment required the analysis and interpretation of a company’s financial statements over a three-year period. Students were required to analyse the past performance of the company and, using projections from the historical data and some additional information about the company, comment on its future prospects. The assignment was marked as an individual rather than a group assignment, but formal study groups had been established and students were encouraged and expected by teaching staff to use these groups to work on the assignment.

The assignments involved the interpretation of data (descriptive and financial) relating to the company. The financial data comprised three annual financial reports: the balance sheet; the profit and loss statement; and the cash flow statement. Students were expected to plot that data on to a spreadsheet, Lotus or Excel, and design the spreadsheet in such a manner as to allow for the impact of projections (as per the descriptive data) to be accounted for by way of sensitivity analysis.

The three assignments were selected from Forest Products, Decor Products and Finlay Metals. All three involved an introductory scenario giving the background to the...
company, three years financial statements, and student requirements. The assignments were structurally similar. Decor Products is provided as an example as Appendix 2. Students completed one of the three assignments. Appendix 2 indicates which assignment was undertaken by each cohort.

Selection of interviewees
Written invitations were extended by mail to all students in each cohort and who had all completed the assignment on analysis of financial statements. The interviews were arranged in 1993 at a time when Swinburne University had not yet formulated its Ethics Policy nor formed an Ethics Committee. The Application for Ethics Approval of a Research Protocol and Human Research Ethics Committee Form of Disclosure and Informed Consent currently required did not exist at that time. Interviews were arranged with students who responded positively and with whom a suitable time could be arranged. (Some students were interstate on work placements, others could not spare the time to leave work, others chose not to respond.) Of the 37 student who responded positively, 35 interview times were arranged. These were taped; the transcripts of which formed the data for this study. There were 11 transcripts from each of the APTEE and Graduate Certificate cohorts and 13 from the Undergraduate cohort.

Large samples are not a defining feature of phenomenographic studies, with two critical phenomenographic studies by Marton and Saljo, and by Marton, Dall’ Alba and Beaty, using sample sizes of 40 and 29 (Marton & Saljo, 1976a; Marton et al., 1993). It is the identification of a range of experiences around a phenomenon that is the object of the study, not the frequency of occurrence of those experiences that validates the study as in quantitative methodologies.

Thirty-five interviews were undertaken from the three cohorts of students. A sample letter written to potential interviewees is included as Appendix 3. A follow up letter was sent to interviewees who did not return the questionnaire, with a final response rate of completed questionnaires of 94% (33 of 35).

The interview
Two pilot interviews were undertaken with the first two students with whom interviews could be arranged. Issues raised included: how the assignment was perceived; the
workload demanded; the preparation for and completion of the assignment; and the relevance of the assignment to professional practice. From the analysis of these pilot interviews, one issue that both students wished to discuss was group work. This was later included in the remainder of the interviews and provided an unexpected and rich source of data about the way students worked.

Tape-recorded and transcribed responses of phenomenographic interviews of students were used to gather data. Student interviews were of their experience in completing the accounting assignment, the main task of which was the analysis of three years of financial statements for a company.

The interviews were conducted by the researcher and taped with the interviewee’s verbal permission, and with the tape recorder in full view. The tape-recordings were then transcribed and the transcripts of interview formed the data for the phenomenographic analysis in this study. (In one instance the interview was interrupted at the start of the interview and the pause button not reset after the interruption. This interview was later rescheduled and repeated with the tape recorder on for the duration of the interview). Interviews were conducted at Swinburne's Hawthorn and Mooroolbark Campuses, or at the student's place of work. The interviews ranged in duration from 15 to 75 minutes.

A series of questions were prepared to use as a guide throughout the interview. However, as is the case with phenomenographic interviews, the questions raised by the interviewer were dependent on the previous response of the interviewee (Bowden, Dall’Alba, Laurillard, Martin, Marton, Masters et al., 1992). Not all questions were asked, and not necessarily in the sequence of the guide questions included as Appendix 4. In line with phenomenographic methodology, the interviewer had the task of encouraging, but not directing, the student to reflect and make informed comment on their experience (Bowden et al., 1992).

The interviews were semi-structured and some of the key questions asked included:

- What do you understand by the terms rate of return, working capital and financial stability?
• Was there anything in your previous work/study which would enable you to understand these terms?
• What did you think you were being asked to do in this assignment?
• How did you approach the assignment?
• How have you normally approached assignments or work related tasks that are set for you?
• Did you discuss this assignment with other students?
• Did you find that helpful?
• Did any textbook prove particularly useful in this assignment?
• What data in the assignment was most helpful in assisting your understanding of the issues?
• What other previous experiences were you able to bring to this task?
• Do you think this experience will be useful for other work/study tasks you may be required to do?
• Did you find the assignment difficult?
• What do you think you learned from the assignment about rate of return, working capital and financial stability?
• How would you do the assignment differently if confronted with it again?

Questionnaire

Two weeks after the phenomenographic interview, students were given a questionnaire about approaches to study, using a shortened version of Entwistle and Ramsden’s Approach to Study Questionnaire as administered by Kings (Entwistle & Ramsden, 1983; Kings, unpublished a). The questionnaires were scored by the researcher according to the scoring system contained within the questionnaire supporting materials, and returned to the respondents with the score sheet and the meaning of the particular scores attached. These questionnaires asked a range of questions about the way students approached study. The three rankings were of an achieving orientation, a reproducing orientation and a meaning orientation. While the identifying orientation abbreviations of (A) achieving, (B) reproducing or (C) meaning, appear in the appendix, these were not present in the version of the questionnaire sent to students. The questionnaire and score sheet are included as Appendix 5.

• Was there anything in your previous work/study which would enable you to understand these terms?
• What did you think you were being asked to do in this assignment?
• How did you approach the assignment?
• How have you normally approached assignments or work related tasks that are set for you?
• Did you discuss this assignment with other students?
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Data analysis

The analysis identified three aspects of approach to/experience of student learning within the context of the assignment. The analysis was undertaken at the total and individual cohort level for the three aspects of student learning approaches identified in the study. These were approach to/experience of:

1. Group work
2. Theory to practice
3. Understanding financial statements.

The study involved both qualitative and quantitative analysis of student approaches to learning and to study, at the level of both total and separate student cohort. The qualitative analysis had as its focus the variation in meaning of the task within and between student cohorts. Phenomenographic analysis of transcripts resulted in categories of description for the outcome spaces pertaining to the three aspects of the assignment listed above.

The quantitative data, the student responses from interviews and questionnaires, were entered and analysed using SPSS for Windows. The qualitative data gathered through interviews were coded and analysed statistically to determine if any significant relationships existed between the three approaches as identified within the study. The quantitative analysis aimed to establish the statistical strength of relationships between approaches/experiences and the variation in statistical significance of the approaches/experiences between the three cohorts. The relationship of the qualitative to the quantitative data was one of the quantitative data confirming and supporting the findings of the qualitative data.

The quantitative analysis of the qualitative results was used to determine frequencies, distributions, relationships and other statistical patterns. The questionnaire data were not used in the final analysis as the questionnaire related to study techniques generally and was not sufficiently specific about the particular learning task the students were engaged in. Preliminary analysis confirmed the same relationships as found in the qualitative data.
Quantitative analysis using SPSS for Windows

Responses for each student were classified according to the highest and most typical category of description. Questionnaire results were entered with tests run to determine any statistically significant relationships between student responses to the variables within the study at both a total and individual cohort level.

Data entered into SPSS on the basis of the categories of description for each outcome space for each interview, and Approach to Study Questionnaire (ASQ) responses for each student, were analysed using SPSS to indicate frequency distributions, cross-tabulations, phi co-efficients and Kruskall-Wallace tests. These provided a statistical representation of the data and allowed some conclusions to be drawn about the existence of and strength of particular relationships within and between the variables. It was also undertaken at the level of separate categories of description, and at the level of a two-way divide of deep and surface approaches within the categories of description.

The objective of the analysis was to determine if any correlation existed between the three approaches to student learning and if there was variation in that correlation between the three cohorts. It was also used to determine if there was correlation between student approaches to learning in the three areas and approach to study as determined by their ASQ score. The Kruskall-Wallace test was used to determine the mean ranking of each of the cohorts on each of the variables, to indicate which cohort performed at a higher level (highest order approach) than the others for each particular approach.

Due to the small population involved (35 in the total cohort, 11–13 in the individual cohorts) it was decided to not use the statistical results of the questionnaire as results were not statistically significant when used alone, even though they supported the qualitative research findings. The data input sheet into SPSS for Windows is attached as Appendix 6.

Biggs 3P Model of Student Learning and its parallels with the three foci of the assignment

Biggs offers the 3P model as a way of explaining why it is that students learn differently. He uses the 3P model (Biggs, 1993b) that he adapts from the original Dunkin and Biddle presage–process–product model (Dunkin & Biddle, 1974) from the
context of classroom teaching to that of student learning. Biggs asserts the outcome of learning is not only affected by learning approaches but approaches are also affected by a range of presage factors related to both the student and the classroom context in which the student finds him/herself in.

The three components of the 3P model are presage, process and product (Biggs, 1993b). The three aspects of student learning approaches identified in this study are considered within the structural framework of Biggs 3P model. Approach to group work, approach to the relationship between theory and practice and approach to understanding financial statements are matched to presage, process and product respectively.

**Biggs’s Taxonomy of the Structure of Observed Learning Outcomes (SOLO)**

Biggs’s taxonomy, Structure of the Observed Learning Outcomes (SOLO) is an hierarchy that contains five levels of outcome which are used to classify the structural complexity of student responses. These are, in order of complexity, pre-structural, uni-structural, multi-structural, relational and extended abstract. Unlike categories of description determined by phenomenographic analysis, the categories are not content-specific but are assumed to apply to any kind of subject matter (Biggs & Collis, 1982). Use of the Biggs SOLO taxonomy provides another association between learning approaches and outcomes. Van Rossum and Schenk showed that approaches to learning were strongly associated with SOLO outcomes (Van Rossum & Schenk, 1984). While the individual responses in this study were not classified according to the SOLO taxonomy, the learning approaches and the outcomes in terms of the assignments were given a SOLO classification by the researcher.

SOLO is an hierarchical taxonomy that contains five levels of outcome used to classify the structural complexity of students’ responses. The levels are:

1. Pre-structural: Use of irrelevant information or no meaningful response
2. Uni-structural: Answer focuses on one relevant aspect only
3. Multi-structural: Answer focuses on several relevant features, but they are not coordinated together
4. Relational: The several parts are integrated into a coherent whole: details are linked to conclusions, meaning is understood

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4. Relational: The several parts are integrated into a coherent whole: details are linked to conclusions, meaning is understood
5. Extended abstract: Answer generalises the structure beyond the information given: higher order principles are used to bring in a new and broader set of issues (Biggs & Collis, 1982).

The approaches identified in this study, when hierarchically ranked, can be classified within the SOLO hierarchical taxonomy of observed learning outcomes.

**Approach to Study Questionnaire**

This analysis is further supported by the use of the results of a shortened form of a measurement instrument used by Noel Entwistle and Paul Ramsden to determine students’ approaches to (Entwistle & Ramsden, 1983; Kings, unpublished a). This questionnaire used a three grade scale:

1. Achieving orientation (indicates an achievement approach—whatever is required)
2. Reproducing orientation (indicates a surface approach to learning)
3. Meaning orientation (indicates a deep approach to learning).

The scored questionnaires with rankings for individual students were analysed, along with student ratings within the three aspects of the assignment, for any significant correlations. Some of the statements students were asked to respond to were:

- I find it easy to organise my study time effectively.
- I usually set out to understand thoroughly the meaning of what I am asked to read.
- My main reason for being here is so that I can learn more about the subjects which really interest me.
- I suppose I’m more interested in the qualifications I’ll get than in the courses I’m taking.
- It is important to do things better than my friends, if I possibly can.
- I find I have to concentrate on memorising a good deal of what we have to learn.

3.4 Conclusion

This study was based on the analysis of interview transcripts. Of the range of qualitative methodologies available, phenomenography was chosen for its relevance in dealing...
with pedagogical issues; in particular in dealing with variation in the way students conceive a particular phenomena. Phenomenographic interviews were undertaken with students from three cohorts, all of whom had completed an assignment on the analysis of three years financial data for a company. Students were also sent a Study Process Questionnaire a short time after the interview, from which their approaches to study were examined. These questionnaires were scored and returned to the students, although the final results were not used in the study as given the size of the population they were not statistically significant, even though they supported the findings of the qualitative analysis. The structure of the analysis was based on the Biggs 3P model and to a lesser degree on Biggs SOLO taxonomy. Illustrative examples of the instruments, the data and the communications with students are included as Appendices 3, 5 and 6.
CHAPTER 4 RESULTS

4.1 INTRODUCTION
This study is a three part analysis of students’ experiences of completing an assignment on financial statements. The three parts comprise overlapping but separate experiences. The first of the three components of the overall analysis is how the students approached/experienced the issue at the crux of the task, namely, how they developed an understanding of financial statements. The second component concerned how the students saw the relationship of understanding financial statements to the day-to-day practice of accounting for management. This is the relationship of theory to practice. The third is of how students worked on the assignment, and in particular how they worked on this in groups. The results are presented in two parts: first, the findings for the total cohort; and second, the findings for the separate cohorts of APTEE, Graduate Certificate and Undergraduate students.

For each of these components of the analysis, the following issues have been explored:

1. The approaches/experiences students had
2. The similarities and differences in student approaches/experiences
3. The meaning of the experience in terms of student practice.

The relations between these three identified approaches/experiences are explored. The question of whether students who demonstrated an approach/experience in one area were more likely to adopt a particular approach/experience in another area is addressed.

Categories of description for each of the areas of the study emerged from the analysis of the interview data. The number and nature of these categories varied from issue to issue as they were a product of the analysis and depended on the fine distinctions which emerged through the interview transcripts. The categories in the three areas of analysis in this study numbered five, six and seven. There is no standard number of categories in a phenomenographic study, although a common number in many published studies is six categories (Marton et al., 1993; Beaty, Dall’Alba, & Marton, 1997; Bowden et al., 1992;
The categories of description for each of the three aspects of the assignment are illustrated in Table 1.1.

Table 1.1 contained in the back pocket at the end of the thesis indicates the categories of description for all three aspects of the assignment.

4.2 UNDERSTANDING FINANCIAL STATEMENTS

The assignment undertaken by students was the analysis of three years financial data. Students responded to a range of questions about their understanding of the interpretation of the data as presented in the assignment. The core approach to learning which emerged from the study was student approach to/experiences of understanding financial statements. There was variation in what students attended to, and how they attended to it, when searching for meaning in financial statements.

Variation of approaches/experiences

The study identified five different ways in which students made sense of financial statements. These different ways (categories) were determined from an analysis of students’ recollections of their intentions and the strategies employed in fulfilling those intentions. Some key questions asked of students in relation to their understanding of financial statements were:

- How did you approach this assignment?
- What did you understand by the terms rate of return, working capital and financial stability?
- What did you think you learned from the assignment about rate of return, working capital and financial stability?
- What data in the assignment was most helpful in assisting your understanding of the issues?
- How did you attempt to solve the company’s problems?

As discussed in Chapter 3 (Method) the outcome space, representing the structural and referential aspects of the approach to understanding financial statements is mapped on to a matrix in Table 4.1. The intersection of these structural and referential aspects...
combine to create the five approaches to/experiences of understanding financial statements.

Table 4.1
Outcome space: structural and referential aspects of understanding financial statements

<table>
<thead>
<tr>
<th>Structural (Strategy)</th>
<th>Referential (Intention)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Focusing on a procedure</td>
</tr>
<tr>
<td>Applying the procedure to all data</td>
<td>A</td>
</tr>
<tr>
<td>Applying the procedure to relevant data</td>
<td></td>
</tr>
<tr>
<td>Considering additional non-financial data</td>
<td></td>
</tr>
<tr>
<td>Making comments for the future</td>
<td></td>
</tr>
</tbody>
</table>

Categories of description: approaches to/experiences of understanding financial statements

Category A. Procedural, non-discriminating approach/experience
Focusing on a procedure and applying the procedure to all data.

Category B. Procedural, partially discriminating approach/experience
Selecting an issue and applying the procedure to data relevant to that issue.

Category C. Procedural, selective approach/experience
Identifying key components of an issue and applying the procedure to relevant data.

Category D. Broader based, historical focus approach/experience
Seeing the problem in a broader context and considering additional non-financial data.

Category E. Broader based, future focus approach/experience
Seeing the problem in a broader context and making comments for the future.
In Category A, the intention of the approach/experience was to focus on a procedure, for example, finding a ratio/formula sheet in a textbook. The strategy was the application of that procedure to all the data.

In Category B, the intention shifted slightly to focusing on the selection of an issue, such as asset turnover, which is seen by students as being at the core of the problem. The strategy was the application of the procedures relevant to that issue to only the relevant data. This approach/experience indicated greater selectivity.

In Category C, the intention was to focus on the identification of key components of the issue, such as debtors’ turnover. Similarly to Category B, the strategy was to apply those procedures to only the relevant data. The key components of the issue, not just the issue itself, were broken down for analysis.

In Category D, the intention was to see the problem in a much broader context, ranging from consideration of the economy at a macro level, or communication between workplace departments at a micro level. The strategy involved the consideration of additional non-financial data in order to address the problem. This category differed from the earlier categories. This approach/experience went beyond the problem as presented in the data given to non-financial data with which students addressed the problem.

Finally, in Category E, the intention was still to focus on perceiving the problem in a broader context as in Category D, but the strategy went further. It involved a forward-looking aspect by making comments for the future wellbeing of the business, such as setting new goals on the basis of the changed conditions at both the macro and micro levels. The problem was positioned within a broader context, and had a perspective which looked to the past, contrary to all the other approaches/experiences, not to examine why the problems may have occurred, but in order to solve the problems and make recommendations for the future.

From the naming of the approaches/experiences it can be seen that they fall into two broad categories. First, a procedural approach/experience which has gradations of discrimination applied to both the procedures chosen and the data selected upon which
to exercise the procedures. These encompass Categories A, B and C. Second, a broader based approach/experience which looks beyond the financial data in the search for meaning in relation to understanding of the company as expressed by its financial statements. Category D, the first of these broader based approaches/experiences looked to non-financial data for understanding of the company’s position, while Category E, the second, looked to this information as a base from which to launch predictions which suggested strategies for the future wellbeing of the company.

The categories are similar in the broad groupings between having a procedural approach as in Categories A, B and C and a broader based focus as in Categories D and E. The differences occur in the finite distinctions between the individual categories where both the problem and the task are defined in a broader context.

Meaning of categories with exemplars

Category A. Procedural, non-discriminating approach/experience
There was an intention to focus on a procedure by adopting a strategy to apply the procedure to all data.

Students saw the task at hand as focusing on one procedure, namely the reproducing of the set of financial ratios to which they have been exposed, and then using them throughout the assignment in the same manner as shown in the classroom. The students found meaning by focusing on a particular procedure, and then attempted to structure the task by applying that procedure to all the data.

A student comment which illustrates Category A is:

I prepared a sheet with how to do all the calculations by looking at it from the book. There’s one chapter which has all the instructions for how to do all the ratios, and I knocked the ratios together and then just analysed. I didn’t have a really planned process but I tend to do that a lot. U2

Category B. Procedural, partially discriminating approach/experience
There was an intention to select an issue and a strategy to apply the procedure to data relevant to that issue.

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Category B. Procedural, partially discriminating approach/experience
There was an intention to select an issue and a strategy to apply the procedure to data relevant to that issue.
Students conceived the task as selecting the key issue, which could be cash shortages or excessive stock, and applying that procedure to the relevant data, for example the cash and stock holdings of the business. The student searched for meaning by locating the key issue of concern, and then attempted to structure the task by applying the procedure to only the relevant data rather than all the data as in the earlier case.

Student comments which illustrate Category B are:

Because there are a few that are linked. Like, you’ve got all the turnovers, inventory turnover, asset turnover, fixed asset turnover. I’d probably put all those together because they are all linked to each other. U1

With accounting you’ve got to identify all the factors, of turnover increasing, then you’ve got to put it down the right way. U12

Category C. Procedural, selective approach/experience
There was an intention to identify key components of an issue and a strategy to apply the procedure to appropriate data.

A higher order approach/experience involved the students conceiving the task as the selection of key components of the issue, for example, liquidity or working capital problems, and searching for meaning by applying the procedure as in Category B above only to the relevant data, for example the current assets and current liabilities of the business.

Student comments which illustrate Category C are:

The most interesting thing was the turnover—the accounts receivable and payable. They were switched around. They should have been the other way around. They were paying their creditors quickly, which is all very well and good, but depleting their reserves in the bank and they had terrible—they had very very low cash at bank which was another problem because they were going to have to consider doing something like extending their overdraft or borrowing long term for short term debt—to cut the short term debt. G4

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Return on assets improved immensely from when they put the new machines in. I think that was a key issue. Net profit also jumped fairly significantly too. G11

Well, all the ratios would have improved just about, especially the two most important ones, the debt to total asset ratio—if they had used the money they gained from selling off the stock and not re-stocking, they could have reduced their debts. U2

Working capital—that’s money you’ve invested and the term itself implies how that money you have invested is working for you. And then through other terms it’s broken down into more manageable and/or identifiable parts so that you can identify where it’s working for you and where it isn’t working for you. U3

You’d also link stock build up to increase in creditors and as a result you would also link the increase in creditors to reduction in net profit and also a reduction in debt to total assets. U3

I thought it was just a case of trying to look at the trends for each margin. Like with the net profit margin, net profit margins depend on the gross profit margin and the operating expenses. So it was just a matter of trying to break down the ratios into their smallest possible forms to try and find out the reasons why the company went worse in the next couple of years. U13

Category D. Historical focus, broader based approach /experience

There was an intention to see the problem in a broader context and a strategy to consider additional non-financial data.

Students conceived the task as viewing the problem in a broader context, for example that ratios were only one component of coming to terms with the business’s performance, and searched for meaning by considering additional non-financial data, such as market share and position in the industry.

Student comments which illustrate Category D are:

But they had to look at their labour force, the way they do things and keep improving the business and maybe the market, get new customers. You have to do that otherwise you don’t have a business. G11

But the other thing that also went through my mind, there may be something specific that I understood they had been trying to...
address by bringing in machinery and what have you. Why is it that there is still a problem? Are you doing long runs of something that isn’t moving, that isn’t required any further. G7.

There was no point in production thinking they needed to keep inventory for making bolts when somebody else thought they needed to be keeping inventory to make nuts. So there needed to be an improvement in communication between departments. G5

In this case I might choose a variant from real life—I try to find out if there’s another option—maybe use the old equipment to produce something different. But this is another approach—not an accounting problem. A10

It wasn’t just a matter of looking at the financial data but also taking into consideration the recession, other economic constraints on them, and other conditions that the company was working under. G2

**Category E. Future focus, broader based approach/experience**

There was an intention to see the problem in a broader context and a strategy to make comments for the future.

Similarly to Category D above, students conceived the task as viewing the problem in a broader context, but their search for meaning involved making recommendations for the future based on their findings about the problem in context.

Student comments which illustrate Category E are:

The other recommendation was in regards to their accounts receivable turnover time. I know that had blown out and I recommended to review their billing procedures. There might be one or two customers who were taking longer than they should and that they might want to review those procedures. G5

I was a bit worried about the products. I thought they should, with the low profit products, contract these out to smaller operators and create a niche market where they’re going to make decent profit margins. G11

Going from their recommendations, I would have proceeded to cut back on production even though I knew that the workers might be a little disgruntled, it’s better to have disgruntled workers than workers out of a job permanently. U3

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So I would cut back on production and I would raise the selling price and see how—and hold it for a year, o.k., to see its full impact. I would always remain in contact with my accountants throughout, even through the good years. If I’d gotten on top of it I could implement that plan straight away. But the plan would be based on many things like whether I’d be better off increasing my sales price and losing some people rather than maintaining my sales price and losing the profit. U3

To straight away stop the mass production and slow the production of stock down and also stop the amount of raw materials being produced and bought. If they could maybe wait until the trade picks up again, if not they have got to try another avenue somewhere. U6

They could have bulk discounts or a sale now and then. Older stock they could reduce the price on it. It would get it moving and would probably get more money in. They might have to advertise. U6

Two further comments illustrate the students’ ability to look beyond the assignment itself and take what was learned into their own realm.

So, using the knowledge that I’ve gained from the accounting section I’ve been able to apply it to my company and I’ve been able to analyse what I’ve done over the past four years and I’ve set myself a new set of goals in the accounting side of things. G6

I know from my own company and working capital and trying to relate it back and then trying to work out where we fitted in and I found doing this I was also looking at the balance sheet and I was looking at our balance sheet in a different way as well. Working capital was interesting—as just a summation. I looked at this as more than just the balancing of things. G9

Distribution of student responses

The distribution of student responses for the range of approaches/experiences can be considered by plotting responses as a bar chart to indicate the frequency of students in particular categories of the approach to/experience of understanding financial statements.

Figure 4.1 represents the distribution of student responses within each of the categories of approaches to/experiences of understanding financial statements. The most frequent responses are in Categories B, C and D with the most frequent response being Category C. (The Category NR represents non-responses to this question).
Lower and higher order approaches to/experiences of understanding financial statements

Categories A, B and C could be regarded as lower order approaches/experiences and D and E as higher order approaches to/experiences of understanding financial statements. This division parallels the surface/deep divide originally described and developed by Marton and Saljo (Marton & Saljo, 1976a; Marton & Saljo, 1984). The responses can be broken down into a single major divide concerning the basic intentions of the students.

The early work in student learning by Marton and Saljo identified a major distinction concerning students’ intentions. Marton and Saljo found that some students intended only to address the demands of the question, whereas others intended to consider the meaning within the problem or situation (Marton & Saljo, 1976a; Marton & Saljo, 1976b). In this study it is possible to make a broad division between those students who responded with an intention to attend only to the demands of the task, a surface approach; and those with an intention to respond to the meaning, a deep approach.

This division can be applied to those who responded with a surface approach; those who adopted a procedural approach to/experience of the assignment. Their intention was to find the right procedure, issue or component parts of the issue and apply that to the data. It appeared as though they were looking for the key which would unlock the secret which comprised the analysis of financial statements. Students adopting a deep approach, on the other hand, had a different intention. They were looking for meaning in the exercise and addressed the problem in its broader context. They sought
information other than that which was supplied to them within the assignment itself, and
looked to the future of the company as part of their search for meaning.

Figure 4.2 represents the distribution of student responses on this two-point divide of
approach to/experience of understanding financial statements. The most frequent
responses were in the lower order or surface approaches (24 students) with fewer
responses at the higher order or deep approaches (11 students).

**Figure 4.2**
Understanding financial statements: by lower/higher order approach/experience

Summary of student approaches to/experiences of understanding financial
statements

In their attempts to find meaning in financial statements, students adopted a number of
approaches/experiences which could be analysed simply as above, with a single divide
between deep and surface intentions. This level of complexity in the analysis separates
surface approaches from deep approaches—looking to the words and symbols for
meaning as against seeking to engage with the subject matter at the deeper level.
Students saw the task in different ways and consequently what they did was different.
The approach students take has direct ramifications on the learning outcomes they
achieve. Students who adopt surface approaches have one dimensional outcomes which
focus on the financial ratios themselves without seeking out underlying problems or
future directions the company could take. Students adopting deep approaches have
interrelated outcomes which attend to the firm, its environment both on a micro and
macro level and consider solutions to the firm’s problems by addressing the underlying
causes of those problems. The decision to focus on the text itself carries with it an implicit decision to ignore the meaning of that text (Entwistle & Marton, 1984). A more detailed analysis can also show five qualitatively different categories of description. At the lowest level of approach to/experience of understanding financial statements, the task was, for students, to find one procedure in order to gain insights into financial information. This is often a mechanical and procedural means of analysing complex data and does not enable the student to engage with the material in a manner which provides useful insights to management about the current and potential operations of the company—the key objective of analysing financial data. At the highest level the task was, for students, to seek meaning in the statements by considering them within both a micro and macro context, namely at the level of the firm and the broader economy, in order to bring to this complex data the full range of factors which may have created the situation as it currently stands, or which can be utilised in order to remedy the situation for the future.

4.3 THE RELATIONSHIP OF THE EXERCISE TO PROFESSIONAL PRACTICE

When students undertook the practical assignment, a consideration for them was how to relate the assignment to professional practice, or how to make the transition between theoretical knowledge and practical application. Their approach to/experience of the relationship of theory to practice was the second student learning approach/experience examined in this study. Similarly to understanding financial statements, there was variation in approaches/experiences, as expressed in the various categories of description.

Variation of approaches/experiences

Students adopted a range of ways of making sense of the relationship of theory to practice. Key questions asked of students regarding the relationship between the assignment and professional practice were:

- What did you think you were being asked to do in this assignment?
- Was there anything in your previous work/study which you could bring to this task?
- Do you think this experience is useful for other work/study tasks you may be required to do?
As discussed in Chapter 3 (Method), and stated earlier in this chapter, the outcome space, representing the structural and referential aspects of the approach to/experience of the relationship of theory and practice can be mapped on to a matrix as in Table 4.2. The intersection of these structural and referential aspects combine to create the range of approaches to/experiences of the relationship of theory and practice.

Table 4.2
Outcome space: referential and structural aspects of approaches to/experiences of the relationship of theory to practice

<table>
<thead>
<tr>
<th>Structural (Strategy)</th>
<th>Referential (Intention)</th>
<th>Focusing on the requirements of the assignment</th>
<th>Focusing on the requirements of work</th>
<th>Finding meaning in the data</th>
<th>Finding meaning beyond the data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using materials provided</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storing for future use</td>
<td></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing proforma</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing proforma widely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeking the complete history</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeking the future</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When students talked about relating theory to practice within this assignment, there was variation in their focus. As expected, students varied in their approach/experience. The variation was from attending to the immediate requirements of the assignment by using material and processes provided in the course, to interrogating the data to find out the history and future of the company. Seven approaches/experiences were identified.
Categories of description

Category A. Limited data, course focus approach/experience
There was an intention to focus on the immediate demands of the assignment by adopting a strategy of using course material and basic processes provided in the course materials. There was no intention to consider the exercise in the context of professional practice.

Category B. Limited data, work focus approach/experience
There was an intention to focus on the unknown demands of future professional work by adopting a strategy of storing material and processes provided by the course, in that there was an intention to focus on work requirements. The strategy in both Categories A and B however, was to use only the materials provided to complete the requirements of the assignment. While students adopting a Category A approach/experience used the materials provided to address the problems of the current assignment, students using a Category B approach/experience had the intention of looking beyond the current exercise, to using the materials to solve problems which had arisen in their professional work environment.

Category C. Stored data, work focus approach/experience
There was an intention to focus on the immediate requirements of professional work by putting into practice a strategy of using relevant course material provided. The materials were intended for use in professional work. Within the strategy there was a delay factor operating in the use of the materials, since the students were not usually in a work environment. Students were in a setting which did not currently offer any opportunity to use and test out the materials. They stored information and material to be used at some time in the future, when work requirements would be known.

Category D. Proforma development, work focus approach/experience
There was an intention to focus on the requirements of work in the present and in the future by developing a proforma to help interpret data. This category of approach/experience extended that of Category C one step further, by recognising the potential of these materials for other exercises. Students adopting a Category D approach/experience intended to develop a proforma which could then be applied to
multiple uses in their professional environment. They were aware of the usefulness of these materials for other similar applications.

**Category E. Proforma testing, meaning focus approach/experience**

There was an intention to focus on the meaning of data by extensive trialing of a proforma. Category E went beyond these previous approaches/experiences, with an intention to seek meaning from the data, by adopting a strategy of testing the proforma widely in a range of professional contexts. It was the first of the approaches/experiences to seek meaning, and did so by testing out the proforma in as many contexts as possible.

**Category F. Company history, company identity focus approach/experience**

There was an intention to develop an understanding of the company’s story, its past, by interrogating data for meaning. Category F also had an intention to seek out meaning. The strategy however was to do so by understanding the company’s history from sources other than the financial statements.

**Category G. Company future, company identity focus approach/experience**

There was an intention to develop an understanding of the company’s story, its potential future by interrogating financial and other data for meaning and was similar to Category F in that the intention of students adopting this approach/experience was to understand the company, but the strategy was one of extending their understanding to make some judgements and recommendations about the future.

Categories F and G also had the similar intention as the highest order approach/experience to understanding financial statements, namely a perspective which looked to the past to identify problems and in Category G went further and adopted a strategy of looking to the future to solve them.

**Meaning of categories with exemplars**

**Category A. Limited data, course focus approach/experience**

There was an intention to focus on the immediate demands of the assignment by adopting a strategy of using course material and the basic processes provided.
Student comments which illustrate Category A are:

I prepared a sheet with how to do all the calculations by looking at it from the book. There’s one chapter which has all the instructions for how to do all the ratios, and I knocked the ratios together and then just analysed. I didn’t have a really planned process but I tend to do that a lot. U2

We’ve got everything prepared on a computer so most of those things are from the lecture, we have that prepared, and that is useful for the assignment . . . so combined lecture with reading was a very good basis for the assignment. A2

I referred a lot to the information that was given out. There was a handout we were given that explained all of the ratios and I relied fairly heavily on that and also a bit of the text. G10

Category B. Limited data, work focus approach/experience

There was an intention to focus on the unknown demands of future professional work by adopting a strategy of storing material and processes offered by the course. This involved the wrapping, trapping and taking away from the course this knowledge without any attempt, at that time, to assess its usability in their normal professional environment. The student did not seek the opportunity to test out a theory to extract from a template to perhaps a model. That exercise would occur if and when appropriate at some time in the future.

Student comments which illustrate Category B are:

Very convenient with this metal binder for accounting. So I have good lectures and different materials and in these lectures, my writings, my explanations, my questions to anybody I wrote on these pages. They’re my papers and you take these papers to Russia as a textbook. So more important for me were these papers, the papers used during our classes. A11

That will be the first period of going back to my former environment, to go back. After that I think I have to have another period of designing the way I can use what I learn here because unfortunately a very small amount of what I have been learning here is to be in use right now. A4

Student comments which illustrate Category A are:

I prepared a sheet with how to do all the calculations by looking at it from the book. There’s one chapter which has all the instructions for how to do all the ratios, and I knocked the ratios together and then just analysed. I didn’t have a really planned process but I tend to do that a lot. U2

We’ve got everything prepared on a computer so most of those things are from the lecture, we have that prepared, and that is useful for the assignment . . . so combined lecture with reading was a very good basis for the assignment. A2

I referred a lot to the information that was given out. There was a handout we were given that explained all of the ratios and I relied fairly heavily on that and also a bit of the text. G10

Category B. Limited data, work focus approach/experience

There was an intention to focus on the unknown demands of future professional work by adopting a strategy of storing material and processes offered by the course. This involved the wrapping, trapping and taking away from the course this knowledge without any attempt, at that time, to assess its usability in their normal professional environment. The student did not seek the opportunity to test out a theory to extract from a template to perhaps a model. That exercise would occur if and when appropriate at some time in the future.

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That will be the first period of going back to my former environment, to go back. After that I think I have to have another period of designing the way I can use what I learn here because unfortunately a very small amount of what I have been learning here is to be in use right now. A4
Category C. Stored data, work focus approach/experience

There was an intention to focus on the immediate requirements of professional work by putting into practice a strategy of using relevant course material provided. Students were keen to test the theories against their actual or perceived professional requirements.

Student comments which illustrate Category C are:

After finishing with all the assignments, I decided to check whether I could work with real documents. I got BHP’s financial report and tried to understand how it performs. Here are the same spreadsheets. A3

I hoped that there would be other elements that I could take back and relate. Otherwise it would be a waste of time I guess, given that I don't see myself moving out of the health industry in the near future. G5

Category D. Proforma development, work focus approach/experience

There was an intention to focus on the requirements of work in the present and in the future by developing a proforma to help interpret data. Within this study some students attempted to build a model as a means to solve the problem (a template) which could then be used to solve other similar problems. This acted as a simplification process, whereby, provided the student recognised similarities in the problem to be solved, previous efforts could be retrieved and recycled for use in this new problem situation.

Student comments which illustrate Category D are:

Now I think I've got a useful tool because I've got everything on my computer and I can change figures, the spreadsheets, you know. I can insert for example figures from my company and I can that way analyse my company. I can make a simulation, I can predict some future financial issues, um, and that way—it was the first time I was aware of that possibility. A2

It is useful because it is some style which you can . . . you can be familiar with this style, it is easy for you to do it. Every business report, from the format point of view, is similar to each other. A7

I think it is like any task—chemistry or physics or mathematics or economics, which is dealing with figures. The approach is the
same. You have to understand the task to find the proper formulas and to use them correctly. A6

... something passed my desk which was exactly my assignment in a condensed form ... the way I had approached this assignment ... that’s exactly what we provided the client with. G4

Category E.  Proforma testing, meaning focus approach/experience
There was an intention to focus on the meaning of data by extensive trialing of a proforma. The intention was to find meaning in the data. The method chosen to seek out meaning was to trial the proforma to test it under differing circumstances. The following two extracts indicate one approach/experience of actively seeking out an opportunity in the real workplace; the other of seizing an opportunity which presented itself in the current economy, to trial the proforma.

Student comments which illustrate Category E are:

After finishing with all the assignments, I decided to check whether I could work with real documents. I got BHP’s financial report and tried to understand how it performs. Here are the same spreadsheets. A3

[The use of the above extract in both Categories C and E highlights a basic phenomenographic principle that lower order conceptions are assumed in higher order categories (Marton & Saljo, 1976b).]

Something passed my desk where a client was requiring a financial stability analysis which was exactly my assignment in a condensed form ... the way I had approached the assignment ... that’s exactly what we provided the client. It’s not actually the first time I’ve been required to do something that I’ve just studied. G4

Category F.  Company history, company identity focus approach/experience
There was an intention to focus on an understanding of the company’s story, by interrogating data for meaning to develop an understanding of the company’s past. Students saw practice as involving finding meaning in the data to help them come to understand the company’s story; the company’s past story.

Student comments which illustrate Category F are:

... identify what the strengths and weaknesses were ... G10

same. You have to understand the task to find the proper formulas and to use them correctly. A6

... something passed my desk which was exactly my assignment in a condensed form ... the way I had approached this assignment ... that’s exactly what we provided the client with. G4

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Student comments which illustrate Category E are:

After finishing with all the assignments, I decided to check whether I could work with real documents. I got BHP’s financial report and tried to understand how it performs. Here are the same spreadsheets. A3

[The use of the above extract in both Categories C and E highlights a basic phenomenographic principle that lower order conceptions are assumed in higher order categories (Marton & Saljo, 1976b).]

Something passed my desk where a client was requiring a financial stability analysis which was exactly my assignment in a condensed form ... the way I approached the assignment ... that’s exactly what we provided the client. It’s not actually the first time I’ve been required to do something that I’ve just studied. G4

Category F.  Company history, company identity focus approach/experience
There was an intention to focus on an understanding of the company’s story, by interrogating data for meaning to develop an understanding of the company’s past. Students saw practice as involving finding meaning in the data to help them come to understand the company’s story; the company’s past story.

Student comments which illustrate Category F are:

... identify what the strengths and weaknesses were ... G10
Um, but the other thing was that also went through my mind, there may be something specific that I understood they had been trying to address by bringing in machinery and what have you. Why is it that there is still a problem? Are you doing long runs of something that isn't moving, that isn't required any further? That's the sort of stuff that went through my mind from a distance without knowing the specifics. Something like that might have been going on. G7

**Category G  Company future, company identity focus approach/experience**

There was an intention to focus on the company’s potential future by interrogating data for meaning. Students went beyond examining the company history and saw practice as involving finding meaning in the data by interrogating the historical data in order to make recommendations to management about future developments.

Recommendations were based on evaluations made by employing the ratios, with the first transcript extract used below encapsulating the approach/experience of students in this category.

Student comments which illustrate Category G are:

. . . the most important thing was to choose the solution for the managing director of the Decor Company which would help him to take a decision . . . So this was the main point in this assignment from my point of view . . . A9

Some students took a very general, global view of the company’s future and of their role in assisting management in the future direction of the company.

Interpreting is a bit like helping although, you know, you don't know much about it but you help people to recognise what they need. A1

Some students, in their attempt to find meaning in order to make recommendations for the future development of the company, were able to be quite specific. Others, because of their lack of familiarity with the system could not do this:

. . . in my assignment the greatest part of it was devoted to the future because I just couldn’t estimate—I could compare future possibilities with those ratios or with figures from the former time
and say whether they will be better or worse, but not good or bad.

A3

... weren't paying very much attention to what stocks were popular and what stocks weren't because they weren't controlling the high stock levels that they were maintaining. So I considered, in fact I made a recommendation, that they analyse their stock, um, to determine what stocks were moving fast, what stocks were producing a high margin so they could know where they should be focusing their efforts—at the high margin products—and what stocks were slow so they could focus on perhaps deleting them. G4

... any machinery you can run it 24 hours a day ... and reduce cost and look at their accounts payable and receivable procedures to improve cash flow. Do further research and development, not stop there just. G11

Even students with very little exposure to the business world still had similar comparisons to make.

You’d also link stock build up to increase in creditors and as a result you would also link the increase in creditors to reduction in net profit and reduction in, um, I think the term is debt to total assets ratio. U3

Distribution of student responses
The responses are plotted as a bar chart to indicate the distribution of, or the range of ways in which students made sense of the relationship of theory to practice.

Figure 4.3 represents the distribution of student responses for the variable, approach to/experience of the relationship of theory to practice. The most frequent response is in Category A: an intention to focus on the immediate demands of the assignment by adopting a strategy of using course material and basic processes provided in the course materials.
Lower and higher order approaches to/experiences of the relationship of theory to practice

Categories A, B, C and D could be regarded as lower order approaches/experiences and E, F and G as higher order approaches to/experiences of the relationship of theory to practice. This division parallels the surface/deep divide originally described and developed by Marton and Saljo (Marton & Saljo, 1976a; Marton & Saljo, 1984). The responses can be broken down into a single major divide concerning the basic intentions of the students.

Each of the categories are qualitatively different from the others, but like conceptions of learning (Saljo, 1979) the approaches/experiences fall into two distinctly different groups. The first group (A, B, C and D) focus on the immediate and obvious requirements of the assignment, or of work, and might usually be interpreted as surface or lower order approaches/experiences. The second group (E, F and G), focus on the meaning of the data and the consequence of this in terms of the history and future of the company. These categories can be classified as deep or higher order approaches/experiences.

Figure 4.3 represents the distribution of student responses for the two-point divide of approach to/experience of the relationship between theory and practice, with the most frequent responses being in the lower order or surface approaches (24 students) and fewer responses at the higher order or deep approaches (11 students). This follows the
same distribution as approaches to/experiences of financial statements with most students responding as Category A and not relating the exercise to practice.

Figure 4.4
Theory to practice: by lower/higher order approach/experience

Summary of student approaches to/experiences of the assignment as theory and as practice
There was variation among students in approaches to/experiences of the relationship of theory to practice. Overall there was a commonality among students around the use of templates as a bridge which enabled them to cross from a theoretical study of a concept to one where practice was made of that concept in a work situation. This is in evidence in Category D where students’ intentions were to focus on the immediate requirement of work in the present and in the future by developing a proforma to help interpret data. Students considered new theories either as a template that could be used in a similar workplace situation or the basis for developing their own, flexible model that could be used in a range of different workplace situations.

The variation occurred however in the use of the template as it was seen in two ways. One approach/experience was to develop the template/proforma but then wait for the appropriate situation to present itself for the trialing of it, as in Category D. The other approach/experience was seen to be more proactive, as in Category E where not only was the template developed but it was trialed extensively to find meaning either within the commercial reality of the student’s own background or against the commercial reality of Australia at the present time. If the template had no more use other than as a
template, the students were content to shed that and not take home or away from Swinburne any further ‘baggage.’

Students searching for meaning interrogated the data to find meaning from the company’s past (its history), for the purposes of either understanding the company and its history, or to use that understanding to give insights into the company’s future.

4.4 APPROACHES TO/EXPERIENCES OF GROUP WORK
The third aspect of the task focused upon, that of the way students approached/experienced groupwork, is examined. When students undertook the assignment, there was encouragement to work in groups. Students were asked about the way they worked with other students on the task. The approach to/experience of group work was the third student focus of investigation in this study. Similarly to the first two foci, there was considerable variation in this aspect of the task.

Variation of approaches/experiences
The range of approaches to/experiences of group work was plotted on an outcome space, as outlined in Chapter 3 (Method). Some key questions asked of students in relation to their approach to/experience of group work were:

- Did you discuss this assignment with other students?
- How and why did you work in groups?

4.4 APPROACHES TO/EXPERIENCES OF GROUP WORK
The third aspect of the task focused upon, that of the way students approached/experienced groupwork, is examined. When students undertook the assignment, there was encouragement to work in groups. Students were asked about the way they worked with other students on the task. The approach to/experience of group work was the third student focus of investigation in this study. Similarly to the first two foci, there was considerable variation in this aspect of the task.

Variation of approaches/experiences
The range of approaches to/experiences of group work was plotted on an outcome space, as outlined in Chapter 3 (Method). Some key questions asked of students in relation to their approach to/experience of group work were:

- Did you discuss this assignment with other students?
- How and why did you work in groups?
Table 4.3
Outcome space: structural and referential aspects of approaches to/experience of working in groups

<table>
<thead>
<tr>
<th>Structural (Strategy)</th>
<th>Referential (Intention)</th>
<th>Completing the assignment expediently</th>
<th>Completing an acceptable assignment</th>
<th>Enhancing individual learning</th>
<th>Enhancing and extending knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not using the group—all the work done individually</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the group to share the workload</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the group as a moderating force</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the group as a source of additional good ideas</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the group as a mechanism for learning</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Categories of description: student approaches to/experiences of group work

Category A. Individual work, expediency objective: work is done individually
Working alone, (not in a group) was seen to be the best way to complete an assignment. Working in a group was seen to hinder working expediently. Category A suggested there was no advantage in group work learning. All the remaining categories focused on positive aspects of groupwork. Category A respondents had not countenanced working in groups, usually on the basis of expedience.

Category B. Sharing workload, expediency objective
The group was used to share the workload and this was seen to be the way of working most expediently. They worked in groups, but again, only for expedience. The intention of expediting completion of the assignment was the key similarity between Categories...
A and B, but the strategies of achieving that are opposite. One avoided groups while the other embraced groups, both in the interests of completing the assignment expediently.

**Category C. Moderating force, assignment focus**
The group was used as a way of moderating ideas and content, ensuring that anything 'off track' was rejected or 'brought into line.' The group thus assisted in producing an assignment which was acceptable to academic staff. The responses differed from Category B in that their intention focused on the quality of the assignment, and in particular made the assignment acceptable to the person marking it. Category C respondents had as their intention that assignments 'stay on track'. The group was seen as acting as a moderating force; a strategy used to ensure that assignments followed the same path.

**Category D. Source of good ideas, individual learning focus**
The group helped individuals learn by providing additional good ideas which enhanced individual learning. This was a major shift as the intention was now on the enhancement of student learning, rather than satisfying some external party. The strategy was to use the group as a source of additional ideas so that individual learning could be enhanced, albeit as a repository of good ideas which could be deposited by individuals and taken out by individuals for their own use. This was quite different from the three earlier categories as the intentions in this category were directed at an intrinsic outcome rather than the extrinsic outcome, of the grade.

**Category E. Mechanism for learning, individual learning focus**
The group became a mechanism for assisting learning, as opposed to the source of information it was seen to be in previous categories. The focus was the development of knowledge in the individual students. Exemplars of Category E indicated that respondents valued collaborative discussion, while the focus remained on the individual students and their own learning. While Category E had the focus on the group as a mechanism for the enhancement of individual learning, respondents took the additional step of using the group to generate, challenge and clarify ideas, not just to take on additional ideas. This category was different from categories lower in the hierarchy in that it began to use the synergistic benefits of the group process, rather than just the contribution of more individuals.
Category F. Mechanism for learning, enhancing knowledge focus

The group became a mechanism for learning. The focus was that knowledge in general, not just knowledge as presented in the individual assignment, was extended. It was not until Category F that the group and the learning of the group as a whole became the focus. Category F respondents extended both the focus and the means of achieving the outcome. The focus was now moving away from the enhancement of individual learning and onto a different way of knowing; that which was only possible within the group. Here the group assumed a life or identity of its own, separate to that of its individual members.

Meaning of categories with exemplars and outcomes

Category A. Individual work, expedience objective

Work was done individually (not in a group) because this was seen to be the best way to complete an assignment. Working in a group was seen to hinder working expeditiously. Learning was seen to be the responsibility of the individual. Sharing of that responsibility created an artificial situation which impeded immediate learning and was detrimental to the professional development of the individual.

Student comments which illustrate Category A are:

It concerns the methods of studying here not only for the accountant. Back home we have no group or pair work, assignments in pairs at all. We have none. It is the responsibility of the person to prepare . . . I prefer to work on my own because in the future it will be the responsibility of individuals, especially in such assignments as accounting. For my opinion it is useless to work even in pairs because future work with these figures will be individual. A6

It takes time which is not useful. In the end I am the one who has to make a decision and I am better off to sit down and think it over alone. A5

Working together in a group causes procrastination and time wasting. Even meeting together is difficult and takes time. When you've got five people trying to do the same thing you have got five different opinions and five different ways of doing it. You just tend to procrastinate and weeks go by and you've done nothing apart from discuss it. So that's the disadvantage of it I suppose, the
procrastination. I'm the sort of person who'd rather get the assignments over and done with. G8

I just find getting together is time consuming and unrewarding. U9

**Category B. Sharing workload, expedience objective**

The group was used to share the workload and this was seen to be the way of working most expediently. From the perspective of Category B, students saw group work as a way of dividing the work. The assumption was that each student would have to do less if more students were involved. The focus was on the completion of the task and this was seen to be more efficient with more people to share the task.

Student comments which illustrate Category B are:

Actually, sometimes when like, towards the end when you've got a lot of assignments it's good to do it with a group. U10

**Category C. Moderating force, assignment focus**

The group was used as a way of moderating ideas and content, ensuring that anything 'off track' was rejected or brought into line. The group thus assisted in producing an assignment acceptable to academic staff. From this perspective the focus once again was the satisfactory completion of the task, but the focus had shifted to what the teacher expected from the task. The group served as a mechanism for monitoring anything which might be unacceptable. It prevented students pursuing tangential arguments and ensured a certain consistency of response.

Student comments which illustrate Category C are:

Yes, because it [the group] is really useful. You can avoid mistakes and sometimes you interpret figures differently. In any case, it is a good idea to discuss it, not just to put calculations together and find you are different from all the others and you have to go back and check. A7

"Y, what do you think? Is it the same in your opinion?" Very often it was the same opinion, just not to help each other but just only for control, to make sure that your thinking is not extraordinary or maybe anything unusual. Y felt the same, just only with Y. A11
Yes, it's really useful because sometimes you are not sure about the ideas and in that case it helps to clarify. If you find that their understanding is the same, it means that you are on the right track and you can follow your logic. A9

It did help me feel better, I really used it as a way of reassuring myself that I was on the right track. G2

I discussed it with others. Just maybe to check results or something like that, just to be sure you’re on the right track. U8

Category D. Source of good ideas, individual learning focus
The group helped individuals learn by providing additional good ideas which enhanced individual learning. Students saw the group as a source of additional information. The group was a collection of peers with ideas and information to be tapped into. The purpose was to get and sometimes to give information or ideas to be added to the assignment.

Student comments which illustrate Category D are:

It gives me a chance to go back and either fatten up or hone in on something that I've missed altogether. G8

So I think personally I achieved more by doing it on my own. I sit down and question with people and I'll get some ideas but I prefer to work through it on my own. I just feel personally I get more out of it. G5

I discussed it with other people on the course and then . . . So listening to him and listening to what you'd said about it, I put that into my answer or my response. G6

I don't mind discussing it because you get some good ideas and there may be some obvious points that you've missed or haven't highlighted maybe. But I prefer to do assignments on my own. G8

Yeah, just see what they've got to say about it, each one [of the group], and then if I think it's worth it I might change it or add something. U5

Sometimes you read through it and you get this narrow-minded idea of this is what it is. You talk to somebody else and they say, "How about this" and you go, "Oh, yes". I find that helps. U6

Yes, it's really useful because sometimes you are not sure about the ideas and in that case it helps to clarify. If you find that their understanding is the same, it means that you are on the right track and you can follow your logic. A9

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Yeah, just see what they've got to say about it, each one [of the group], and then if I think it's worth it I might change it or add something. U5

Sometimes you read through it and you get this narrow-minded idea of this is what it is. You talk to somebody else and they say, "How about this" and you go, "Oh, yes". I find that helps. U6
Category E. Mechanism for learning, individual learning focus
The group became a mechanism for assisting learning (as opposed to the source of information it was seen to be in previous categories). The focus of this was the development of knowledge in the individual student. The group became a tool for learning, as opposed to the source of information as seen to be in previous categories. Discussion helped clarify ideas as well as providing new ideas.

Student comments which illustrate Category E are:

The teamwork is very important. For example, I had some talks with two colleagues of mine and that saved a lot of time in a better understanding of the first part because if you understand something and you try to convince somebody else you are right, then through this talking you can develop a better understanding of what you are talking about. A4

You are not sure you are right until you are talking with somebody else. A4

You can sort of discuss a thing and go away and get all your ratios and things that you need and discuss how they sort of affect different things within the business and you can come back and compare it with someone else's to see how they went. Basically, that's what I did and that's what quite a few people did I believe. U9

It is more a matter of saying, “I don’t understand this, do you understand it? But I understand that and maybe you don’t.” So it is more a matter of swapping. Working in a team, you can learn just heaps that way. Well I feel as if I’ve learned heaps that way. G9

Category F. Mechanism for learning, enhancing knowledge focus
The group became a mechanism for learning. The focus of this was that knowledge in general, not just knowledge as presented in the individual assignment, was extended.

This final approach/experience went beyond seeing the group as an opportunity for discussion and, consequently, a way of improving individual learning. It made explicit the idea that through group discussion the whole group grew and learned. The collective experience was greater than the sum of the parts.

Student comments which illustrate Category F are:

The teamwork is very important. For example, I had some talks with two colleagues of mine and that saved a lot of time in a better understanding of the first part because if you understand something and you try to convince somebody else you are right, then through this talking you can develop a better understanding of what you are talking about. A4

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That's one thing I like about this whole course, that you are able to discuss with other people. You do feed off other people's ideas and they feed off you too and there's such a cross section of people . . .

G1

Most of the time you're both right, but you just go on . . . gain more from one another. U6

At the same time I felt happy because I think its just another way of acknowledging and learning how to do teamwork and working with other people's strengths. G7

The group's own identity, independent from that of the individuals, and responsibility for learning, is exemplified in the term “our head” in the extract below:

. . . a sense of feeling, an acknowledgment that we were getting our head around some of the issues that the organisation itself was looking at. G7.

Distribution of student responses
The distribution is plotted as a bar chart to indicate the frequency of students in particular categories of the approach to/experience of group work. The distribution of student learning approaches/experiences across the categories of description of approaches to/experiences of group work, is presented in Figure 4.5.

Figure 4.5 represents the distribution of student responses concerning the way they approach group work, with the most frequent responses being equally distributed across Categories A, C and D. Categories A and C are lower order and Category D represents a higher order approach.

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Lower and higher order approaches to/experiences of group work

Categories A, B and C could be regarded as lower order approaches/experiences and D, E and F as higher order approaches to/experiences to group work. This division parallels the surface/deep divide originally described and developed by Marton and Saljo (Marton & Saljo, 1976a; Marton & Saljo, 1984). The responses can be broken down into a single major divide concerning the basic intentions of the students. The student responses are plotted as a bar chart to indicate the distribution of student learning approaches/experiences when the approaches/experiences are divided only between lower and higher order approaches to/experiences of group work.

In terms of deep and surface approaches to learning, approaches/experiences represented by Categories A, B and C are indicative of a surface approach, that is, the student’s intention is to focus on the ‘signs’, while approaches/experiences represented by Categories D, E and F are indicative of a deep approach, that is, the intention is to focus on ‘what is signified’ (Entwistle & Marton, 1984). The first is a necessary precursor to the second, however many students fail to go beyond attending to the signs and do not structure the task in such a way that meaning is the intended and actual outcome (Ramsden, 1992).

Figure 4.6 represents the distribution of student responses for the two-point divide of approach to/experience of group work, with a higher distribution at the lower order or surface approaches/experiences (21 students) and fewer responses at the higher order or deep approaches/experiences (12 students).
There were two non-responses from students in relation to group work. The three peaks of the full scale data of Figure 4.5 with 9 students at each of Categories A, C and D straddle both the surface and deep approaches/experiences in this two-point classification.

**Figure 4.6**
Group work: by lower/higher order approach/experience

![Graph showing the distribution of responses to group work between NR, Lower, and Higher categories.]

### Summary of student responses to working in groups

The range of experiences covered the surface to deep approaches as documented previously, with the most dominant level of responses at both the lowest, Category A, and Categories C and D. Fewer students were observed to operate at the highest order level, which is common in phenomenographic studies. Students were willing to work in groups to expedite their own individual assignment at the lower order level. Their focus was on completion of an individual task with forays into the group for either workload savings or moderating effects of group members. In contrast, at the higher order level, student were enriched by the group process, both at the individual level and ultimately at the level of the group itself providing a synergistic means of learning not open to individuals acting alone.

Students had a range of approaches to/experiences of group work, from total non-engagement in group activities, to group work as a means of expediting the workload through to using the group as a mechanism for learning with a focus on the enhancement of knowledge. Factors which impinged upon student preferences for group work related to: their previous cultural and educational experiences of group work; their current level of education; and other commitments.
Interrelatedness of approaches/experiences
Observations were made during the study that students who in one area might have certain approaches/experiences might also be adopting similar approaches/experiences in another area. For example, there could be some relationship between the way students made sense of financial statements and the way they saw the relationship of theory to practice, or to group work.

Research into student learning demonstrates a relationship between the way students approach a task and the level of meaningful outcome they achieve. Students who can relate elements of one learning experience to a new and abstract concept have better quality learning outcomes than those who cannot (Trigwell & Prosser, 1997). These assertions are supported by Ramsden, and Entwistle and Marton (Ramsden, 1992; Entwistle & Marton, 1984). Consequently, it is reasonable to hypothesise a relationship between one approach/experience in this study and another.

Financial statements to theory to practice
When considering the interrelatedness of approaches/experiences some appeared to have a stronger relationship than others. The relationship between approaches to/experiences of financial statements and approaches to/experiences of theory to practice was the strongest of these. This relationship was explored across the full cohort of students to determine the existence and strength of this relationship.

The results of this relationship are illustrated in Table 4.4.
Table 4.4
Financial statements to theory to practice

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
</tr>
<tr>
<td>Lower</td>
<td>A</td>
</tr>
<tr>
<td>Lower Order</td>
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</tr>
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<tr>
<td>B</td>
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</tr>
<tr>
<td>C</td>
<td>6</td>
</tr>
</tbody>
</table>

Phi = .867 NS for lower order or higher order approaches/experiences

Of the total 35 students studied, 24 students exhibited lower order approaches to/experiences of understanding financial statements, the same number that indicated lower order approaches to/experiences of the relationship of theory to practice. While 11 students indicated higher order approaches to/experiences of the understanding of financial statements, 10 also indicated higher order approaches to/experiences of the relationship of theory to practice. The phi value for measuring the strength of this relationship of lower and higher order approaches in both aspects of the assignment was .867, which while not statistically significant due to the population size, was deemed large, and still indicated a very strong relationship between the two.

Financial Statements to Group Work
Contrary to the previous relationship, there was not a strong relationship demonstrated between understanding financial statements and group work.

Theory to Practice to Group Work
Similarly with the above, there was also not a strong relationship demonstrated between theory to practice and group work.
The presentation of results can be illustrated on the basis of the variation between the three cohorts of students.

4.5 Variation in student approaches/experiences between the three cohorts

4.6 Introduction
The earlier results presented for the study subjects as a whole were drawn from three separate cohorts of students, with each cohort undertaking the same assignment in the early stages of a course in Accounting. Each of the three cohorts had its own distinguishing characteristics, as discussed in Chapter 3 (Method). The APTEE students were Eastern European post-graduate middle managers who were in Australia for eight months of intensive study and work experience in the area of business administration. The Graduate Certificate students were local middle managers undertaking the same study program, but in an extended rather than intensive delivery mode. The Undergraduate students were young first-year students, substantially from secondary school with little or no experience of the accounting workplace and who were taking Accounting as a first year subject.

The results are presented for the individual cohorts, in a comparable manner to that of the whole cohort, as they pertain to the three aspects of the assignment, namely, approaches to/experiences of:

1. Understanding financial statements
2. Theory to practice
3. Group work.

4.7 Approaches to/Experiences of Understanding Financial Statements
The distribution of student responses to approaches to/experiences of financial statements can be presented, with mean ranks, for each cohort.
Table 4.5  
Approaches to/experiences of understanding financial statements: by cohort

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Lower Order</th>
<th>Higher Order</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>APTEE</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Graduate Certificate</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

Chi² = 2.197  PNS Kruskall Wallace

Measuring the variable 'approach to/experience of understanding financial statements' using the mean rank of cohorts, the APTEE student cohort had the lowest mean rank. This was 14.3 compared to 20 and 19.4 for the Graduate Certificate and Undergraduate cohorts respectively. This measure gives a relative ranking of the cohorts. This is also confirmed in Table 4.5 which shows that the APTEE student cohort is more heavily represented in the lower order approaches. The Graduate Certificate students are slightly higher on the mean scores than the Undergraduates, but the Graduate Certificate and Undergraduate students are both more heavily represented than the APTEE students in the higher order approaches to understanding financial statements.

The extent to which the three different cohorts are represented in each of the categories of experience of understanding financial statements can be explained by the categories of description.

Category A focused on procedure and the application of those procedures to all the data and was the least complex way of understanding financial statements. There was a high concentration of APTEE students.

Category B focused on the selection of a particular issue with procedures applied to all data. There was a high concentration of Undergraduate students.

Category C focused on the identification of key components of an issue with procedures applied to relevant data. There was a heavy concentration of student responses across all

<table>
<thead>
<tr>
<th>Cohort</th>
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<th>Mean Rank</th>
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<tbody>
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<td>C</td>
<td>D</td>
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<td>2</td>
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<tr>
<td>Graduate Certificate</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Undergraduate</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>10</td>
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Category C focused on the identification of key components of an issue with procedures applied to relevant data. There was a heavy concentration of student responses across all
cohorts (almost one third). There was an even distribution of the cohorts across the
category.

Category D involved seeing the problem in a broader context with additional non-
financial data being considered. This had double the number of Graduate Certificate
student responses as either of the other two cohorts.

Category E also saw the problem in a broader context but made comments for the future
of the company. It had, as expected for the highest order approach/experience in
phenomenographic analysis, a low number of responses overall. There were no APTEE
students, one Graduate Certificate student and two Undergraduate students in this
category. This indicates a higher order approach to/experience of understanding
financial statements.

The distributions of each student cohort across each of the categories of description of
approaches to/experiences of understanding financial statements are illustrated in
Figures 4.7, 4.8 and 4.9.
APTEE cohort

Figure 4.7 represents the distribution of APTEE student responses for the variable, approach to/experience of understanding financial statements, with the most frequent responses being in Categories A and C with the most frequent response in category A. This was classified as the lowest in the hierarchy of approaches to/experience of understanding financial statements.

Figure 4.7
Approach to/experience of understanding financial statements: by APTEE cohort

APTEE cohort

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Figure 4.7
Approach to/experience of understanding financial statements: by APTEE cohort
Graduate Certificate cohort

Figure 4.8 represents the Graduate Certificate student responses in terms of their experience of understanding financial statements. The most frequent responses occurred in Categories D and C with the most frequent response being Category D. This was classified as the highest of the surface approaches to understanding financial statements.

Figure 4.8
Approach to/experience of understanding financial statements: by Graduate Certificate cohort
Undergraduate cohort

Figure 4.9 represents the distribution of Undergraduate student responses for the variable, understanding financial statements. The most frequent responses occurred in Categories B and C. These were classified as the two highest of the surface approaches to understanding financial statements.

Figure 4.9
Approach to/experience of understanding financial statements: by Undergraduate cohort

Lower/higher order approaches to/experiences of understanding financial statements

The responses can be grouped into lower and higher responses for each cohort. Figure 4.10 represents the distribution of all cohorts responses on the two-point scale of lower and higher order approaches/experiences for the variable, approach to/experience of understanding financial statements, with the most frequent responses occurring in the lower order or surface approaches. This was not consistent across all three cohorts, with the Graduate Certificate cohort having a more even spread across lower and higher order approaches/experiences with a slight dominance at the higher order.
4.8 Approaches to/experiences of the relationship of theory to practice

As with the approach to/experience of understanding financial statements, the second student learning approach/experience, that of the relationship of theory to practice, is examined using the three student cohorts.
Table 4.6

Approach to/experience of the relationship of theory to practice

<table>
<thead>
<tr>
<th>Approaches to Theory to Practice</th>
<th>Lower Order</th>
<th>Higher Order</th>
<th>N</th>
<th>Mean Rank</th>
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<tbody>
<tr>
<td></td>
<td>A B C D</td>
<td>E F G</td>
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<td>Undergraduate</td>
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<td>35</td>
<td></td>
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</tr>
</tbody>
</table>

Chi $^2 = 2.776$ PNS Kruskall Wallace

For the variable ‘approach to/experience of the relationship of theory to practice’ the mean rank of cohorts indicated that the Undergraduate student cohort had the lowest mean rank. This was 14.6 compared with 19 and 21 for the APTEE and Graduate Certificate cohorts respectively.

Category A focused only on the processes and materials provided by the course and was most prevalent in responses of undergraduate students. The APTEE and Graduate Certificate student cohorts were almost equally represented but at a lesser level than that of the undergraduates.

Category B focused on the unknown demands of future professional work and was most prevalent among the APTEE cohort. The learning approach/experience was concentrated on storing up as much material as possible, as its potential for use was both unknown and limitless. While Category B reports no students as being finally classified as Category B, it was an approach/experience particularly evident with the APTEE students who were most unsure of the need for this information, but were prepared to figuratively store it and unpack it on their return home in order to assess its relevance.

As mentioned in Chapter 3 (Method), this category still existed, even without students indicating it as their highest order approach/experience. Although the category was acknowledged, it did not remain as the highest order ranking of any student in the phenomenographic hierarchy of approaches.
Category C focused on immediate requirements of professional work and was more commonly expressed by Graduate Certificate students. On final classification however, Category C was not strongly represented either in the total population or in particular cohorts. There were only two APTEE students for whom this was their highest order approach, although other students had incorporated this lower approach within higher order approaches.

Category D also focused on immediate requirements of professional work and was not strongly represented in the total population. It was however, represented significantly more in the APTEE student cohort than in the other cohorts.

Category E focused on the meaning of data by extensive trialing of the proforma and was commonly expressed by all cohorts, with the timing and extent of the trialing determined by the access each group had to opportunities for testing.

Category F found meaning in the history of the company and was exhibited by all groups, with a more specific and current local knowledge base being called upon by the Graduate Certificate students. With Category F being a higher order approach/experience it was again consistent that this response was not strongly represented in the total population. The spread was fairly even across the three cohorts, with a lower representation from the undergraduate cohort.

Category G focused on meaning coming from the recommendations for the company’s future. With Category G being the highest order approach/experience it was expected, as is usual in phenomenographic studies, that this highest order approach/experience not be strongly represented in the total population. There were only two students in the total cohort demonstrating this approach/experience as their highest order approach/experience; one from each of the Graduate Certificate and Undergraduate cohorts.

The distribution of each cohort of students across the approach to/experience of the relationship of theory to practice is illustrated in Figures 4.11, 4.12 and 4.13.
APTEE cohort
Figure 4.11 represents the distribution of APTEE student responses for the variable, approach to/experience of the relationship of theory to practice, with the most frequent responses occurring in Categories A and D with the most frequent response occurring in Category D: ‘an intention to focus on the requirements of work in the present and in the future by developing a proforma to help interpret data’. This was classified as the highest of the surface approaches to/experiences of the relationship of theory to practice.

Figure 4.11
Approach to/experience of the relationship of theory to practice: by APTEE cohort
Figure 4.12 represents the distribution of Graduate Certificate student responses for the variable, approach to/experience of the relationship of theory to practice, with the most frequent responses occurring in Categories A and E and the most frequent response being Category A: ‘an intention to focus on the immediate demands of the assignment by adopting a strategy of using course material and basic processes provided in the course materials’. This was classified as the lowest of the surface approaches to/experiences of the relationship of theory to practice.
**Undergraduate cohort**

Figure 4.13 represents the distribution of Undergraduate student responses for the variable, approach to/experience of the relationship of theory to practice, with the most frequent response occurring in Category A: ‘an intention to focus on the immediate demands of the assignment by adopting a strategy of using course material and basic processes provided in the course materials’. This was classified as the lowest of the surface approaches to the relationship of theory to practice.

**Figure 4.13**
Approach to/experience of theory to practice: by Undergraduate cohort

---

**Lower/higher order approaches to/experiences of the relationship of theory to practice**

The responses can be grouped into lower and higher order responses for each cohort. The spread of the individual cohorts between lower and higher order approaches to/experiences of the relationship of theory to practice is illustrated in Figures 4.14, 4.15 and 4.16.

---

**Figure 4.13**
Approach to/experience of theory to practice: by Undergraduate cohort

---

**Lower/higher order approaches to/experiences of the relationship of theory to practice**

The responses can be grouped into lower and higher order responses for each cohort. The spread of the individual cohorts between lower and higher order approaches to/experiences of the relationship of theory to practice is illustrated in Figures 4.14, 4.15 and 4.16.

---

**Undergraduate cohort**

Figure 4.13 represents the distribution of Undergraduate student responses for the variable, approach to/experience of the relationship of theory to practice, with the most frequent response occurring in Category A: ‘an intention to focus on the immediate demands of the assignment by adopting a strategy of using course material and basic processes provided in the course materials’. This was classified as the lowest of the surface approaches to the relationship of theory to practice.

**Figure 4.13**
Approach to/experience of theory to practice: by Undergraduate cohort

---

**Lower/higher order approaches to/experiences of the relationship of theory to practice**

The responses can be grouped into lower and higher order responses for each cohort. The spread of the individual cohorts between lower and higher order approaches to/experiences of the relationship of theory to practice is illustrated in Figures 4.14, 4.15 and 4.16.
Figure 4.14 represents the distribution of all cohorts responses on the two-point scale, with the most frequent responses being in the lower order or surface approaches, although this was not consistent across all cohorts, with the Graduate Certificate cohort having an even spread across lower and higher order approaches/experiences with a slight dominance at the higher order.

**Figure 4.14**
Approach to/experience of the relationship of theory to practice of all students: by lower and higher order approach

![Bar chart](chart1.jpg)

Similarly to the approach to understanding financial statements, the distribution of results for approach to/experience of the relationship of theory to practice indicated a dominance of the APTEE and Undergraduate students in the lower order approaches (9 and 10 students from cohorts of 11 and 13 respectively) with a particularly strong representation in the lowest category for all cohorts, with the Graduate Certificate students having a much higher representation in the higher order approaches/experiences (6 from a cohort of 11).

**Interrelatedness of approaches/experiences**
The interrelatedness of approaches/experiences was examined by individual cohort on a two-point scale of lower and higher order approaches/experiences.

Similarly to the approach to understanding financial statements, the distribution of results for approach to/experience of the relationship of theory to practice indicated a dominance of the APTEE and Undergraduate students in the lower order approaches (9 and 10 students from cohorts of 11 and 13 respectively) with a particularly strong representation in the lowest category for all cohorts, with the Graduate Certificate students having a much higher representation in the higher order approaches/experiences (6 from a cohort of 11).

**Interrelatedness of approaches/experiences**
The interrelatedness of approaches/experiences was examined by individual cohort on a two-point scale of lower and higher order approaches/experiences.
Understanding financial statements to theory to practice: by cohort

This relationship was the strongest across the total cohort and is examined for individual cohorts.

APTEE cohort

The first relationship to be assessed was that of approach to/experience of understanding financial statements to approach to/experience of the relationship between theory and practice. From the APTEE cohort, 9 students indicated lower order approaches to/experiences of understanding financial statements, and 9 also indicated lower order approaches to/experiences of the relationship of theory to practice, with 2 students indicating higher order approaches in each. The phi value for this relationship of variables was 1.0, indicating a perfect relationship between approaches to/experiences of understanding financial statements and approaches to/experiences of the relationship of theory to practice for the APTEE students.

Table 4.7

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
</tr>
<tr>
<td>Lower Order</td>
<td>A 3 1 4</td>
</tr>
<tr>
<td>B 2 2 9</td>
<td></td>
</tr>
<tr>
<td>C 2 1 3</td>
<td></td>
</tr>
<tr>
<td>Higher Order</td>
<td>D 2 2 2</td>
</tr>
<tr>
<td>E 3 2 4 9</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3 9 2 11</td>
</tr>
</tbody>
</table>

Cohort =1 (APTEE)
Phi = 1.0 NS
Graduate Certificate cohort

Of the Graduate Certificate cohort, 5 students indicated lower order approaches to/experiences of understanding financial statements, and 6 indicated lower order approaches to/experiences of the relationship of theory to practice with the numbers reversed for higher order approaches/experiences. The phi value for this relationship of variables was .833 indicating a very strong relationship.

Table 4.8
Financial statements to theory to practice: by Graduate Certificate cohort

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
</tr>
<tr>
<td>Lower Order</td>
<td>A</td>
</tr>
<tr>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Higher Order</td>
<td>D</td>
</tr>
<tr>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cohort =2 (Graduate Certificate)
Phi = .833 NS

Graduate Certificate cohort

Of the Graduate Certificate cohort, 5 students indicated lower order approaches to/experiences of understanding financial statements, and 6 indicated lower order approaches to/experiences of the relationship of theory to practice with the numbers reversed for higher order approaches/experiences. The phi value for this relationship of variables was .833 indicating a very strong relationship.

Table 4.8
Financial statements to theory to practice: by Graduate Certificate cohort

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
</tr>
<tr>
<td>Lower Order</td>
<td>A</td>
</tr>
<tr>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Higher Order</td>
<td>D</td>
</tr>
<tr>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cohort =2 (Graduate Certificate)
Phi = .833 NS
Undergraduate cohort

Of the Undergraduate cohort, 10 students indicated lower order approaches to/experiences of understanding financial statements, and 8 indicated lower order approaches to/experiences of the relationship of theory to practice, with only 3 and 4 students respectively for the higher order approaches/experiences. The phi value for this relationship of variables was .822 indicating a strong relationship between the two approaches/experiences.

Table 4.9
Financial statements to theory to practice: by Undergraduate cohort

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
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<tr>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
</tr>
</tbody>
</table>

Cohort = 3 (Undergraduate)
Phi = .822 NS

When considering the interrelatedness of these first two approaches, the strongest was with the APTEE group with a phi value of 1.0 compared to lesser values of .833 and .822 respectively for the Graduate Certificate and Undergraduate students. Although these were statistically not significant due to small population size of each cohort, they were indicative of the variation between the cohorts.
4.9 Group work

The distribution of student approaches to/experiences of groupwork is presented with mean ranks for each cohort. The mean rank of cohorts indicated that the Graduate Certificate cohort performed better than both other cohorts with a mean rank of 19.8 compared with 15.6 for both the APTEE and Undergraduate cohorts in approach to/experience of groupwork.

Table 4.10

<table>
<thead>
<tr>
<th>Approaches to Group Work</th>
<th>Cohort</th>
<th>Lower Order</th>
<th>Higher Order</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A B C D E F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APTEE</td>
<td>1 3 4 1 1 9</td>
<td></td>
<td></td>
<td>15.6</td>
<td></td>
</tr>
<tr>
<td>Graduate Certificate</td>
<td>2 3 2 1 1 11</td>
<td></td>
<td></td>
<td>19.8</td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>3 3 3 4 1 13</td>
<td></td>
<td></td>
<td>15.6</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9 3 9 2 1 33</td>
<td></td>
<td></td>
<td>21 12</td>
<td></td>
</tr>
</tbody>
</table>

Chi² = 1.445 PNS Kruskall-Wallis

Category A was evenly distributed across the cohorts. It is the lowest order of approach to/experience of group work and is a negative response to the group work experience.

Category B was embraced by the Undergraduate students who saw only the potential for reducing the task requirements by dividing them, without necessarily perceiving the benefits of group work as contributing to a qualitatively better assignment and learning experience.

Category C was adopted across all three cohorts, but more frequently by the APTEE students.

Category D was adopted across all three cohorts, but with equal and higher representation in the Graduate Certificate and Undergraduate cohorts.

Category E was adopted by few students which was consistent with phenomenographic hierarchical rankings where lower participation in higher order approaches/experiences...
is common, and was only adopted sparingly by the APTEE and Graduate Certificate students.

Category F was adopted by only one student, which was consistent with lower participation in higher order approaches/experiences. That student belonged to the Graduate Certificate cohort.

The distribution of these categories for the particular cohorts is illustrated in Figures 4.15, 4.16 and 4.17.

**APTEE cohort**

Figure 4.15 represents the distribution of APTEE student responses for the variable, approach to/experience of group work, with the most frequent responses occurring in Categories A and C, with the most frequent response being Category C: ‘the group ensures that assignments of group members will be acceptable because it acts as a moderating force on the approaches and content of individuals. Anything off track is rejected’. This was classified as the highest of the lower order or surface approaches to/experiences of group work.

**Figure 4.15**
Approach to/experience of group work: by APTEE cohort

![Graph showing distribution of APTEE cohort responses]

APTEE cohort

Figure 4.15 represents the distribution of APTEE student responses for the variable, approach to/experience of group work, with the most frequent responses occurring in Categories A and C, with the most frequent response being Category C: ‘the group ensures that assignments of group members will be acceptable because it acts as a moderating force on the approaches and content of individuals. Anything off track is rejected’. This was classified as the highest of the lower order or surface approaches to/experiences of group work.

**Figure 4.15**
Approach to/experience of group work: by APTEE cohort

![Graph showing distribution of APTEE cohort responses]
Graduate Certificate cohort

Figure 4.16 represents the distribution of Graduate Certificate student responses for the variable, approach to/experience of group work, with the most frequent responses occurring in Categories A and D with the most frequent response being Category D: ‘the group assists the individual to learn by providing a source from which additional good ideas can be put in and taken out to be incorporated into individual assignments’. This was classified as the highest of the surface approaches to group work.

Figure 4.16
Approach to/experience of group work: by Graduate Certificate cohort
Undergraduate cohort

Figure 4.17 represents the distribution of Undergraduate student responses for the variable, approach to/experience of group work, with responses being evenly spread across Categories A, B and C but with the most frequent response occurring in Category D: ‘the group assists the individual to learn by providing a source from which additional good ideas can be put in and taken out to be incorporated into individual assignments’. This was classified as the highest of the surface approaches to group work.

Lower/higher order approaches to/experiences of group work

The individual cohorts were examined on the basis of the two-point scale division between lower and higher order approaches to/experiences of group work and is illustrated in Figure 4.18.

Figure 4.18 represents the distribution of all cohort responses for the variable, approach to/experience of group work, with the most frequent responses being in the lower order or surface approaches. This, as in the previous two approaches/experiences was not consistent across all three cohorts, with the Graduate Certificate cohort having an even spread across lower and higher order approaches/experiences with a slight dominance at the higher order.
When examining group work across the cohorts, APTEE and undergraduate students’ responses were more commonly found in the lower order approaches (7 and 9 from cohorts of 11 and 13 respectively), while the Graduate Certificate students were more evenly spread across the higher and lower order approaches/experiences, with a slight dominance at the higher order.

**Interrelatedness of approaches/experiences**
The interrelatedness of approaches/experiences was examined for individual cohorts on a two-point scale. Lower and higher order approaches/experiences to understanding financial statements with lower and higher order approaches to/experiences of group work was examined, followed by the interrelatedness of approaches to/experiences of theory to practice to group work.

**Financial statements to group work: two-point scale**
The relationship of approach to/experience of understanding financial statements to approach to/experience of group work for all student cohorts is examined.
From the APTEE cohort, 7 students indicated lower order approaches/experiences to understanding financial statements and 8 indicated lower order approaches to/experiences of group work, with 2 and 1 respectively for the higher order approaches/experiences. The phi value for this relationship of variables was .661 which indicated a strong relationship between approaches to/experiences of understanding financial statements and group work for the APTEE students.

### Table 4.11

Financial statements to group work: by APTEE cohort

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Group Work</th>
<th>Lower Order</th>
<th>Higher Order</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>A 2 1 3</td>
<td>D 1 2 3</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Higher Order</td>
<td>B 1 1 2 8</td>
<td>E 1 1 1 2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>3 4 1 1 9</td>
<td>7 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cohort =1 (APTEE)

Phi = .661 NS
Graduate Certificate cohort

The same relationship was examined, that of approach to/experience of understanding financial statements to approach to/experience of group work, for the Graduate Certificate student cohort. Of the Graduate Certificate cohort, 5 students indicated lower order approaches to/experiences of understanding financial statements and, 6 students indicated lower order approaches to/experiences of group work, while the numbers were 6 and 5 respectively for the higher order approaches/experiences. The phi value for this relationship of variables was .100, indicating in this cohort and for this combination of variables that no relationship existed between the variables.

Table 4.12

Financial statements to group work: by Graduate Certificate cohort

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Group Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Lower Order B</td>
<td>1</td>
</tr>
<tr>
<td>Higher Order D</td>
<td>2</td>
</tr>
<tr>
<td>Higher Order E</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
</tr>
</tbody>
</table>

Cohort = 2 (Graduate Certificate)
Phi = .100 NS
The same relationship was examined, that of approach to/experience of understanding financial statements to approach to/experience of group work for the Undergraduate student cohort. Of the Undergraduate cohort, 9 students indicated lower order approaches to/experiences of understanding financial statements, with the same number indicating responses which were deemed to be lower order approaches to/experiences of group work, with the numbers of 4 and 4 respectively for higher order approaches/experiences. The phi value for this relationship of variables was .639, again indicating a strong relationship between approaches to/experiences of understanding financial statements and approaches to/experiences of group work for the Undergraduate students.

### Table 4.13

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Group Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>A</td>
</tr>
<tr>
<td>Lower Order</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Higher Order</td>
<td>D</td>
</tr>
<tr>
<td>Higher Order</td>
<td>E</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
</tr>
</tbody>
</table>

Cohort = Undergraduate
Phi = .639 NS

Relationships between approaches/experiences were much weaker when comparing financial statements to group work. The phi values of .661, .100 and .639 for the three cohorts cannot be considered as evidence of a strong relationship, particularly in the Graduate Certificate cohort with a phi value of .100.

### Relationship of theory to practice to group work

The relationship of approach to/experience of the relationship of theory to practice to approach to/experience of group work for all student cohorts is examined.

### Table 4.13

<table>
<thead>
<tr>
<th>Approaches to Financial Statements</th>
<th>Approaches to Group Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>A</td>
</tr>
<tr>
<td>Lower Order</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Higher Order</td>
<td>D</td>
</tr>
<tr>
<td>Higher Order</td>
<td>E</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
</tr>
</tbody>
</table>

Cohort = Undergraduate
Phi = .639 NS

Relationships between approaches/experiences were much weaker when comparing financial statements to group work. The phi values of .661, .100 and .639 for the three cohorts cannot be considered as evidence of a strong relationship, particularly in the Graduate Certificate cohort with a phi value of .100.

### Relationship of theory to practice to group work

The relationship of approach to/experience of the relationship of theory to practice to approach to/experience of group work for all student cohorts is examined.
From the APTEE cohort, 7 students indicated lower order approaches to/experiences of understanding financial statements and 8 also indicated lower order approaches to/experiences of group work, while few at the higher order approaches to/experiences of theory to practice. They were 2 and 1 respectively for the higher order approaches/experiences. The phi value for this relationship of variables was .661, indicating a strong relationship for the APTEE students.

### Table 4.14

<table>
<thead>
<tr>
<th>Approaches to Theory to Practice</th>
<th>Approaches to Group Work</th>
<th>Lower Order</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td></td>
<td>A</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
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<td>3</td>
</tr>
<tr>
<td>Order</td>
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<td>B</td>
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<tr>
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<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Higher</td>
<td></td>
<td>E</td>
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<td>1</td>
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<td>3</td>
</tr>
<tr>
<td>Order</td>
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<td>4</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cohort =1 (APTEE)
Phi =.661 NS
Graduate Certificate cohort
The relationship of approach to/experience of the relationship of theory to practice to the approach to experience of group work for the Graduate Certificate student cohort is examined. Of the Graduate Certificate cohort, 5 students indicated lower order approaches to/experience of the relationship of theory to practice, and 5 indicated responses deemed to be lower order approaches to/experiences of group work. At the higher order approaches/experiences, 6 indicated higher order approaches/experiences in the relationship of theory to practice and 6 indicated higher order approaches in group work. The phi value for this relationship of variables was .267 indicating no relationship between the two for the Graduate Certificate students.

Table 4.15
Theory to practice to group work: by Graduate Certificate cohort

<table>
<thead>
<tr>
<th>Approaches to Theory to Practice</th>
<th>Approaches to Group Work</th>
<th>Lower Order</th>
<th>Higher Order</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Order</td>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Higher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td></td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Cohort ~2 (Graduate Certificate)
Phi ~.267 NS
Undergraduate cohort

The relationship of approach to/experience of the relationship of theory to practice to the approach to/experience of group work for the Undergraduate student cohort is examined. Of the Undergraduate cohort, 9 students indicated lower order approaches to/experiences of the relationship of theory to practice and 10 indicated responses which were deemed to be lower order approaches to/experiences of group work, with the numbers being 4 and 3 respectively for the higher order approaches/experiences. The phi value for this relationship of variables was .426. This indicated a moderate relationship between the two for the Undergraduate students.

Table 4.16

Theory to practice to group work: by Undergraduate cohort

<table>
<thead>
<tr>
<th>Approaches to Theory to Practice</th>
<th>Approaches to Group Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>Higher Order</td>
</tr>
<tr>
<td>Lower</td>
<td>A  2 B 3 C 3 D 1 E 1 F 9</td>
</tr>
<tr>
<td>Order</td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>E 1</td>
</tr>
<tr>
<td>Order</td>
<td>F 1</td>
</tr>
<tr>
<td>Order</td>
<td>G 1</td>
</tr>
<tr>
<td>Total</td>
<td>3 3 3 4 13</td>
</tr>
</tbody>
</table>

Cohort =3 (Undergraduate)  
Phi = .426 NS

The same strength of relationships can be seen for the approach to/experience of theory to practice and group work as was in evidence for financial statements to group work. The phi values of .661, .267 and .426 for the three cohorts are moderate to weak, particularly in the Graduate Certificate cohort with a phi value of .267.

4.10 Conclusion

For all three aspects of the assignment in the study, understanding financial statements, theory to practice, and group work, the greatest concentration of responses was at the lower order or surface approaches/experiences with fewer at the higher order or deep
approaches. The common theme was a focus on the assignment itself in the lower order approaches/experiences, and to look beyond the task itself and to the environment for solutions, as well as a future orientation, in the higher order approaches/experiences.

There was a very strong relationship between the experience of understanding financial statements and the experience of theory to practice, but only a moderate relationship between the other approaches/experiences.

When analysing the individual cohorts, Graduate Certificate students displayed the highest order approaches across all three aspects, but most noticeably in the approach to/experience of group work. The relationship between approaches when examined for individual cohorts confirmed the relationship across the total cohort, namely the strength of the relationship between the experience of understanding financial statements and the experience of theory to practice. This was strongest in the APTEE cohort, with a perfect relationship. The consistency of the strength of relationships was greatest in the APTEE cohort, and weakest in the Graduate Certificate cohort.
CHAPTER 5 DISCUSSION AND IMPLICATIONS

5.1 INTRODUCTION

A summary of the key findings and also the limitations of this study are presented. The discussion presents the findings both as they support the current literature and also as they provide a point of departure from the literature. The discussion is structured on the Biggs 3P model and its components of presage, process and product and intertwines the findings of this study with those components. The discussion considers the findings in relation to the SOLO taxonomy. Finally the discussion considers the implications of this study for teachers in the areas of group work, theory to practice and understanding financial statements.

Critical observations related to the three aspects of completing the assignment emerged from the analysis. The three aspects were approach to/experience of:

1. Group work
2. Relationship of theory to practice
3. Understanding financial statements.

These observations focused on variation within each of these aspects, and between the cohorts of students. The variation was also between the deep or surface approaches to each aspect. The greatest concentration of responses in each aspect of the assignment was at the lower order approach/experience. This is common for phenomenographic studies where the majority of students focus on the signs of the exercise and few students engage with the subject and the search for meaning.

The common theme in the lower order approaches was a focus on the specific requirements of the assignment. The common theme in the higher order approaches was a broader-based focus where the students looked beyond the assignment and into the company’s past and future, as well as into the broader economic environment, for solutions to the company’s problems.
There was a strong interrelatedness between approach to/experience of understanding financial statements and the relationship of theory to practice, and much weaker relationships between the other approaches, namely theory to practice and group work, and understanding financial statements and group work. The strength of this interrelatedness varied between the cohorts and will be examined, with reasons offered for the variation.

5.2 Summary of key findings

Greatest concentration of responses
For all three aspects of the assignment, there was greatest concentration of response at the surface or lower order level of experience, with fewer higher order responses. When commenting on their experience of both understanding financial statements and the relationship of theory to practice, 24 students responded at the lower order while 11 students responded at the higher order. In the experience of group work, 21 students responded predominantly at the lower order while 12 students responded predominantly at the higher order, with 2 non-respondents. This, in addition to the Kruskall-Wallace test result and the dominant response category for each cohort, is represented in Table 5.1.

Table 5.1
Student approaches to three aspects of the assignment: by cohort

<table>
<thead>
<tr>
<th>Approach</th>
<th>Lower Order</th>
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<th>Cohort</th>
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<tbody>
<tr>
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<td>24</td>
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<td>APTEE</td>
<td>14</td>
<td>A</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Graduate Certificate</td>
<td>20</td>
<td>D</td>
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<td></td>
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<td></td>
<td></td>
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<td>12</td>
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The higher and lower order responses for each approach indicated that in all three aspects of the assignment, around two-thirds of students responded at a lower order level, looking for the signs and concentrating on the text requirements of the assignment. Only one third looked for the meaning behind the concepts which underpinned the assignment itself; the sources of strengths and weaknesses in the company’s performance.

**Common theme: lower order approaches/experiences**

The common theme among all the lower order approaches/experiences was a focus on the surface requirements of the assignment, as opposed to seeking out the underlying meaning of the exercise. This was illustrated in the first aspect of the assignment, understanding financial statements, by students adopting a procedural selective approach/experience whereby the focus was only on data contained within the assignment itself, and where students tried to find a procedure to apply to selected discrete parts of the assignment rather than viewing and thereby addressing the assignment as whole. This is most clearly represented by Category C of approach to/experience of understanding financial statements.

In the second aspect of the assignment examined, the relationship of theory to practice, commonality in lower order approaches/experiences was again represented by a focus on immediate demands of the assignment. This was demonstrated by a focus on the course materials provided, with template building and layers of complexity around the use of templates a dominant theme, as opposed to going beyond those materials and seeking meaning from consideration of a broader range of sources. This is most clearly represented by Category A.

In the third aspect of the assignment examined, the experience of group work, the most common responses still kept the focus on the surface requirements of the assignment itself. The group was used to either expedite or enhance the assignment of the individual and the assignment remained substantially an individual effort. These responses were spread evenly across Categories A, C and D.
Common Theme: Higher order approaches/experiences

Higher order experiences across the three aspects of the assignment also had common elements. Students looked beyond the task itself to other factors in the environment for solutions to or explanations of the company’s financial condition. In the two task-focused approaches/experiences (understanding financial statements and theory to practice) there was an orientation towards the future. In all three aspects there was a real attempt to find meaning by looking beyond the basic task requirements and to draw on other experiences and factors. Even though this represented a minority of students, around a third of student responses in each case, it gave positive indications of how students would strive to find meaning in each of the three areas of the study.

This common theme can be illustrated for the three aspects of the assignment. In approach/experience to understanding financial statements, students strived to see the problem in a broader context and made comments for the future, as in Category E. In the relationship of theory to practice the common theme was exemplified in Category G where students aimed to develop an understanding of the company’s story, its potential future, by interrogating the data for meaning.

In the experience of group work Category F illustrated the common theme whereby students perceived the group as a mechanism for learning. The concept as raised in Category E of the focus of knowledge itself, not just as presented in the individual assignment, is further extended.

As with the dominance of lower order experiences in these three aspects of the study, it is equally challenging to teachers that a minority of students, one third of the cohort, presented with higher order experiences. This has implications for student learning and classroom activities, which will be addressed later in this chapter.

Relationship between approaches/experiences: (phi)

When examining the data there was interrogation of relationships between the way students handled the different aspects of the task to determine if responses in one aspect of the task matched student responses in another aspect. The strength of the following relationships was determined using phi as a measure of that relationship.

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Relationship between approaches/experiences: (phi)

When examining the data there was interrogation of relationships between the way students handled the different aspects of the task to determine if responses in one aspect of the task matched student responses in another aspect. The strength of the following relationships was determined using phi as a measure of that relationship.
The relationship of understanding financial statements to the relationship of theory to practice was very strong at a phi value of .867. The second relationship was the relationship of theory to practice to group work. It was moderate at a phi value of .461. The third relationship was the relationship of understanding financial statements to group work. It was also moderate at a phi value of .461.

To explain these relationships further, the hierarchical distribution of responses in one aspect of the assignment was similarly matched with the hierarchical distribution of responses in another, with the strongest existing between the experience of understanding financial statements and the experience of the relationship of theory to practice. This did not indicate that similar students have similar experiences, but that there are similarities in the patterns of student experiences across two aspects. In the experience of group work, the strength of the relationship with the other two experiences was only moderate.

**Variation between cohorts: relative strength in each approach/experience (Kruskall-Wallace) (dominant response category)**

In each aspect of the assignment, there was interrogation of the data to determine the relative strengths of each cohort of students (APTEE, Graduate Certificate, and Undergraduate). A Kruskall-Wallace test was used for this purpose. The rating indicated the strength of each cohort, in a particular aspect of the assignment, when compared to the other cohorts for the same aspect. The most dominant category of response for each experience is also given. For the experience of understanding financial statements, the ranking of cohorts in order of strength was Graduate Certificate, Undergraduate and then APTEE. This is represented in Table 5.1.

**Understanding financial statements by cohort**

The Graduate Certificate student cohort, which was strongest in this approach/experience, had Category D as its most dominant response category. The students’ experience of understanding financial statements was most commonly expressed as a broader-based approach/experience with an historical focus. The Undergraduate cohort was strong but not as strong as the Graduate Certificate cohort, with its dominant responses evenly spread between Categories B and D. The APTEE...
cohort was the weakest of the three cohorts, with Category A as its most dominant response.

**Theory to practice by cohort**
The Graduate Certificate student cohort, which was again strongest in this approach/experience, had an equal spread of three categories as their dominant response, with the lowest and the two highest responses equally represented. The APTEE cohort was close to but not as strong as the Graduate Certificate cohort, with their dominant response being Category D. The Undergraduate cohort was the weakest of the three cohorts, with Category A, representing the most dominant response.

**Group work by cohort**
The Graduate Certificate student cohort was again strongest in this approach/experience, with Category D as its dominant response. The APTEE and Undergraduate cohorts were equal and next in strength. The dominant response of the APTEE cohort was Category C while the dominant response category of the Undergraduate cohort was Category D. This dominant response was the same as for the Graduate Certificate cohort.

**Overall strength of response**
In all three aspects of the assignment, the Graduate Certificate cohort was the strongest in higher order approaches/experiences, but most noticeably in approaches to group work. The APTEE cohort was weakest in the approach to understanding financial statements. The Undergraduate cohort was weakest in the relationship of theory to practice. This is consistent with the researcher’s expectations of each cohort, based on students’ previous experiences, and can be briefly summarised.

A basic assumption of experience based learning is that experience is the foundation of, and the stimulus for, learning (Andresen et al., 1995). Of the three cohorts, only the Graduate Certificate students had any experience in which to ground this new learning experience as they were all middle managers currently employed in the Australian business environment. The APTEE students, because of their unfamiliarity with western economic and accounting systems, and Undergraduate students, because of their youth and inexperience in any business environment, were therefore expected to be dominant
in the lower order approaches to understanding financial statements. The results confirmed this expectation.

The undergraduate students, again due mainly to the lack of opportunity to put theory into practice in a business context, were expected to be dominant in the lower order approaches to/experiences of the relationship of theory to practice. The APTEE students similarly did not have current western business exposure against which to test theories at this stage of their course. The Graduate Certificate students were expected to be in the best position to trial theories acquired in the classroom in their own workplace immediately, as they were studying one half day per week and were in the workplace for the remainder. The results confirmed this expectation.

The APTEE students from Eastern Europe with its socialist system where traditionally collectives have been common were expected to embrace group work with the most enthusiasm. This was not the case. The Graduate Certificate students due to their current local employment where the focus was on team work and group projects were expected to embrace group work and in fact did so. The undergraduate students, many coming from secondary school where the Victorian Certificate of Education (VCE) system deemed collaboration with other students as cheating, were expected to be hesitant in their adoption of group work as an acceptable means of working on assignments. This was confirmed by the results.

**Relationship between approaches/experiences at the cohort level: (phi)**

The relationship between approaches/experiences was examined at the individual cohort level and some strong relationships emerged. Phi is used as the measure, as in the test of the strength of relationships with the whole cohort.

Of the three cohorts, the APTEE students had the most consistently strong relationships between the three aspects of the assignment, followed by the Undergraduates with Graduate Certificate students having the weakest relationships between the approaches/experiences. As with the whole cohort therefore, the hierarchical distribution of responses in one approach/experience was similarly matched with the hierarchical distribution of responses in another, with the strongest being, across all three cohorts, between approaches to understanding financial statements and approaches

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to the relationship of theory to practice, with the APTEE cohort indicating the strongest relationship. This does not indicate that similar students have similar approaches, but that there are similarities in the patterns of student responses to two approaches. For the approach to group work, the strength of the relationship with the other two approaches was moderate to strong for the APTEE and Undergraduate cohorts, but extremely weak to almost nil relationship for the Graduate Certificate cohort.

APTEE Students

The relationship of understanding financial statements to the relationship of theory to practice was extremely strong at a phi value of 1.0; a perfect relationship. For the relationship of theory to practice to group work there was a strong relationship at a phi value of .661. For the relationship of understanding financial statements to group work there was also a strong relationship at a phi value of .661.

Graduate Certificate Students

The relationship was very strong for the relationship of understanding financial statements to the relationship of theory to practice at a phi value of .833. This was not matched by the other two relationships which were extremely weak to non-existent. The relationship of theory to practice to group work was extremely weak at a phi value of .267 and the relationship of understanding financial statements to group work was extremely weak to almost nil at a phi value of .100.

Undergraduate Students

The strongest relationship was also that of understanding financial statements to the relationship of theory to practice at a phi value of .822 with the relationship of theory to practice to group work strong at .639, but the final relationship of understanding financial statements to group work was only moderate at a phi value of .426.

Possible explanations for the pattern of relationships could be that the APTEE students had the highest overall entry level of education which might indicate prior experience, particularly at iteration between theory and practice as a means of gaining understanding of the topic at hand. Undergraduate students all had the same entry level, the VCE. Graduate Certificate students had the most varied entry levels, some with prior education in the area which had taken place many years in the past.

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For all cohorts, the relationship of understanding financial statements to theory to practice was the strongest of all the relationships.

5.3 Limitations of the study
The number of students in the total study was 35, with the spread across the cohorts of 11, 11 and 13 for the APTEE, Graduate Certificate and Undergraduate students respectively. In studies based solely on quantitative analysis this could be deemed a limitation, however the validity of the results of phenomenographic studies is not dependent on large numbers of respondents. Large samples are rarely used because the salient feature of the outcome is not how common a view might be, but the nature of the variation in the range of defined experiences. For example, sample sizes of 40 and 29 were used in two critical phenomenographic studies (Marton & Saljo, 1976a; Beaty et al., 1997). Through seeing the range of ways of seeing phenomenon a fuller understanding of how that phenomenon is experienced is developed and, as a result of these, salient teaching interventions can be planned.

The assignment itself was not assessed as a group assignment, although students were encouraged to work in groups. Students in the pilot interviews made unsolicited comments about group work which led the researcher to address those issues in the remainder of the interviews.

The students across the whole cohort were of differing ages, educational and cultural backgrounds. This enabled three distinct cohorts to be examined for variation. There was more similarity however at each cohort level with the APTEE students having the highest entry level of prior education, the Graduate Certificate students having the most local work experience and the Undergraduate students having the most similarities in both age and educational background.

5.4 Detailed Findings and Discussion of Results

5.5 Introduction
Three aspects of the student learning experience were explored in the study, namely understanding financial statements, the relationship of theory to practice and group work. These three areas are positioned within three different bodies of literature. The
following discussion will address the pertinent areas of literature relevant to the student experience.

5.6 Biggs 3P Model of Student Learning

To structure this study, the 3P Model of Classroom Learning (Biggs, 1993a) was used. This model identified and described presage, process and product phases of the student learning model. The three aspects of the assignment highlighted in this study align themselves within the 3P model either as: presage factors; process factors; partway between presage and process factors; or product factors. It is suggested that approach to/experience of group work is part of the student’s background (presage), approach to/experience of the relationship of theory to practice is both prior experience and current environment factors (process) and understanding financial statements is the expected outcome of the exercise (product).

Given the above alignment of components of the 3P model with the three approaches to/experiences of student learning of this study, the approaches have been classified according to the model. Approach to group work is classified as a presage factor. Approach to the relationship of theory to practice is positioned at the midpoint between presage and process, with a greater leaning towards process. Approach to understanding financial statements is deemed the product of the activity and is partway between process and product, with the approach being considered the process factor. The classification of the outcome used the Biggs and Collis’s SOLO taxonomy, whereby student outcomes were ranked hierarchically to classify the structural complexity of student responses, to signify the product of student learning.

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Figure 5.1
The 3P Model of Student Learning (Biggs, 1993a p. 75)

PRESAGE

STUDENT
Prior Knowledge
Abilities
Preferred ways of learning
Values, Expectations

TEACHING CONTEXT
Curriculum
Teaching Method
Classroom climate
Assessment

PROCESS

TASK PROCESSING
Meta
Learning

Direct effects
(e.g. ability)

Feedback

NATURE OF
OUTCOME:
Structure
Detail

PRODUCT

Meta
teaching

Direct effects
(e.g. time)

Feedback

Student
perceptions

Teacher
perceptions

Student
perceptions

Teacher
perceptions

170
The student learning model approaches are a function of both the student’s previous environment or background and their perception of the current environment as created and presented by the teacher. The literature indicates that outcomes can be affected by the approaches students take (Saljo, 1979). The data in this research has examined student approaches on a number of issues. This study has established that relationships exist between some of these factors which are part of the student learning environment.

Biggs asserts that the outcome of learning is not only affected by learning approaches but that approaches are also affected by a range of presage factors related to both the student and the classroom context in which the student finds him/herself in. The presage factors (a general orientation to learning) are broken up into student and context factors, with student factors including: prior knowledge; abilities; preferred ways of learning; values; and expectations, with context factors including curriculum, method, assessment and climate (Biggs, 1993a). Process factors (a description of immediate engagement

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Biggs asserts that the outcome of learning is not only affected by learning approaches but that approaches are also affected by a range of presage factors related to both the student and the classroom context in which the student finds him/herself in. The presage factors (a general orientation to learning) are broken up into student and context factors, with student factors including: prior knowledge; abilities; preferred ways of learning; values; and expectations, with context factors including curriculum, method, assessment and climate (Biggs, 1993a). Process factors (a description of immediate engagement
with a specific task) are the second stage of the Biggs 3P model and incorporate approaches to tasks. It could be viewed that approaches sit between presage and process rather than as process factors in Biggs’s original model.

The current debate in the literature is where approaches to learning are positioned in such a model. Biggs positions approaches as part of process in the original model (Biggs, 1993b), part presage and part process in Biggs’s modified model (Biggs, 1993a) and process in his model of teaching and learning (Biggs, 1999). Trigwell and Prosser position approaches as a separate category quite divorced from presage and sit between process and product (Trigwell & Prosser, 1997). Process is defined as: “a systematic series of actions directed to some end, a continuous action, operation or series of changes taking place in a definite manner, the action of going forward or on” (Delbridge & Bernard, 1998 p. 919), while product is defined as: “a thing produced by any action or operation or by labour, an effect or result, something produced, a thing produced by nature or by a natural process” (Delbridge & Bernard, 1998 p. 920). Trigwell and Prosser view approaches as having characteristics of both action and outcome. A shift in the literature has been noted between the term ‘approach’ and the terms ‘experience’ and ‘awareness.’ Marton, in recent work uses the terms ‘experience’ and ‘awareness’ rather than ‘approach’ (Marton & Booth, 1997). This study uses approach/experience to acknowledge this shift in the literature.

This study places approach to/experience of learning within the process sector of the 3P model, but with movement in both directions to presage and product (as illustrated previously in figure 5.2). The trail of effect is then seen as presage, which affects and is affected by process, which affects and is affected by product, which in turn affects and is affected by presage. It is very difficult to divorce approaches from process as they are an integral part of that aspect of student learning as expressed in the student learning model. Approach to learning is a continual and dynamic process which is always evolving.

The three outcome spaces of this study represent different aspects of Biggs 3P model. While some areas represent presage factors, the way students enter a course and what they do within the course is not solely a function of how they have arrived. The model should be depicted as a constantly evolving circle rather than as a flat linear continuum.
It is difficult to envisage learning having a start and an end but rather it is a constantly evolving circular flow. Students take with them into new learning experiences all that they have experienced in prior learning experiences.

The approach to/experience of group work appears to be part of student presage as it represents preferred ways of learning and is derived from student values and expectations. If that was all it was, teachers could not influence student approaches to/experiences of group work. However, there are aspects of the approach to/experience of group work which teachers can influence through context factors such as method, assessment and climate.

The experience of the relationship of theory to practice was seen by the researcher to be a process factor, as process factors address, “both the metacognitive meaning of deciding how, as a general strategy to handle the task in context; and the tactical meaning which simply refers to what cognitive processes, whether higher or lower level, are used” (Biggs, 1993b p. 9). The assignment was a focused exercise which addressed how students tackled the issues at hand. By saying how they tackled the task students commented on their intention while undertaking the task. They indicated what it was that was important to attend to and how they attended to it.

The experience of understanding financial statements was seen in the study as a product factor, as a higher order experience of understanding of financial statements was the essence of the desired outcome of the assignment under discussion. This is the product of both the presage and process factors, although it became part of the student’s presage factors which carried into the future as it became part of their prior knowledge, abilities, preferred ways of learning and possibly part of their values and expectations.

5.6 Presage: approach to/experience of group work
Preference for group work was identified as a presage factor in this study. The literature considered to be of relevance to group work encompasses a number of areas. There is the literature on thought itself and the literature on the knowledge created by organisations as being structurally different to that of individuals; the literature relating to the composition of the group and the participation of individual members. There is also the literature surrounding cultural predispositions which agitate against a
preference for group work and the literature surrounding the type of learning being engaged in as a factor which also draws the individual either towards or away from group work as a means of learning.

The relevant group work/group think literature to be elaborated upon stresses the need for appropriate group work strategies in the current organisational climate (Senge, 1990) and postulates certain requirements of functional as against dysfunctional groups (Latting & Raffoul, 1991; Jalajas & Sutton, 1984-1985; Ryan, 1996).

The discussion will consider the findings of this study in relation to the experience of group work and the place of these findings in relation to the current literature. Factors, which contributed to the more successful group work outcomes found within this study will be identified, and the reasons for dysfunctional groups will be addressed.

The higher order categories of description, Categories E and particularly F, support Bohm’s concept of a ‘pool of common meaning’. Bohm commented that it is through dialogue that people begin to see the collective nature of thought. Dialogue allows people to participate in a pool of common meaning that is capable of constant development and change (Senge, 1990). Some reasons given for dysfunctional groups are homogeneity, excessive dissonance, cultural diversity and individual preference, while reasons for successful groups have been a common objective to use the group as a means to achieve a quality of learning not open to the individual learner acting alone (Latting & Raffoul, 1991; Ryan, 1996).

There is a strong desire to achieve those qualitatively better learning outcomes, which the group was perceived to be able to provide. Martin identified higher order approaches to learning whereby the group is used to enhance and extend knowledge itself by aiming for a qualitatively better product than each of the individual group members could achieve working alone (Martin, 1996b). Categories E and F of this study confirmed Martin’s findings of the higher order approach as an outcome which an individual working alone cannot aspire to. It is only through the group process that this higher order outcome is possible.

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This study further confirmed the work of writers such as Collier (Collier, 1985). The higher order experiences of group work focus on the group acting as a mechanism for learning which brings about changes not possible to individuals acting alone. Collier noted two distinctive characteristics of syndicates, namely, heightened motivation of the students and the development of higher order skills.

When examining lower order experiences of group work, cultural differences have been identified as one factor contributing to variation between the cohorts’ preferences for group work. On the basis of Hofstede’s collectivism/individualism index as a factor in cultural divergence in teams (Hofstede, 1994), the researcher’s expectation was that the APTEE students in this study would have a strong preference for group work given the high ranking of Eastern European countries on the collectivism index as compared with Australia. This was not the case. The cultural diversity of the students in the group may have contributed to this.

Long’s study into the APTEE students of this study also confirmed the role of cultural divergence as a contributing factor to group dissonance, which had a negative effect on the achievement of the group’s task-related objectives (Long, 1995). Category A was an example of this reaction to groups by the APTEE students when asked to work in groups. Long identified cultural hostility as a factor contributing to dysfunctional groups where students appeared to be having a lot of trouble engaging with each other. Long’s findings were based on her experience of the APTEE students of this study, with the weakness of the APTEE students in the experience of group work confirming Long’s findings.

Self-selection, heterogeneity, social loafing and student preferences were some of the components discussed by Jalajas and Sutton who asserted that group homogeneity led to the group’s performance suffering (Jalajas & Sutton, 1984-1985), and later confirmed by Latting and Raffoul who argued that the self-selection process, particularly of foreign nationals, led to homogeneous, lower performing groups (Latting & Raffoul, 1991).

Latane, Williams and Harkins defined ‘social loafing’ as a condition whereby the larger the team is, the less effort will be contributed by one individual (Latane et al., 1979).
This is seen to be problematic in groups, while conversely, Ryan found that social loafers or passengers in a group often created a stimulus for the rest of the group to compensate and achieve at a higher level (Ryan, 1996). Students in this study who chose not to work in groups implied in their interview transcripts that groups get in the way of completing the assignment and used that as a justification for not working in groups. Their response was reflected in Category A as time spent in managing the group and its dynamics taking away from time which could be spent on the assignment.

Within this study, Categories B and C most closely resemble the concept of organisations working together to achieve common goals, while Categories E and F also reflect the changed role of organisations and organisational learning. These findings are supported by Senge who asserts that all-important organisational decisions are now either made by teams or require implementation by teams (Senge, 1990). The philosophy is now reflected in the policies and practices of many academic institutions (Swinburne University of Technology School of Business, 1998) that group work is a generic skill, which should be fostered and encouraged. Its development however is largely ad hoc and in response to increased workloads of academics rather than as a genuine concern for developing expertise in problem solving within the constructs of group work (Tempone & Martin, 1999; Tempone et al., 2000).

This study confirmed much of the student learning research findings that the dominant preference was for lower order approaches/experiences (Van Rossum & Schenk, 1984), and was the case in this study, with the majority of student responses spread across three of the four lower order approaches/experiences. All however focused on the use of the group to expedite or enhance what was basically an individual response to the assignment. Of the total cohort, 21 of the 35 adopted lower order approaches/experiences, with preferences spread across Categories A, C and D. Excluding approach/experience A where students did not engage in the group process, students focused on the group inasmuch as it could assist their own individual development. They did not see the group as offering something different to individual development, but as a means of enhancing that individual development.

There was however, variation between the individual cohorts. The Graduate Certificate students clearly indicated higher order approaches/experiences to those taken by both
other cohorts. They recognised and demonstrated the greatest strength in this approach/experience, which can be understood in the context of their background. In both their work environment and student environment there was significant difference to both other cohorts. Given this background there was a greater need for group work in order to complete their work or study requirements. The students were all in full-time employment, with a half day for study, and in order to meet all of their work and study deadlines, effective group work was one of the strategies for their successful achievement. The APTEE students were studying full-time and living with other students. While the formal group structure may not have been relevant, informal discussions were ongoing in their domestic environment. Undergraduate students, coming from a VCE background where collaboration was deemed cheating, still had well entrenched reservations about group work.

Variation between cohorts in approach to/experience of group work
In all cohorts there was a more even spread across the approach/experience to group work than in the other two approaches. The APTEE students were most highly represented in Category C, but also strongly represented in A; Graduate Certificate students also in Category C; and Undergraduate students marginally more dominant in Category D. This was further established statistically to indicate that the Graduate Certificate students had the highest mean rank in this variable, followed closely by the APTEE students and Undergraduate students combined.

When approaches/experiences are grouped only according to higher and lower order approaches, APTEE students and Undergraduates were clearly more dominant in the lower order experiences, Graduate Certificate students were marginally more dominant in the higher order experiences, with Undergraduate students clearly more dominant in the lower order experiences. This was also borne out by the Graduate Certificate students having the highest mean rank for this variable, followed, but not closely, by the APTEE students, then the Undergraduates.

5.8 Conclusion: approaches to/experiences of group work
In this study a range of experiences of group work were identified. The majority of students adopted lower order experiences where the group was substantially used to enhance the individual’s understanding and to improve the individual’s assignment.
the higher order approaches/experiences, the group was used to enhance learning itself, with the learning possible by group work not open to those working as individuals or at the lower order experiences. Students’ cultural background was not a dominant factor in determining preference for group work, as evidenced by the failure of the APTEE students to embrace group work. However, students’ current workplace situation was a contributing factor, as evidenced by Graduate Certificate students embracing group work and being highly represented in the higher order experiences. Undergraduate students displayed caution when considering group work.

The challenge for teachers in assisting students to adopt higher order approaches to/experiences of group work lies in the design of assignments, so that assignments lend themselves to the synergistic benefits of group work, rather than the splitting up of the assignment into individual portions to be collated at the point of submission. Selection of both the appropriate subject matter and the design of the assignment itself are critical to this being achieved.

The teacher’s role is to encourage students to maximise their learning from the group process. It is recognised that the process of shifting students’ perceptions about the way they like to work is not easy at the tertiary level (Ramsden et al., 1986). From the interview transcripts in the present study it can be seen that some students are from cultural backgrounds where the study and practice of accounting is viewed wholly as an individual process and it is difficult to shift their thinking and acceptance of the group as a means of enhancing learning. The dilemma is between a cultural preference for the individualist approach and the apparent acceptance and success of the group as part of a collectivist approach. From the current research it was observed that where students perceived the group as providing a different way of learning, of knowing, the gains from the group process increased markedly and in a manner not available to students working individually.

5.9 Process: the relationship of theory to practice

The relevant literature stresses the importance of both theory and practice as necessary elements in the process of learning (Taylor, 1993; Bowden & Masters, 1993) yet many writers assert that students have difficulty in transferring theoretical concepts acquired in the classroom to a practical application in the workplace (Wiggin, 1997). Examples
of this have been given in areas such as aviation psychology (Wiggin, 1997), accounting (Yap, 1997) and mathematics (Yasukawa, 1997). Undergraduates acquire skills in isolation rather than the generic skills underpinning the particular skills being learned in the classroom which can be used to allow them to ‘do it again’ (Candy et al., 1994). The students’ experience when in the classroom and when in a real workplace environment is fundamentally different and iteration and rehearsal between the two is vital if learning is to take place. This difference can be observed when students are solving ‘problems-in-context’ as their focus is still on the assignment and its requirements rather than the meaning underlying the activity which would be transferable to a workplace application (Laurillard, 1984). Many researchers agree the answer is not teaching generic skills in isolation (Martin & Ramsden, 1987), however there is less agreement as to what the answer might be.

The literature addresses the need for teachers to establish the link for the students between both environments and Martin comments specifically on the experience of accounting students and their teachers when undertaking work-based university education (Martin, 1996a). While much of the literature addresses the issue of identifying this dichotomy between theory and practice (Gadamer, 1975), some addresses the issue of how this rehearsal can most closely resemble the practical experience (Crebbin, 1997; Boud & Feletti, 1991).

This study helps to see how students, some of whom are also practitioners, use classroom experiences to inform the meaning of practice. In brief, students test, to varying degrees, what is learned in an academic environment against what can be experienced in a workplace environment. The success of that relationship between theory and practice, as experienced by the students, is dependent on a number of factors, of which a major one is their intention when they undertake the exercise; another being the opportunities they can avail themselves of, or can create for the purpose of that testing out.

This study identified the need for students to move from theory to practice in the process of learning; to apply or put into practice that being learned in the classroom. In the hierarchy of categories of approach to/experience of the relationship of theory to practice, Categories D and E exemplify the students’ need for iteration between theory of this have been given in areas such as aviation psychology (Wiggin, 1997), accounting (Yap, 1997) and mathematics (Yasukawa, 1997). Undergraduates acquire skills in isolation rather than the generic skills underpinning the particular skills being learned in the classroom which can be used to allow them to ‘do it again’ (Candy et al., 1994). The students’ experience when in the classroom and when in a real workplace environment is fundamentally different and iteration and rehearsal between the two is vital if learning is to take place. This difference can be observed when students are solving ‘problems-in-context’ as their focus is still on the assignment and its requirements rather than the meaning underlying the activity which would be transferable to a workplace application (Laurillard, 1984). Many researchers agree the answer is not teaching generic skills in isolation (Martin & Ramsden, 1987), however there is less agreement as to what the answer might be.

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This study identified the need for students to move from theory to practice in the process of learning; to apply or put into practice that being learned in the classroom. In the hierarchy of categories of approach to/experience of the relationship of theory to practice, Categories D and E exemplify the students’ need for iteration between theory
and practice in an attempt to find meaning in the task at hand. This process indicates the interrelatedness of theory and practice and is seen to be a valid and necessary element in the road to understanding, not an optional add-on (Bowden & Masters, 1993). In the higher order approaches to/experiences of the relationship of theory to practice such as Categories F and G the students in this study travelled the path to and from theory to practice, took the theory into the practical realm, and reconsidered the practical situation in the light of that theory. They extended their efforts beyond developing and testing proforma, looked beyond the procedures required for satisfactory assignment completion to the life of the company itself for meaning. It is an evolutionary process with a two-way flow of influence. However, it was an approach/experience taken by only a minority of students. The majority of students adopted lower order approaches/experiences where the focus was on the assignment and its completion.

This process also exemplifies Gadamer’s third of four quadrants of the circle of understanding, namely that of “applying what they learn to their own practical circumstances and self understanding, such that their learning in Aristotle’s words, becomes part of themselves” (Taylor, 1993 p. 62; Gadamer, 1975).

When ranking certain experiences as lower or higher order, two issues need to be considered. First, the background of the student and second, the subject differentiation of an issue in this ranking of experiences. While a student might be displaying a strategy which equates to a surface or lower order approach/experience, their intention may be to use it in a deep way; a stepping stone in fact. What might seem to be a surface or lower order approach/experience if adopted by local students, as in Categories A to D, might be a necessary precursor to a higher order or deep approach/experience if adopted by an overseas student. This may be critical to enable them to establish a frame of reference as a necessary precursor to some engagement with the material under consideration. Taylor and Bowden infer that practice should not be downgraded as the less superior method of learning when considering theory and practice, but acknowledged as a necessary precursor for some students in their attainment of understanding (Taylor, 1993; Bowden & Masters, 1993).

Certain disciplines and cultures might also appear to be displaying surface approaches to/experiences of learning as there is a preoccupation with detail, although this may
again be a necessary requirement for the subject as in the paradox of the Chinese learner (Marton, Dall'Alba, & Tse, 1993). Accounting could also be a discipline where there is a necessary focus on detail, but where the focus could be on the meaning of the details rather than the details themselves. This is a higher order approach/experience, rather than what appears to be, on initial examination, a lower order or surface approach/experience. The majority of students in this study indicated lower order responses to the approach to/experience of the relationship of theory to practice, with student approaches/experiences being classified as 24 lower order and 11 higher order. This confirmed Chan’s findings of a dominance of students with surface approaches to/experiences of studying choosing to study accounting (Chan et al., 1989).

Specific references to the discipline of accounting and relationship of theory to practice come from writers such as Yap (Yap, 1997), Rachinger (Rachinger, 1997) and Johns (Johns, 1997), who comment on the importance of, and actual unpreparedness of, accounting graduates for the practical realities of the ever-changing workplace. They all stress the critical nature of generic skill development so that when students are faced with different scenarios in the workplace, the theory learned at university can be applied. The dilemma is how to ensure students recognise the transferability of theories to practical applications.

The debate in the literature has oscillated between competency-based training and an ability to sustain competence over the years by adapting to new technologies and other changes in the work environment. To sustain competence, students need the graduate attributes ascribed to life-long learning. Graduate attributes such as the ability to think critically, to work in teams, to communicate well, are needed in order to enable them to move into the new areas demanded by a changing profession. A US study compared the development of graduates with a technical-based training and those with a liberal education. The former proceeded well early in their careers and then came to a plateau, while the latter tended to enjoy a slower start but often rose to greater heights and more influential career positions. Those with a liberal background seemed to have some generic competencies which did not manifest themselves until later in their careers; in positions which demanded thinking skills, communicative competence, interpersonal effectiveness, and the ability to go on (US Study 1986, 1994).
Martin and Ramsden argue that teaching programs need to be content specific, not learned in isolation, if students are to be encouraged to attain generic skills. The generic skills are best developed as a by-product of learning in a content-based setting (Martin & Ramsden, 1987).

Students in this study who demonstrated higher order approaches to/experiences of the relationship of theory to practice were those who could make the links between theory and practice; who had some understanding of the practical realm in which the theoretical concepts operated, as in Categories E, F and G. Creating these links has also been problematic in other disciplines. Wiggin, when teaching Human Factors and Aviation Psychology, expressed fears that his students were not able to apply what they had learned in the classroom when they went out to fly, and that it was his problem that his teaching was not helping them to see the link between what they were doing in the classroom and what they were doing when flying (Wiggin, 1997). Crebbin noted the difference students experienced when the work they were doing had real outcomes (Crebbin, 1997). Students in this study demonstrating surface or lower order approaches to/experiences of the relationship of theory to practice focused on work by either storing materials for future unknown work requirements or developing a proforma which could be useful in a work setting to interpret data.

Other writers stress the importance of the ‘real life nature’ of these classroom experiences if the path between theory and practice and ultimately to gaining an understanding of the concept at hand is to be successfully traversed. Laurillard and Candy, Crebert and O’Leary, and Boud and Felleti have all made significant contributions to the discourse in this area.

Laurillard offers one explanation of the difficulty of achieving the reality in the classroom, which existed in the workplace. She commented on the ‘problem-in-context’ as an example of the application of theory to practice in a classroom rather than workplace situation. The students engaged with the problem, but at a more superficial level than if it were in the workplace (Laurillard, 1984). The students who adopted the lowest in the hierarchy of approaches/experiences in this study did not take the assignment beyond the context of the classroom. They could not elevate the exercise into one that had any relevance in the workplace. Higher order approaches/experiences
had a work focus rather than an assignment focus, where the possibilities of transferability of generic skills were possible.

Students in this study tested the proforma against either their workplace financial statements or in some cases against listed companies. BHP and Woolworths were cited in the transcripts of interviews as two companies used for this purpose. Candy, Crebert and O’Leary offer a means of creating that ‘reality’ in the classroom. When the student engages in self-directed learning, there is evidence to show that there are significant gains in learning outcomes to be derived from increasing learner self-direction. That student not only ends up with the ‘knowledge’, but the confidence to ‘do it again’ (Candy et al., 1994). This is further confirmed by Boud and Feletti who, when discussing problem-based learning, believe it to be an approach/experience which provides a stimulus for learning as it confronts students with problems from practice (Boud & Feletti, 1991). This takes different forms in different disciplines. Students adopted some approaches to/experiences of the relationship of theory to practice and tested out the creation of a proforma for problem solving in the classroom, and then tested out that proforma against published accounting reports; (Category E), which resembled the ‘problems from practice’ discussed by Boud and Feletti (Boud & Feletti, 1991).

Approach to/experience of the relationship of theory to practice as discussed earlier, was seen by the researcher to be a process factor. The assignment was a focused exercise which addressed both how students tackled the issues at hand and by saying how they tackled the task they commented on what was their intention while undertaking the task. The students indicated what it was that was important to attend to and how they attended to it.

Variation between cohorts on approaches to/experiences of the relationship of theory to practice
There were significant differences between the APTEE students and the Graduate Certificate students, based on the different commercial and business structures that were the norm for both groups. As the APTEE students came from a very different commercial structure, it was unclear what use these new theoretical studies would be on their return home. Their return home was fraught with anxiety and uncertainty as the

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APTEE students had left the then United Soviet Socialist Republic (USSR), but while in Australia the break up of the USSR occurred and they were returning to the separate countries grouped as the Commonwealth of Independent States (CIS).

The Graduate Certificate students on the other hand, being middle managers working in the Melbourne metropolitan area, were familiar with the commercial structures within which the course was developed, even though they personally may not have played a significant role in the accounting function in their organisation. They were in the best position of all three cohorts to test out theories learned in the classroom in practice at their workplace.

The Undergraduate students had least opportunity to test the relationship between theory and practice as they were restricted to academic learning in a classroom environment with the option of testing theory against practice requiring a conscious act on the part of the student to seek out that experience. Some Undergraduate students availed themselves of that opportunity, by evaluating the theory against shares currently being discussed in the media, for example Woolworths or BHP, but most did not. The APTEE and Graduate Certificate cohorts were faced with the possibility of that experience arising at any time within their workplace activities.

The building of templates and proformas for future use would normally be viewed by accounting academics as indicative of a surface approach to learning. This may not be the case when overseas students are in fact building templates so as to make sense of current economic and commercial practices as a first step in a quest for understanding.

Extreme caution must be used in labelling student approaches/experiences as either deep or surface when the same strategies may belie differing intentions. Effort must be made to delve beneath the strategies to identify the intentions that are the real guide as to the approach/experience students are taking. Assistance might need to be offered to overseas students in their quest to even get to first base rather than query the means they are using to attempt to come to terms with the western system. What appears to be a surface approach/experience if adopted by local students can in fact be deemed a necessary precursor to a deeper approach/experience, once they have come to terms with local practices.
When examining the spread of responses at the individual cohort level, for the approach to/experience of the relationship of theory to practice, APTEE students were most highly represented in Category D, Graduate Certificate students in Category A, but with strong representation in Categories E and F, and Undergraduate students clearly dominant in Category A.

Graduate Certificate students had the strongest response in terms of higher order approaches in this aspect of the assignment, followed closely by the APTEE students while the Undergraduate students had the lowest.

When taken on a lower and higher order approach/experience only, Graduate Certificate students were dominant in the higher order experiences, and the Undergraduate students were clearly more dominant in the lower order experiences. This was also borne out by the Graduate Certificate students having the highest mean rank for this variable, followed closely, by the APTEE students, then at a mean rank considerably lower, the Undergraduates.

5.10 Conclusion: approaches to/experiences of the relationship of theory to practice
This study confirmed the dominance of lower order approaches to/experiences of the relationship of theory to practice with 24 of the 35 respondents adopting lower order approaches/experiences, the most dominant being Category A where students focus on the immediate demands of the assignment by adopting a strategy of using course materials and the basic processes provided by the course. Students looked to the assignment and its instructions for guidelines to interpret and make sense of the exercise. They did not look beyond the confines of the materials presented by the academic. They attempted to find or in some cases create a template which could then be used for any later problems which they would face. In the main, students did not see the relevance of this assignment for future work or conversely, did not see the possibility of bringing experiences gleaned in another context, mostly a workplace context, to the exercise.

Common to all lower order experiences was the focus on the assignment itself and the information and requirements contained within it. The higher order experiences were
typified by a focus beyond the assignment and on the meaning of the data to arrive at an understanding of the company based both on its past and predicted future.

There was however variation between the cohorts. The Graduate Certificate students showed considerably greater concentration in the higher order approaches/experiences than the other cohorts. Undergraduate students had no prior workplace experience, while APTEE students had workplace experience of a vastly different nature involving a completely different accounting system and commercial environment. The Graduate Certificate students had the greatest potential for transferability from the theoretical realm of the classroom to the practical domain of the workplace, and were able to make this transition better than the other two cohorts.

The issue for teachers is how to create an environment in the classroom which is recognisable by students when they are in a practical situation; one where there is some commonality between both settings, sufficient to allow the transferability of theory to practice.

Iteration between theory and practice, that is, a rethinking of theory in the light of practice, as well as with practice with the benefit of theory, is a critical strategy for many students to find meaning in the exercise at hand. There was a strong relationship between the experience of understanding financial statements and the experience of the relationship of theory to practice, with the higher order experiences in particular both demonstrating a broader-based focus on the company itself with particular attention to understanding its future potential.

The use of templates was generally seen to be illustrative of a lower order experience of the relationship of theory to practice. However, in the case of overseas students and/or students without a business background, the use of templates could be interpreted as an attempt to create the relevant appropriate business background as a necessary precursor to engaging in the iterative process.

5.11 Product: approaches to/experiences of understanding financial statements
When examining the Biggs 3P model, the interaction of particular student presage factors and student process factors combined to create the outcome or product of student

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When examining the Biggs 3P model, the interaction of particular student presage factors and student process factors combined to create the outcome or product of student
learning. In this study, the product or outcome of student learning was in evidence in students’ approach to/experiences of the core purpose of the assignment, namely gaining an understanding of financial statements. A higher order experience of understanding of financial statements was the essence of the desired outcome of the assignment, as it is from higher order experiences that qualitatively better outcomes emerge. From this perspective it can be seen as the final stage in Biggs 3P model: presage and process, leading to product factors. Each of the parts of the model influence each other. The experience of process will influence subsequent presage as well as product factors and the final product will carry into the future and become part of students’ prior knowledge, abilities, preferred ways of learning; and possibly part of their values and expectations.

Dominance of surface approaches to/experiences of learning in accounting students
There appeared to be two major explanations for the dominance of surface approaches to/experiences of learning in accounting students. They are the nature and background of the students themselves and the workload in accounting disciplines, both that perceived by students and that actually demanded by the accounting profession. The Graduate Skills Assessment Tests administered by the Australian Council for Educational Research reported business/commerce students to be in the lower range over the four key generic skills tested, namely: written communication; problem solving; critical thinking; and interpersonal understanding (Australian Council for Educational Research (ACER), 2000). Studies indicate accounting attracts students with surface approaches (Chan et al., 1989). Students responded negatively to Graduate Careers Council of Australia (GCCA) exit surveys on the appropriateness of workload in accounting (Graduate Careers Council of Australia, 1999). The GCCA publishes its findings across a range of indicators by discipline and by university across Australia. The professional bodies, by applying pressure to increase generic skills in accounting courses add to the increased workload, known to push students into surface approaches (Tempone & Martin, 2000; Johnson, 1999; Ramsden, 1992). Choice of certain assessment methods used in response to declining academic numbers can also encourage surface approaches (Tempone & Martin, 2000).
Nature and background of accounting students

The nature and background of students emanates from two sources; first from the students themselves and second from professional requirements of accounting students. Sangster and McCombie found that prior learning in accounting was a factor in performance of students. Students with prior learning performed better when asked to analyse company data over a four year period than students without prior learning, whether that prior learning was in first year or in some other context (Sangster & McCombie, 1993). The Graduate Certificate cohort in this study confirmed this finding as they were the most likely, as a cohort, to have had prior experience, and were the strongest among the cohorts in the approach to/experience of the relationship of theory to practice in this study.

APTEE students, without such formal prior learning or even an understanding of western accounting and business systems, performed the poorest of all cohorts in their approach to/experience of understanding financial statements. Category A was their most dominant response. They were substantially weaker in this aspect than were the other two cohorts.

Booth and Winzar identify the dominance of particular personality types in accounting students, which may be linked to surface learning approaches (Booth & Winzar, 1993). They used the Myer-Briggs Type Indicator (MBTI) to establish profiles of accounting students at Australian universities. Their study endorsed earlier studies that found that there was a bias in the sample towards the two STJ types with the ISTJ type the most common. This preference indicates that many accounting students: prefer structured learning experiences which present rules and concepts; develop arguments in a step-by-step fashion; use repetitive concrete tangible examples with only minor variation on a theme; and give specific assessment feedback on work with tangible reasons for errors. They went on to suggest that teachers should therefore teach to the weaknesses of the STJ students such as communication skills, dealing with unstructured problems, an undervaluing of the human side of problems and reaching premature closure on problems (Booth & Winzar, 1993).

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Auyeng and Sands used Hofstede’s line of argument that the core dimension of cultural variability explained differences in accounting students’ learning styles, which
influenced approach to/experience of understanding financial statements (Auyeng & Sands, 1996; Hofstede, 1991). The factor used from Hofstede’s study was the collectivism/individualism index, and was supported by Kolb’s Learning Style Model (Kolb, 1985). The three cultural groups of students studied were from Hong Kong, Taiwan and Australia and the researchers asserted that the collectivist/individualist cultural orientations were reflected in their learning styles. This could be a factor in explaining the difference in learning styles and preferences of the APTEE students as against the two cohorts of local students.

Workload (perceived and actual) in the accounting discipline
The student learning literature makes significant comment on the pressure on students to adopt surface approaches to learning. Results of Entwistle’s Lancaster Approaches to Studying Questionnaire, an adaptation of the Biggs Study Process Questionnaire (Ramsden, 1992), claims a key factor in pushing students into surface approaches is a perceived excessive workload.

This perceived excessive workload was in evidence in approach to/experience of group work where students formed groups in order to divide up the workload (Category B), which was the lowest order approach/experience where group work was undertaken. It was also in evidence in approach to/experience of understanding financial statements, where students, partially through perceived work pressures, limited themselves to only the data provided in the assignment rather than looking beyond into the commercial environment or into the history of the firm to consider other data. This was illustrated in all of the surface approaches to/experiences of understanding financial statements, Categories A, B and C. The students adopted a procedural approach/experience, which focused on the surface requirements of the assignment. It was not evident however in Categories D and E where the approaches/experiences were broader-based and went beyond the financial data given to take either an historical or future focus to understand the company.

Sharma concluded, in his study on variation in accounting students’ approaches to learning, that the pressures of work forced students into surface approaches (Sharma, 1997). This further supported Ramsden’s assertion about perceived excessive workloads, and also was confirmed by this study’s findings of the distribution of student
responses being predominantly in the surface or lower order approaches to understanding financial statements (Ramsden, 1992).

As well as a perception by students of an excessive workload, there was evidence of the perception being an actuality when accounting faculties, and the pressures they were under, were examined. The accounting profession exerts two pressures on accounting students’ adopting surface approaches. First, the amount of content required to be covered forces accounting academics to push an excessive workload onto students, which has been seen as a major contributor to students adopting surface approaches. Second, the membership examinations administered by the profession do not appear to test higher order skills (Nelson, 1995).

The pressure from the professional accrediting bodies to include considerable amounts of content into Undergraduate accounting courses is clearly related to excessive workloads in order to accommodate the content into a three year undergraduate degree. A further pressure by university administrators to reduce contact hours could further increase the workload, although there is no assertion that the reduction in staff/student contact hours necessarily has a direct effect on the student workload or in fact, on the approaches students take (Di Virgilio & Evans, unpublished).

Ramsden’s study confirmed that excessive workload pushes students to adopt surface approaches which do not allow for a deep understanding of the topics studied (Ramsden, 1992).

The second aspect of the influence of the accreditation process of the accounting profession on accounting faculties relates to examinations. This is the case in both Australia and the US. The skills and attributes favoured by the profession in the Certified Practicing Accountants (CPA) exams are pushed back into the accounting faculties, as students wishing to gain professional entry must satisfy the CPA Australia (formerly known as the Australian Society of Certified Practising Accountants (ASCPA) or Institute of Chartered Accountants in Australia (ICAA) examinations. Nelson argues that, “because the CPA exam fails to test critical thinking, analysis, synthesis and professional judgement, motivation has existed for accounting educators

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to increase emphasis upon the memorisation of accounting rules, rather than the theoretical concepts upon which the rules were based” (Nelson, 1995 p. 64).

A related factor contributing to the dominance of surface approaches to learning of accounting students is the difference between undergraduate studies and the professional requirements of the accountant. Friedlan asserts that early university studies in accounting can be mastered successfully using surface approaches and do not reflect the type of work and skills an accounting graduate, performing at a level deemed appropriate by the profession, would need. The perception is that surface approaches/experiences are appropriate for studies in accounting. Students who do well in early years choose to major in accounting still maintaining in later years’ those surface approaches, and are particularly unprepared for later studies in the discipline which require higher order skills such as critical thinking, analysis, synthesis and professional judgement in order to succeed (Friedlan, 1995).

Roush and Smith argue that changes to accounting education are necessary and are being implemented in response to US reformers of accounting education. This has led to a shift from content knowledge to higher order thinking skills (Roush & Smith, 1997).

Johns, Director of Education and Membership of the then ASCPA in the Occasional Address to the Swinburne University of Technology Graduation also commented on the need to develop other skills in accounting graduates, such as communication, team work and critical thinking (Johns, 1997).

These studies consider students perceptions of the subject, the nature and background of students taking up the discipline, discipline differentiation at undergraduate and professional level, and the pressure by accrediting bodies to increase the content delivery within the three year undergraduate program. These factors all act in concert to drive the student towards adopting surface approaches to the study of accounting as evidenced by the studies presented.
5.12 Taxonomy of learning outcomes applied to approaches to/experiences of understanding financial statements

The core objective of completing the assignment was to understand financial statements, and as Biggs has a measure of learning outcomes, these approaches/experiences can be classified according to Biggs SOLO taxonomy of learning outcomes. There was variation in student approaches to developing an understanding of financial statements. This varied from focusing on a procedure and applying that procedure to all data as the lowest order approach/experience, through to seeing the problem in a broader context and considering additional non-financial data at the highest order approach/experience.

Discussion of meaning of categories with SOLO taxonomy

With each of the categories and SOLO classifications, completed assignments are described to indicate the outcome of a particular approach/experience. These relationships are expressed in tabular form in Table 5.2 below.

<table>
<thead>
<tr>
<th>Table 5.2</th>
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</thead>
<tbody>
<tr>
<td>Categories of description matched with SOLO classification</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>SOLO Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>No engagement</td>
<td>Pre-structural</td>
</tr>
<tr>
<td>A</td>
<td>Uni-structural</td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Multi-structural</td>
</tr>
<tr>
<td>D</td>
<td>Relational</td>
</tr>
<tr>
<td>E</td>
<td>Extended Abstract</td>
</tr>
</tbody>
</table>

Category A. Procedural, non-discriminating approach/experience

Students saw the task at hand as focusing on one procedure, namely the reproducing of the set of financial ratios they had been exposed to, in the same manner as was shown in the classroom. Students searched for meaning by focusing on a particular procedure, with attempts to structure the task by applying that procedure to all the data. This was the most basic of levels, and was illustrative of the lowest order approach to/experience of understanding of financial statements. When matching the SOLO taxonomy of Biggs and Collis, (discussed in Chapters 2 and 3) this can be classified as uni-structural,
whereby the answer focuses on one relevant aspect only, namely the completion of the ratios. (Within this outcome space, a pre-structural category was identified, namely where the students had not engaged with the topic at all).

The student focused on the mechanics of financial ratios and used the formulae as the main instrument in the analysis and interpretation of financial statements. The formulae were used in the manner of a template which, once mastered, could be applied to any future problems. The outcome would be a formulae driven assignment with explanations of the ratios constituting the major part of the analysis rather than any attempt to integrate the ratios and relate them to the business from which they emanate or the economic climate within which the firm was trading. The outcome would provide a template which the student, given a similar problem in the future, could reuse. In terms of appearance it would take the structure of the formulae as presented in the classroom, with workings and explanations to follow each formula without any attempt at integration of the whole.

Category B. Procedural, partially discriminating approach/experience
The students conceived the task as selection of the key issue, which could be cash shortages or excessive stock, and application of the selected procedure to the relevant data, for example the cash and stock holdings of the business. The search for meaning involved locating the key issue of concern, with attempts to structure the task by applying the procedure to only the relevant data. This, although a higher order approach/experience than Category A, was still focused on one relevant aspect only and would also be classified under the SOLO taxonomy as uni-structural.

The student progressed in that they had exercised some judgement in relation to what the key issue and the relevant data might be, rather than just applying all ratios as a learned template to all the data, however they were still distorting the structure of the exercise by focusing on the parts rather than the whole.

Similarly to Category A the outcome would be a formula driven assignment. There would be some selectivity as to which particular ratios or group of ratios were critical to the exercise with explanations of the ratios constituting the major part of the analysis,
rather than an attempt to integrate the ratios and relate them to the business from which they emanate or the economic climate within which the firm was trading.

The outcome would still provide a template that the student planned to reuse, however the selection of a critical issue would make the future re-useability more restricted as any future problem would also need the identified issue to be the dominant one. In appearance the assignment would continue to be formulae driven, but some preference for a dominant ratio or group of ratios, such as current asset turnover ratios, would be noticeable.

**Category C. Procedural, selective approach/experience**

The students conceived the task as the selection of key components of the issue, for example liquidity or working capital problems and searched for meaning by applying the procedure only to the relevant data, for example, the current assets and current liabilities of the business. Under the SOLO taxonomy this would equate to a multi-structural approach, whereby the answer focused on several relevant features, but they were not coordinated.

Students would envisage the task as one of identification of the key components of the issue at hand, for example, the working capital problem as related to the slowness of the stock turnover and the slowness of the debtors’ turnover, and then applying the procedures, in this case the selected ratios, to the appropriate data, namely the stock, debtors, cost of goods sold and sales data.

The outcome would be an assignment structured around key problematic areas of particular issues, for example, liquidity, as it was affected by the various turnover ratios. The assignment would present as an identification of problem areas with some possible solutions. The solutions would be in terms of how to improve the ratios themselves by acting on their component parts, rather than solutions based on the wider context in which the firm was positioned.

**Category D. Broader-based, historical focus approach/experience**

Students conceived the task as viewing the problem in a broader context, for example, ratios representing only one component of coming to terms with the business’s performance, and search for meaning considering additional non-financial data, such as
market share and position in the industry. This is a higher order level of understanding and equates to a relational approach under the SOLO taxonomy whereby the several parts of the answer are integrated into a coherent whole, with details linked to conclusions and where meaning is understood.

Students may progress further and look not just at the stock, debtors, cost of sales and sales data, but also into communications issues between the marketing and the production departments, human resources issues and other non-financial data which could impact upon the slowing down of debtors and stock turnovers. They were able to move on to a higher order approach/experience which focused on what the task was about, preserved the structure of the exercise and focused on the whole in relation to the parts. This could also be described as a ‘deep holistic’ approach to the understanding of financial statements (Marton, 1988).

The outcome would be an assignment structured around the key underlying factors which contribute to the problems as they present themselves in the ratios. The assignment would present an identification of underlying causes of problems as the major thrust, such as problems with the labour force, the need to source new markets, long versus short production runs or the recession and other economic constraints and with some possible solutions addressing those underlying causes.

Category E. Broader-based, future focused approach/experience
Students conceived the task as viewing the problem in a broader context, but their search for meaning involved making recommendations for the future based on their findings about the problem-in-context. This was the highest order of approach/experience, and could be seen as an extended abstract response under Biggs SOLO taxonomy as the answer generalised the structure beyond the information given, with higher order principles used to bring in a new and broader set of issues.

Students also saw the problem in a broader context by looking further, for example, beyond communications, human resources and non-financial issues and attempted to use all these data and procedures to make comments for the future; to create value added services to the business.
The outcome would be an assignment structured around the key underlying factors which contributed to the problems as they presented themselves in the ratios but had particular emphasis on solutions to the problems and looked at the future for the business. The assignment would present as having a focus on the future needs and directions of the company, as identified by the current status of the firm.

Scenarios of outcomes and approaches/experiences on one accounting issue
Problematic stock turnover, the firm’s holdings of stocks held for sale taking increasing and excessive numbers of days to be sold, can be used as a key accounting issue in the assignment. The manner in which students might deal with this in terms of each of the five categories of approaches to understanding financial statements can be explored.

Scenarios exemplifying all five approaches/experiences, as they would impact on this one accounting issue, are constructed to illustrate the different outcomes due to differences in approach/experience.

Category A
The student would not be identifying particular accounting issues to address, but would use the formulae given in class to apply to all the financial data. Stock turnover would be calculated as one of a number of ratios, but would not be specifically dealt with as a key issue.

Category B
The issue of excessive stock would be identified as a problem, and that issue applied to the relevant data. This focuses on one relevant aspect of the task at hand.

Category C
The component parts of the stock turnover would be addressed, either excessive purchasing or reduced sales with the components of the ratio being seen as contributing factors which would then be applied to the relevant data.

Category D
The stock turnover would be seen in a broader context; the contextual factors present in both the firm itself (the micro level) and the wider economic climate in which the firm

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Category D
The stock turnover would be seen in a broader context; the contextual factors present in both the firm itself (the micro level) and the wider economic climate in which the firm
was trading (the macro level). Underlying issues leading to the build-up of stocks, the downturn in sales, the mismatch between stock levels and sales levels, for example, would be sought. Factors within the firm and its structure would be explored as possible causes of the problem.

**Category E**
The underlying factors contributing to the slowing down of the stock turnover would be examined, in addition to problems such as occur with the labour force, markets, production runs or the recession and other economic constraints. Possible solutions would also be explored. These solutions would be based in the root causes of the problems so that they could be addressed and overcome. They could include: better industrial relations policy; seeking out new markets; or finding a new optimal production run at a lower level to meet these changed circumstances.

**Variation between cohorts on approach to/experience of understanding financial statements**
When examining variation between the cohorts of students concerning this approach/experience, understanding financial statements, APTEE students are most highly represented in Category A, Graduate Certificate students in Category D, and Undergraduate students equally represented in Categories B and C. This was also illustrated statistically as the Graduate Certificate students had the highest mean rank in this approach/experience while the APTEE students had the lowest.

At the lower and higher order approach/experience classification only, APTEE and Undergraduate students were clearly dominant in the lower order approaches/experiences while Graduate Certificate students were slightly more dominant in the higher order approaches/experiences. This was also borne out by the Graduate Certificate students having the highest mean rank for this variable, followed by the Undergraduates and then, at a considerably lower mean rank, the APTEE students.

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5.13 Conclusion: approaches to/experiences of the understanding of financial statements

The literature indicates that surface approaches to understanding are more dominant in student approaches/experiences. This is attributable to a number of factors including: the nature of the subject; the nature of the students and personality types of students enrolling in the subject; the perception by students of an excessive workload; and actual pressure placed on workload by professional bodies and academics alike.

This study supports the argument that surface or lower order approaches to/experiences of understanding financial statements are dominant in accounting students. Overall, 24 of the 35 students indicated lower order approaches/experiences however, at the individual cohort level there was variation from this. The most dominant approach to/experience of understanding financial statements was that of Category C, with students identifying key components of an issue and applying the procedure to the relevant data.

The majority of students experienced the understanding of financial statements in a one-dimensional way, attending to particular elements of the financial statements rather than in a global way which attended to the complete picture presented by the statements. They also experienced the understanding of financial statements in a manner which attended to the past performance of the company only without, for most students, attending to any future implications.

There was variation detected between the student cohorts of the study. The Graduate Certificate cohort did not follow this pattern and was more strongly represented in the higher order experiences with a clear strength in this experience over the other two cohorts. This could be attributed to their background in the current commercial environment over both other cohorts.

5.14 Interrelatedness of approaches/experiences

While the key tasks have been separated for analysis in this study, for the students, they are the one task. There may in fact be an overriding intention of students when completing the whole task, even though this study has identified differing intentions when addressing the three aspects of the task, namely the experience of understanding
financial statements, the experience of the relationship of theory to practice and the experience of group work. Statistical analysis indicates that a relationship between the three aspects of the study exists.

This study asserts therefore that before approaches/experiences be categorised as presage, process or product, the nature of the approach/experience and what it pertains to must first be identified, as some are related to presage factors (approaches to/experiences of group work), some are related to process factors (approaches to/experiences of understanding financial statements and the relationship of theory to practice), and others are related to product (understanding financial statements, SOLO analysis). The design of this study, which identified a number of different aspects of a task which pertained to different aspects of the 3P model, indicate that it is not an approach per se which should be categorised as presage, process or product, but the nature of the approach/experience which needs to be examined in greater detail to determine where the approach fits in the model. However, as stated previously, the interrelatedness of the stages of the model, as expressed by the two-way directional flows of the stages, minimises the importance of the placement of the approaches within the model itself. The issue of critical importance is the interactivity of the components of the Biggs 3P model, not the direction of causation.

The relationships between approaches and outcome can be examined in terms of Biggs SOLO taxonomy. Approach to/experience of group work is a determining factor as to how students go about the task at hand. Approach to/experience of understanding financial statements and approach to/experience of the relationship of theory to practice interact and play a vital role in determining what the students attend to in the preparation of the assignment, which can then be assessed in terms of the SOLO taxonomy, whereby student responses can be evaluated in terms of whether they are pre-structural, uni-structural, multi-structural relational or extended abstract responses. For example, a student adopting the highest order approach/experience in both these aspects would, from examination of the assignment and the identification of the approaches/experiences used, be operating at an extended abstract level, whereby the answer generalised the structure beyond the information given, with higher order principles being used to bring in a new and broader set of issues. The student responses which envisaged the problem in a broader context and made comments for the future
while at the same time focusing on the company’s potential future by interrogating the
data for meaning could be said to be operating at this extended abstract level.
Conversely, student responses which selected an issue and applied the procedure to the
data relevant to that issue, while focusing on the immediate demands of the assignment
by using only the course materials provided could be said to be an example of a uni-
structural approach: an approach which focused on one relevant aspect only.

The interrelatedness of the three approaches/experiences culminating in the completed
assignment as the outcome that is evaluated using SOLO, is illustrated in Figure 5.3.
Figure 5.3
Interrelatedness of three approaches and SOLO taxonomy

Diagram:
- Group Work
- Understanding Financial Statements
- Theory to Practice
- Assignment
- SOLO (Assessment)
In order to create the environment whereby students have the curiosity and enthusiasm to strive for meaning at the deeper and more complex level, teachers need to excite students with the prospect of the journey of discovery to find the source of the strengths and weaknesses of the company being studied. Ramsden presented a summary table of characteristics of the context of learning associated with deep and surface approaches, and studies in both Lancaster and Melbourne indicated that:

... using a surface approach logically prevents the student from achieving understanding, using a deep approach does not guarantee it. While surface approaches can never lead to understanding: they are both a necessary and a sufficient condition for poor quality learning, deep approaches are a necessary, but not a sufficient condition for high quality outcomes (Ramsden, 1992 p. 46).

It can be surmised from the studies (Ramsden et al., 1986) that while teachers can guide students away from surface approaches, they cannot be as successful in leading them towards deep approaches. Ramsden argues that the two main tasks facing the teacher in this quest to encourage students to engage with the material are:

firstly to discourage students from using surface approaches: this implies avoiding excessive workloads, busywork, and unnecessary time pressures; shunning assessment practices that require recall or rehearsal of trivial detail; abandoning all attempts to devalue students’ tentative steps towards understanding; avoiding cynical comments (explicit or implicit) about the subject matter and students’ grasp of it (Ramsden, 1992 p. 151).

Actively encouraging deep approaches through engaging students responsibly and actively with the subject matter is, however, very much harder. There are several ways in which teachers can:

help students to become aware of their current conceptions so that they become conscious of the fact that there are different conceptions of the phenomenon in question; highlighting inconsistencies in learners’ conceptions and their consequences in real situations; focusing on central issues that are most problematic for students; finding ways of integrating the ‘knowing how’ of a subject (such as how scientists approach experimental enquiry; how political scientists analyse information) with ‘knowing what’ (such as Newton’s laws of motion, Weber’s concept of authority) and so on (Ramsden, 1992 p. 151).
The subject of financial statement analysis as presented to students must be considered in the context of the teaching and learning environment. The timing of assignments and other work is paramount and responses to student queries must be such as to encourage in-depth inquiry. The presentation of the financial issues must be in the wider context of the current economic climate and conditions and the focus should be on the central problematic issues in the material rather than procedural issues of technique and method. In this way students might engage in inquiry about the broader context in which a company finds itself. They might not only be aware of the problems which the company encountered but also be interested in developing strategies to assist the company in its future operations so as to achieve its maximum potential.

5.16 Conclusions on the three aspects of student experiences

The original intention of this study was to determine the usefulness and relevance of student learning models such as Biggs 3P and Biggs SOLO taxonomy in understanding how accounting students approach their tasks and find meaning in the work they are doing. While the models had been used in other disciplines they had not been used directly in the discipline of accounting.

While the models’ applicability as tools of analysis for student learning in accounting was confirmed, what also emerged from the study was a finer understanding of what it was that accounting students attended to when undertaking tasks involving practical applications of theoretical models of financial accounting. When interviewing students their responses to the demands of the task varied considerably, and in a number of ways not originally expected by the researcher. While there was considerable variation in the way they understood financial statements, their comments were not restricted to the core accounting experience, but extended to the areas of making sense of theory in a practical application, and also to their experience of group work.

Around the core accounting task of understanding financial statements, students’ experiences varied from taking a procedural non-discriminating approach to the data and the task to one of seeing the problem at hand in a broader context. This took the form of looking beyond the data to additional non-financial data and even as far as making comments for the future wellbeing of the company in their search for meaning.
These levels of approach/experience were ranked hierarchically from lowest to highest. They reflect Marton and Saljo’s hierarchical ranking of levels of experience and give specific meaning to the student learning experience in the context of the accounting discipline as well as additional insights into other subjects (Marton & Saljo, 1976a; Marton & Saljo, 1976b; Marton & Saljo, 1984). This range of experiences may have applicability to other technical and practically based disciplines such as economics, mathematical modelling and some applied science subjects. Student experiences of the relationship of theory to practice ranged from limited data, course or work focused approaches/experiences at the lower order levels through to proforma building and testing approaches/experiences. At the higher order levels, approaches/experiences focused on the company history and in some cases its future, by interrogating the data for meaning.

The experience of students around theory to practice developed out of their core experience of understanding financial statements. This aspect of the findings gave clear insights into how teachers might plan learning tasks to facilitate iteration between theory and practice as it was the higher order experience, in the relationship of theory to practice, which was associated with finding meaning in the financial statements.

While other studies had found that students apparently engaging in the same activity may achieve different learning outcomes, this study examined some of the mechanisms underpinning the achievement of different outcomes. An example of this was the case when students built and tested templates or proformas. The use of proformas and templates as a tool in solving accounting problems is not new. The difference in outcomes was noted in overseas students unfamiliar with western accounting and economic systems. Their intention when building and testing templates was to develop a foundation from which they could develop higher order levels of understanding. This activity, when undertaken by local students, could be viewed as indicative of a surface or lower order approach where the student was looking to replicate a procedure in similar situations rather than to engage with the material at each new opportunity.

The overseas students, when developing templates, were building a necessary foundation from which they could base their development through to a higher order experience. Phenomenographic hierarchical structures do not purport to be

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The overseas students, when developing templates, were building a necessary foundation from which they could base their development through to a higher order experience. Phenomenographic hierarchical structures do not purport to be
developmental in nature, but represent a range of experiences which students have of a particular phenomenon. In this study however, overseas students were using the templates not as the local students might, as an end in themselves, but as a means to an end in order to seek a higher order experience of the phenomenon. They were aiming at the higher order experiences by using a lower order experience as a base from which to develop.

There have been no other studies that have focused on the development of templates as having different outcomes when used by local students familiar with the current economic system, and by overseas students trying to make sense of a new and unfamiliar economic system. The findings of this study around the use of templates as a tool in student learning, and in particular in relation to overseas or inexperienced students, could have implications for other discipline areas.

Higher order experiences in the relationship of theory to practice were reflected in higher order experiences of understanding financial statements. There were strong parallels in the categories at the upper levels of both understanding financial statements and the relationship of theory to practice. Both involved addressing the exercise from a much broader perspective than that provided in the data itself, and both, at the highest level, involved a concern for the future of the company emanating from an attempt to find meaning in the data.

The benefits of students operating at the higher order level in the area of theory to practice, which can be influenced by design features built into exercises, can be seen in the parallel with higher order levels of experience in the core accounting exercise of understanding financial statements. This can also have generalisability in other disciplines, as when students operate at the higher order level in the process area, they may achieve superior outcomes at the product level. This was evidenced by the parallels in both areas in this study.

The third aspect of student learning addressed in this study concerned students’ experience of group work. While confirming other studies in the literature around group work, this study dealt specifically with the way students responded to the experience of group work in an academic environment. This study confirmed findings which dealt
with aspects of group work such as group membership, selection, dissonance and cultural diversity, but continued on to plot the experiences of students, when undertaking group work, on a matrix which attended to both intentions and strategies of students when experiencing group work.

The students’ experiences ranged from not wanting to participate in group work at all, to participating only to expedite their own individual assignment at the lower level of experience, through to using the group to achieve a level of understanding for group members not open to individuals operating alone.

This is the area of this study which is most generalisable to other disciplines as it is not content specific but related to the processes students undertook when dealing with their peers in a group environment. Teachers can design and plan student group work tasks in such a way as to direct students toward embracing group work as a means of achieving greater understanding and of engaging with the material at a much deeper level than that achievable by a student acting alone.

5.17 Conclusions from and implications of this study: the relationship of approach to process and product of the student learning models

Overall, it is argued that this study embarked on an exercise of determining applicability of the student learning literature to the accounting discipline by testing out student learning models such as Biggs 3P and Biggs SOLO taxonomy. Not only have the models been found to have generalisability in the accounting discipline, some findings of this study have generalisability to other disciplines, particularly in the non-core areas of the study, namely the experiences of the relationship of theory to practice and the experience of group work.

While the researcher acknowledges the contribution of the debate around the placement of approach in the Biggs 3P student learning model, this study reconsiders the importance of this blanket judgement about the positioning of approach as presage process or product. This study considers the components of approach/experience to be of significance in this debate, as by breaking down approach/experience into its component parts, the individual aspects of approach/experience can be more accurately
classified as presage, process or product and appropriate strategies can then be undertaken to encourage and develop higher order approaches/experiences in each area.

In this study approach to/experience of group work was seen as a presage factor as it is a preferred response to a situation, which students bring with them to the learning experience. The implication is not however that teachers have no influence in changing these preferences, but that they can direct their energies towards the teaching context presage factors such as the: curriculum; teaching method; classroom climate; and assessment.

Approach to/experience of understanding financial statements and approach to/experience of the relationship of theory to practice were considered by the researcher to be process factors. Process factors or the way students tackle particular tasks are more amenable to teacher influence as direct factors such as available time and ability of students can be considered in the design and implementation stages of assignments.

Approach to/experience of understanding financial statements, as assessed by the SOLO analysis assessing learning outcomes, can be seen as the product or outcome of the exercise for students, and thereby represents the product/outcome of Biggs 3P student learning model.

The three stages of the model are not seen by the researcher as static, but as a constantly flowing process with each cycle of presage, process and product having an influence on, and thereby constituting part of, the student’s presage when approaching the next learning experience. The positioning of the approaches/experiences therefore adopts a secondary role to that of understanding the impact of and implications for teachers of identifying the component parts of student approaches/experiences and working towards influencing those factors in the current learning experience. The goal of the identification of the component parts is to exert influence on them in order to benefit both the current and future learning experiences. The current learning experience will be affected immediately, but due to the cyclical and lasting effect of these factors as they become part of the students own presage factors, future learning experiences will also be impacted upon.
Implications for teachers

In all three aspects of the experience of student learning this study has identified that the majority of student experiences are at the lower order level. While confirming much of the literature in these three areas, this study made certain findings.

In the experience of group work, qualitatively different and better learning outcomes were available to those whose approach/experience was to use the group to enhance learning itself, rather than to enhance their own individual learning. Outcomes were possible through the group that were not available to students acting alone or adopting lower order approaches/experiences.

In the approach to/experience of the relationship of theory to practice, higher order approaches/experiences were those which focused on the meaning of the data for the purpose of understanding the company itself rather than on a procedural approach/experience which aimed to satisfy the assignment requirements only.

Template building and testing, while viewed as a lower order approach/experience in local students, may in fact be a necessary precursor to a higher order approach/experience in inexperienced or overseas students.

In the experience of understanding financial statements higher order approaches/experiences were those which focused on seeing the problem in a broader context with a future orientation.

There was a strong relationship between the experience of the relationship of theory to practice and of understanding financial statements. The challenge for accounting academics is to design assignments and create the learning environment that encourage and guide students into higher order experiences so as they can achieve qualitatively better learning outcomes.

The challenge for academics is to guide and direct their students so that they will have higher order learning experiences and the qualitatively better learning outcomes that can accompany them.
Implications: group work

In structuring groups, it might be argued that students should be given sufficient time, encouragement and support to self select their groups. This allows for greater harmony, which can lead to higher productivity within the group and eliminates some dysfunctional aspects of randomly selected groups, particularly where different cultural backgrounds and ethnic hostilities exist. Group dissonance or disharmony can have positive or negative effects on the group’s output, particularly if creative energy is diverted from problem solving to conflict resolution. However it is more important to understand the purpose of the group in any given learning activity, so as to maximise the both the group’s and the group members’ learning potential.

To maximise learning opportunities of the group members, the accounting tasks must be set so that the benefits of group work are not simply the sharing of the workload, but such that reliance on the group leads to a real synergy between group members which then results in exponentially increased leaps in learning for those students. Through being aware of the level of representation of cohorts in particular approaches to/experiences of group work, teachers can direct attention at each cohort. They can commence from their preferred mode and lead them through to the modes exemplified in the hierarchy of approaches/experiences which are indicative of higher order approaches to/experiences of learning.

The challenge for academics is to recognise these variations and to harness and maximise the benefits of the group for the individual within the group. The challenge is to engage students in the search for meaning rather than to dictate processes to them that will likely dissuade them from pursuing meaning. This should be done without prescribing components of higher order approaches/experiences that they might follow. This in fact creates lower order approaches/experiences as they are not engaged in the search themselves, but following instructions.

Academics, as do many students, focus on expediting their own heavy workloads by means of the group process without really understanding the synergistic benefits available to members of a well-functioning group. These synergistic benefits, once experienced by academics, can be presented to students as a justification for setting group work. Given the limitations on resources in the higher education sector, tapping
into this valuable resource would make good sense for academics and administrators alike. Once academics have enjoyed qualitatively better outcomes resulting from higher order experiences of group work, they may be better placed to lead their students by example and to have a greater understanding of both the problems and benefits of group work.

The findings of this study have confirmed that students appear to approach/experience a task with an existing preference for working in groups or not working in groups. This can be modified by design of the curriculum, the demands of assessments and the way academic staff themselves work with colleagues. The student’s preferred approach to/experience of group work can be modified by academics if they attend to aspects of course content, assessment design and the learning environment constituted for the students. The approaches/experiences of academics themselves to group work is also a critical factor in creating a role model for students in their attempts at working together in groups and in enabling academics to understand the critical issues in, and benefits of, group work (Tempone et al., 2000).

Careful selection of the course content chosen for assessment as a group assignment has an effect on the adoption of higher order group work skills. If the assessment is on content which is procedural in nature, such that there is little or no variation in expected responses, there is no perceived value to students of working in collaboration. They will work alone for expedience, or at best, work in groups in order to share the workload. If however, the content is such that there are complexities and nuances with which individuals with differing backgrounds can enrich the assignment, students might be encouraged to adopt the higher order approaches to/experience of group work.

If in the design of the assessment the task can easily be divided and allocated to individual group members, students will tend to adopt lower order approaches to/experiences of group work where the group is used to either share the workload or ensure that the individual student is on track. If however, both the selection of content and the design of the assessment is such that students working together collaboratively can achieve qualitatively better outcomes than students working alone, students may again be attracted to the higher order approaches to/experiences of group work.

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When creating the learning environment, academics must be supportive without controlling the group selection process and must also provide support in any conflict resolution issues which student groups might encounter.

Academics themselves need to experience the real benefits of working collaboratively in groups so that they gain an insight into what the students are experiencing. The experience of most academics on teaching panels (all academics teaching a particular subject) was that of the lower order approaches/experiences of dividing up the tasks to share the workload, rather than genuinely working together collaboratively (Tempone et al., 2000). The example academics can set to students, as well as the insights gained through the process, are invaluable in assisting students in their attempts to get qualitatively better outcomes through group work activities.

Implications: relationship of theory to practice
There was a strong relationship between the approach to/experience of understanding financial statements and the approach to/experience of the relationship of theory to practice. Given that understanding financial statements was the core outcome of the assignment, attempts at iteration between theory and practice by students should be nurtured. The challenge for academic staff was to create this ‘practice’ for students without either a business background or a western business background. This study has shown that the higher order approaches to/experiences of the relationship of theory to practice were present in the two cohorts with greater access to a business background as against the undergraduate students without any prior business experience. Efforts must be directed towards the re-creation of that experience in the classroom. The design of the assignment could direct students to current business practice. If however, this is inbuilt into the design, students are focusing on the requirements of the assignment itself, indicating lower order approaches/experiences. This is in preference to looking beyond the assignment in seeking validation in business, beyond the specific requirements of the assignment itself, as some higher order approaches/experiences involve. This is a further challenge for academics; to guide students without being prescriptive.

The use of templates was generally seen to be a lower order approach/experience to the relationship of theory to practice. However, in the case of overseas students and
students without a business background, the use of templates could be interpreted as an attempt to create the appropriate business background as a necessary precursor to engaging in the iterative process. The use of templates, particularly the testing of them in a range of business situations, should be encouraged as a means of assisting students to make the connections between theory and practice; a factor with a strong relationship with students’ approaches to/experience of understanding financial statements. Academics should be supportive of inexperienced students in their attempts to build and test templates and not pre-judge those students’ intentions. They may only find meaning in the financial statements after building and using the templates to gain an insight into an economic system foreign to them, either due to their inexperience or cultural background.

**Implications: understanding financial statements**

The challenge for academics is to be aware of the starting point of students in terms of their presage and product factors and be able to accommodate differences in order to allow students to develop in such a way as to be able to partake of the higher order experiences. As students with lower order approaches/experiences focus on the assignment itself, academics need to embed within the assignment a future orientation. However, where the future orientation becomes part of the assignment requirement, students addressing this are now adopting surface or lower order approaches/experiences by attending to the requirements of the assignment. The challenge for academics is to guide students along this course of action, but still have the motivation to find meaning coming from the students themselves, not as a stated assignment requirement.

If, as the literature suggests, accounting attracts students with a preference for surface approaches to/experiences of learning, academics need to focus on guiding students towards other strategies. Two key factors identified as leading students into surface approaches were student perception of an excessive workload and assessment that can be successfully completed with surface approaches to learning. Academics need to work with the profession to limit excessive content in accounting courses and focus on generic skill development, within an accounting context, which will equip students for the ever-changing environment they will encounter on graduation.

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5.18 Further research

While addressing and considering several issues, this study has pointed toward a number of issues still to be addressed such as the generalisability of the findings of this study. While relating to students in their initial study of accounting, results of different subjects, disciplines and year levels could be compared. Further research could be undertaken with second or third year students, other business subjects such as economics, marketing or organisational behaviour, and with non-business subjects such as applied science, mathematics, philosophy or a foreign language to address these issues.

Another issue of generalisability is that of the cultural background of cohorts. The cohorts of this study, APTEE, Graduate Certificate and Undergraduate students could be substituted for other groups of overseas students, studying either in Australia or their home country.

This study addressed only one of Hofstede’s cultural differences; individualism. Hofstede’s other three indices of cultural difference, power distance, masculinity and uncertainty avoidance could be incorporated into further research into cultural differences in students.

Further research could also consider the generalisibility of this study of students and their learning, to academics and their learning. This would be of particular interest in the area of how academics work in groups and the implications that has on how they perceive and organise group work for their students. (The researcher has already examined this relationship (Tempone et al., 2000)).

The objective of any further research would be to develop an understanding of students and their learning for the purpose of creating the ideal environment within which to foster the optimum learning outcomes for particular cohorts of students.


48. Di Virgilio, P., & Evans, B. (unpublished). Facilitating quality learning outcomes with limited resources by reducing class time from 3 hours to 2 hours per week. Facilitating Quality Outcomes on Limited Resources.


140. Swinburne University of Technology School of Business. (1998). *Application for re-accreditation of Bachelor of Business, Higher Education Division*.


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APPENDICES:
1. Sample interview transcripts from each cohort
2. Assignment: Decor Products
3. Letter of invitation to students to take part in the study
4. Interview questions
5. Approach to Study Questionnaire and Score Sheet
6. SPSS data input sheet
Appendix 1

Sample transcripts of interview from each cohort
APTEE: A3 and A6
Graduate Certificate: G7 and G11
Undergraduate: U6 and U13
Q: You remember the assignment, the Decor Products?
A: Yes, I read it through.

Q: What did you think of it, what did you think was required?
A: The task was quite clear. We were supposed to study financial performance of the company and assess some future changes and find the proper way of financing those changes because there were two extreme possibilities, one of them to issue new shares, another one to get a loan and certainly there were a lot of intermediate possibilities. You could issue shares for . . . there was a restriction on loan that it shouldn't be more than 50% of principal, as far as I can judge. And the main thing for me was not to estimate financial performance because it was an assignment for me on financial performance, not accounting but working with the computer because after making those three main documents—balance sheet, cash flow statement and income statement—and connecting them together it was very easy to drive the whole system, what it could be like if we changed this or that. It was a re-calculation mathematically. So to calculate all their former performance, all those ratios, was not difficult at all. It could take half an hour without any computer, with a calculator. After that you could look at a textbook and say whether it is good or bad but there was a big problem in estimating performance that we had no data on the industry as a whole. So how could I say whether 10% margin is good or bad, I don't know.

Q: Exactly.
A: That's why in my particular assignment the greatest part of it was devoted to the future because I just couldn't estimate—I could compare future possibilities with those ratios or with figures from the former time and say whether they will be better or worse but not good or bad. That was the point. But I asked D [the lecturer] about those figures on the industry as a whole and he said they don't have it.

Q: So that was quite a problem for you?
A: It was. Then what I did and D [the lecturer] said it was a bit beyond the boundaries of the assignment, I made some sensitivity analysis, just because it was interesting for me. I tried not only those things which we were supposed to check . . . but I tried those figures which were employed in the assignment. For example, here is that cash balance of $20,000 which should be maintained in there and with this cash balance, liquidity ratios were pretty high, maybe too high. Certainly there was some over-liquidity. I checked whether it was possible to have this cash balance a bit smaller. For me it was possible. That's not how it was really. Then there were some drastic changes. For example, there was new managers were going to cut inventory to almost twice. I don't know whether this figure is real because I don't know what is the normal inventory to know but such a dramatic change is not quite usual. That's why I tried this ratio as well. Really inventory can be just a daydream because to cut twice is very serious. It is not 10%. I checked how it could be if you could not reduce this or if you could reduce it only 10%, 20% or 50%, not twice. Practically speaking, I tried all the possible parameters and my decision, although it may have been a bit naive at the time, was that some of those figures don't look very realistic and

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That's why I recommended maybe not the best choice from the point of profitability. The best choice was to have as much debt as possible from this point but from point of safety I recommended that from all this necessary money there is something like 30 parts of debt and two parts of new issue, new equity. It was almost break-even point as far as I can judge now, after studying accounting further, because if something was by the new manager planned, 100% debt, it would be a complete failure of the whole company and after all, if you have 100% debt there was such point that you could not pay it off during three years. You were supposed to plan for three years and it is really hard to plan for something, what it will be like in five years, but if you have got 100% debt you couldn't pay it earlier than in five years. With my variant it was possible to pay within three years, two and a half or something like that, I don't recounting exactly. That was the point but mainly it was for me—what was useful for me in this assignment was just an opportunity to see how different things influenced the whole financial performance. So after making these spreadsheets, changing one of the given parameters you could say everything is re-calculated and changing.

Q: When you start an assignment what is your method of approach? How do you begin? From when you are first handed the assignment what procedures do you go through normally?

A: . . . I decided if I managed to do it I would give it in but if not, there was nothing at all. I made something in a week's time, maybe not as good as this one but generally speaking I tried to make everything.

Q: Had you been familiar with spreadsheets before?

A: Not quite, practically speaking I had not worked with spreadsheets before coming to Australia but I am a Master of Computer Science. So it was not a great job for me. I have not worked with them before but it was not a great problem to understand the system.

Q: So that was your approach, you found it made it more meaningful for you—your sensitivity analysis made it more meaningful?

A: Yes, that was the most interesting part of the assignment for me at least because just to calculate ratios or to compare two extreme variants, most people as far as I know just compared two variants and it was too dull. So I decided to spend some time because I had some time at that time. The assignment was like this.

Q: Quite big?

A: Yes, with tables and charts.

Q: You enjoyed it?

A: Yes, it was great fun. I couldn't afford such a thorough examination in four days time. There was a shortage of time. There were other assignments and I had to work quickly and when I worked on the other assignments, especially the last ones, practically speaking I made four assignments, not three. After I finished with the third one there was some free time, not too much—about a week—and I decided just to make the fourth assignment.

Q: Was that your option?

A: . . . I decided if I managed to do it I would give it in but if not, there was nothing at all. I made something in a week's time, maybe not as good as this one but generally speaking I tried to make everything.

Q: When you start an assignment what is your method of approach? How do you begin? From when you are first handed the assignment what procedures do you go through normally?

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Q: You enjoyed it?

A: Yes, it was great fun. I couldn't afford such a thorough examination in four days time. There was a shortage of time. There were other assignments and I had to work quickly and when I worked on the other assignments, especially the last ones, practically speaking I made four assignments, not three. After I finished with the third one there was some free time, not too much—about a week—and I decided just to make the fourth assignment.

Q: Was that your option?

A: . . . I decided if I managed to do it I would give it in but if not, there was nothing at all. I made something in a week's time, maybe not as good as this one but generally speaking I tried to make everything.
A: Well, an interesting question. At the very beginning I made spreadsheets. Practically speaking that was not a great problem for me, just an exercise. My spreadsheets—three separate spreadsheets which were inter-communicated and related. After each I could at least try something. Then I extended the system and encoded some spreadsheets for the ratios and horizontal and vertical . . . so I made charts. So from the very beginning I made a basis for all the other work. And then I made a scheme of the assignment, just . . . of the other material. It's pretty easy if you work with word processing such as Word for Windows. I then read just a few small chapters. Given the work I sometimes change ideas and move some parts from one chapter to another or eliminated something because given sensitivity analysis sometimes it was clear that it was not worth it to make analysis of something. But generally it came like this. I worked with some books. Mainly they were Gaffikin and Archer, Financial Management. Then I went to some people with questions. It was more convenient for me to go to some person rather than look for something in a book but not too much. Mainly I worked with books. Sure, I got some information from others. Some of the most difficult questions were solved with either D —I just came to him and asked whether it was like this or like that or like that, is it appropriate or one to calculate depreciation because it was not clear from the text. Critically speaking there were a lot of possible variants of calculating it and he explained what was the problem. I chose one possible way which I personally believed was the most reasonable, the most realistic. Maybe other people have different opinions. That's it.

Q: When you spoke earlier you said you did three spreadsheets which were inter-related. What was it that related them, how were they inter-related?
A: I am good with Excel. Then you must know that there is such an opportunity as . . . I used . . . It is possible in Excel that you use data from one batch to another one so that when you change something in one spreadsheet, then information in another one is re-calculated. It is just a technical problem.

Q: What was it that related them, how were they inter-related?
A: I can't remember exactly but generally speaking it was the statement—what I changed, everything was inter-related, everything in all those spreadsheets. I changed first of all those figures which are here. It was one table.

Q: So the data in the assignment?
A: Yes, and then I operated mainly with only two figures. They were equity and that and all the others were re-calculated.

Q: So they were the two that you were playing with, if you like?
A: Yes, I operated with those figures and the balance sheet. I never changed anything in the cash flow statement. It was just re-calculated from balance and income statement. As far as income statement is concerned, sales were re-calculated from this data. It says that sales are expected to grow 10%, what if not? I changed this parameter and re-calculated. The cost of goods sold as well, this ratio. Administrative expenses, I didn't make . . . because it is too small and they cannot change dramatically. You can't cut it twice and if you cut them 5% or 10% it changes nothing. Taxation is impossible to change. Dividends—I

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Q: Obviously you had computer experience, did you have any accounting experience?
A: Yes, the individual was supposed to find the ratio between them and some of them. They were parameters which I changed but I estimated all at once and made the ratios and sales and so forth.

Q: The way you handled this assignment, in terms of spreadsheets etc. and asking at a certain point, is that the way you normally go about an assignment? Before you did the spreadsheets, what went through your mind before you started the spreadsheets?
A: I see the problem that I first calculate the spreadsheets. I made them not for this very task because I am not bad in computers I assisted some of the my friends from group 7 with the Caravan Game. From the very beginning it was not clear whether it would be necessary to make some financial calculations or not. Sometimes it was not necessary at all but they asked me to help them make those documents for the Caravan Game and I assisted them . . . not assisted, they assisted me with some advice. That's why it was easier for me but usually when I make an assignment I try to understand what is necessary from the very beginning, what is the final way . . . (tape ends).

Interview continues

A: There is another way of making assignments. Some people did it that way. They made spreadsheets and then produced as much figures as they could and then tried to analyse it. I don't think it is very productive because it is better, for me at least, to know what you are after from the beginning. That's why maybe if I had no spreadsheet beforehand I would begin with learning the total stature of this report and then made this spreadsheet. But it was essential after all because I wouldn't be able to make any conclusion without those calculations. That's why I believe the scheme would be like that, first of all I would understand what is necessary. Practically speaking, it was to a certain extent clear, and then make some general frame for the report and produce the spreadsheets and then looking—because all the relations between different documents were already absolutely clear for me at that time. I made some misprints when I produced the spreadsheets but I spent about a day for the whole thing. That's not much. Then working with books, advice and my own knowledge and the computer I would do the same thing.

Q: Did you have anything in your previous experience at work or whatever that you were able to bring to this assignment?
A: What do you mean?

Q: Did you have anything in your previous experience at work or whatever that you were able to bring to this assignment?
A: What do you mean?
A: No, not at all. I had some experience—not experience, some knowledge—about economics but not—when I was a student I had a course of mathematical economics but it was 12 years ago or something like that and I already forgot it. Just some general ideas. Nothing deep.

Q: Have you found that you have been able to take something away from this assignment to use in other experience or do you think you will be able to use these skills?
A: That's interesting. After finishing with all the assignments, I decided to check whether I could work with real documents. I got BHP's financial report and tried to understand how it performs. Here are the same spreadsheets. I think our case studies were greatly simplified compared with real life. So I could understand something but it was pretty difficult and really, I believe that if in half a year or maybe a year I will not use this knowledge that I've got here, then I will—because it was maybe not too deep. Maybe it was possible after this assignment—not only this but the next one—to make us some real task...there are a lot of companies, a lot of records, just to analyse it. Otherwise, some people just don't realise that those assignments are not real. They are just toys.

Q: So they were too simple. They were not useful?
A: They were useful and I am sure now I can understand some financial reports. It will be not so easy but I can. But in a year I won't be able to.

Q: Do you find that generally if you learn something and you don't use it you lose it?
A: It depends. For example, I was good mathematics some time ago, 12 years ago and naturally I don't remember anything from quantum mechanics or from mathematical physics equations but I am still able to do some things. Sometimes at home people ask me to help with their assignments in mathematics...I can do something at what I was good at that time but not some things. So the further you go the more you lose it, the upper level...definitely but 50% or 60% of the knowledge you still have maybe almost forever. Concerning economics, it is a common thing. You always can at least read some articles in some business newspapers or business magazines and then you can discuss some programs. It is much clearer to us than some differential equation.

Q: When you talk about the upper level, that upper level would be maintained if you were working in quantum physics or quantum mechanics, you would still maintain it?
A: Sure, but I have never worked in this, fortunately for me because I didn't like the subject.

Q: Do you think liking it has something to do with it as well?
A: Maybe. This accounting was an interesting experience. I don't know whether I will work with it later on, maybe not because I am not going to become an accountant. I have no doubt, but I will be able to discuss some problems with my accountant. Maybe that was the aim of the course, I don't know.
Q: What involvement do you have with financial records in your job back home?
A: Practically none.

Q: Will you have any more when you go back or will you maintain the same 
... 
A: It depends. If I will be in the same position then I doubt if I have any work with finance. Practically speaking, it is necessary sometimes to discuss some programs with accountants but in Russia the accounting system is a bit different from this and I am not sure whether it will be very useful. But at least I will be literate and I will feel better. If I changed my job, that's possible as well, then maybe I will work with these things.

Q: When you said you looked at the BHP reports, how much more involvement or how much more work do you think you would have had to add to your spreadsheets to analyse the BHP records? Or was it not a matter of just increasing your sophistication?
A: It was not a matter of spreadsheets, it was not a great problem to change them. The greatest problem was to understand the documents because here you have 15 or something like that lines and in the balance sheet of BHP about 60 or 70.

Q: Plus the notes to the accounts?
A: Yes, so it is much more detailed and sometimes I just can't understand what for they need some figures or what they mean. That's very important as well because I don't know your jobs and have language problems.

Q: If you had to do that assignment again would you do it any differently? Say you were given it today to do, would you do it the same?
A: Maybe I would make—I would not pay so much attention to sensitivity analysis, just make some break even analysis. It was quite necessary here to make some analysis from the point of net present worth because it is not quite clear whether it will be good from this point. At least it is not obvious because it is very doubtful, that change of equipment. So one could spend too much time and too much money on going for this new equipment. It was extremely expensive.

Q: You also mentioned talking with others. You spoke to D for a short while. Do you find it useful to discuss with other students your assignment?
A: Yes, of course.

Q: At what stage do you find that most helpful?
A: I did not ask too many questions. Almost everything was clear for me. My questions were very detailed. So it was what was interesting for me. Certainly we discussed problems which were interesting for other people and for them it was useful at any time and for me as well because when you have some particular problem you are supposed to solve it or somehow go around it if you cannot solve it directly.

Q: That's been very helpful, S. Do you have anything else you would like to say about it?
A: Maybe I am not a typical student from your point because I know that my assignment was very thick compared to some of the others. Maybe I was . . . in this assignment stronger than most of . . . I don't know why. Maybe because I'm good with teachers and some people were not interested at all. They tried to do something and get rid of it.

Q: How did you go in the assignment? What grade did you get?
A: It was a distinction and D said it was the best in our group.

Q: Excellent, you can't do better than that.
A: That is just for the statistics, it's not normal work. It's not usual.
Q: So you remember the assignment?
A: Yes, I remember the assignment. Maybe I start with my background. My background is physics. That's why I have some experience to do with figures, with lots of figures. This assignment—I liked this assignment. I like all accounting assignments but there are some not really successful assignments. For instance, it is not necessary to buy new plant. According to this assignment, if we were to increase our sales by 10%, it is senseless. It is very strange to buy new plant because our cost of goods sold will increase—what are the reasons? It is unreal because if we are buying new plant, it has to provide us with more modern technologies, with economy and so on... then for such purposes like in furniture production, it is not necessary to buy modern equipment because it is not high technology. It is not electronics and so on. As far as depreciation, it must be much less in this case. What were the problems with this assignment? For me the main problem was to make—not to make adjustments... especially in balance sheet because I saw several... assignments before and there were no very important transactions in these assignments. For example, sometimes there were no transactions and purchase of new plant and so lots of... I think the accountant figures and figures and then figures because if my accountant will make this document like the profit and loss statement and the balance sheet and cash flow statements and will present these mistakes to taxation inspection I will have lots of problems. That's why the explanations for me are...

Q: Forced, unrealistic?
A: The first, second and third are correct figures because it is very easy to explain correct figures. I can provide a very good explanation but if the figures are not correct or some figures or adjustments, it is no sense. Then there may be what was very strange for me, it concorn the methods of studying here. It is not only for accountant. We have no group or pair work, assignment in pairs at all. We have none. It is the responsibility of the person to prepare. So if me if I have some problems, I present this assignment not in proper time, two weeks late. That's why I received only a pass with lots of comments that my assignment will deserve much higher than credit.

It was very strange for me because I considered two alternatives, not one alternative. I studied the past of the company. For me it was understandable that the company which didn't use loan before at all, it's impossible for this company to carry out large risk and that's why I investigate two alternatives—one alternative no loan at all and a second alternative with moderate loan $100,000. It's easy to calculate the maximum possible loan from this. It is very simple mathematics but I have many problems to make a real cash flow, to show each transaction. It took much more time, because I considered two alternatives. But then I received a pass and that's why I was not interested to carry out second and third assignments very carefully. For me it was I understood the assignment and so I know how to deal with it.

Q: So you felt the assignment was worth more than that?
A: There is quite a different system. For example if I don't provide in proper time I will get a bad mark but I can present the assignment two months later... and
the mark does not depend on the time. It depends on the content because if I
don't provide it in the proper time, I get a bad mark.

Q: So that's not . . .
A: It depends on when I present my assignment because all your knowledge
mightn't be appreciated. Especially in accounting for me it is much better to
present such papers to taxation inspection one month later with correct figures
but if in proper time there might be mistakes. Also there is still for me that my
calculations were not checked, because our assignment—a large assignment like
this—in our universities will be corrected and each figure will be corrected by
the teacher, it will be checked, each figure. But here because I found some small
mistake after presentation of the assignment.

Q: So you feel there ought to be more rigour in the marking of the assignment?
More time taken with the marking, for more accuracy?
A: . . .

Q: So did you find it was difficult or it was just the other things you had to do
to get it in time?
A: It was my fault because I spent for this assignment about two weeks but I started
this assignment maybe three days before the due date. And for two days it was
impossible to do it.

Q: When you received the assignment, what processes did you go through in
order to achieve it?
A: I read the assignment and I found I understood this assignment. I didn't use any
textbook at all because I looked through two books but they were useless. They
were useless. They were very large. But I used some papers which were given to
us by W [the lecturer].

Q: You found they were useful?
A: Yes, because I used the papers with formulas and explanations of the formula
and also I used accounting dictionary—a dictionary of accounting terms. There
are lots of formulas and not to waste time with a lot of explanations and so on.
For me, accounting is like mathematics. Equations, formulas, figures, graphs,
charts.

Q: Do you think it is any more than mathematics?
A: I think it is like any task—chemistry or physics or mathematics or economics,
which are dealing with figures. The approach is the same. You have to
understand the movement, the tendency and so on. It is very useful to use charts
but figures they speak by themselves. A short explanation might be all right
because any real accountant or economic assessment, if I will provide any
customer with 100 pages, it will be impossible for him to read it. Because if he

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A: I think it is like any task—chemistry or physics or mathematics or economics,
which are dealing with figures. The approach is the same. You have to
understand the task to find the proper formulas and to use them correctly.

Q: When you have used them correctly what is the outcome, do you think?
A: Outcome? For me, I don't like much to put lots of explanation because if there
are correct figures and there is a set of figures completed, all required figures are
present—I like charts because it is very useful to see the charts and to
understand the movement, the tendency and so on. It is very useful to use charts
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because any real accountant or economic assessment, if I will provide any
customer with 100 pages, it will be impossible for him to read it. Because if he
does not understand, it is useful. If he does understand it is also useless because he will . . . only short explanations. That was the problem with my second assignment.

Q: So who did you think you were preparing that assignment for, for the accountant or the manager?
A: I think this assignment . . . I think for manager.

Q: What if the manager can't understand the figures?
A: I think manager has to understand the figures. I mean the high level managers of the companies, not the middle or lower managers. He has to understand and in my opinion the manager has to understand the papers which will be provided for his accountant. But he has not to waste his time to prepare those papers of course, but to look at them and to understand. That's why a basic knowledge of accounting is necessary for managers. We have four assignments, we have implement all the skills . . . it was interesting . . . but I work in the industry in production.

Q: So that's why you found the errors in there?
A: It's not errors.

Q: Inconsistencies?
A: Inconsistencies, yes.

Q: So you say you were in production before so you had some experience to bring to this assignment? You had experience in financial reports?
A: Yes, I have some experience of financial reports and I have experience to prepare some technological backgrounds for establishing a joint venture. For example, something like this or for example, to form some reading in the assessment of new products.

Q: So had you worked with balance sheets, profit and loss etc. or more production reports?
A: I have had some experience with my own balance sheet that my accountant prepares. I have a small little consulting company. That's why I am dealing with such papers. The basic principles are the same but this is a more sophisticated system.

Q: In terms of your private reporting?
A: Our system for accounting. The basic principles are the same. Balance sheet, profit and loss and cash flow statements but we have some differences. For example, it is possible to show money in one account and sub-accounts and it depend for taxation in which sub-account goes through this money . . . figures to hide the profits. That's why our accountants earn lots of money, good accountants.

Q: I must go to Czechoslovakia. Are you Czech, no? Sorry, I was speaking to someone else who was Czech.
A: Kazakhstan
Q: So when you were doing the assignment you said there wasn't group work specified but you worked with . . .
A: I prefer to work on my own because in the future it will be the responsibility of individuals, especially in such assignments as accounting. For my opinion it is useless to work even in pairs because future work with these figures will be individual. For example, managing organisations, managing people also . . .

Q: It is not useful.
A: It is not useful.

Q: Do you discuss work with colleagues or not?
A: We discuss, yes. I saw several assignments before I prepared mine myself but I didn't like them.

Q: Do you discuss it at the early stages, the late stages, when is more useful?
A: The middle stages.

Q: Is the way that you studied this subject much different to the way you studied in Kazakhstan?
A: I didn't study accounting before.

Q: No, just generally, your general education?
A: The way of teaching? It was different. You use lots of media, we use much less, much less. We have no group work or work in pairs, it is our individual responsibility. We have maybe 100 times more severe exams. I can speak about the differences in physics or engineering because I am not qualified to speak about the differences in psychology because I don't know. But as I said before, we have more severe exams. We have much more assignments, small and one very large for each semester. We call that semester work, maybe one, maybe two. Then we have oral exams. It's a mixed form, oral exams with some written tasks. It is a very different but we use less technical means but it is not our desire, it is a lack of technology. But here I like the technical facilities. There are lots of them and I see here to study maybe more easy for the person who wants to study, only for the persons who want to study but if the person does not want to study, the result will be zero. In our system the result will be satisfactory with minus because he will be forced out of the institution.

Q: He won't be permitted to stay.
A: And we—just now I don't know because we have lots of changes in our education system. I finished university in 1978, it was long ago . . . if I didn't pass with good marks . . . I would have no stipend at all.

Q: So you have a stipend to go to university? Everybody or just some people?
A: Everybody with good marks. Results satisfactory with four and five. We have five scales. Two means fail, three is like a pass, four between credit and distinction and five is a high distinction.

Q: So four and five get a stipend and if you fail you lose our stipend?
A: Yes.

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A: Yes.
Q: That's fairly strong, isn't it, that makes you work?
A: Yes, it was a very strong stimulation. Now I don't know because now we have free of charge education. Now we have free of charge and we have charge education. I don't know now but before we had it different. For example, if I didn't pass one assignment for all subjects, I will not be allowed to the exam session.

Q: So you must have completed all of those required things for the examination?
A: Yes, . . . semester we have to pass five or six on the subject and then to pass four or five exams. Our educational system was oriented to the original person and I think it is now also.

Q: When did you do the assignment with the actual figures, what did you understand by some of the terms like 'rate of return', 'gearing', the ratios? What meaning did you put on some of those terms, the accounting terms?
A: Those figures looked in the first level of approximation like real figures. Then all the coefficients were real, like in real industry and it was possible then but I thought that this company operates well and without risk at all. It's a fixed business, with fixed clients but I thought there was something strange. I have problems with the cash flow statements, not with profit and loss statements and the balance sheet was easy to prepare after finishing cash flow statements because the figures might be compatible and coming from the cash flow statements because each transaction must be shown to the cash flow statements. That was the main problem, to show each transaction and maybe just now we have some difference between the accounts receivable and accounts payable. Now we don't use such terms at all . . . due to our rate of inflation and so on, it is useless just now. That's why here it is possible to make some improvements and decrease accounts receivable and accounts payable, to lower them and provide the company with some cash in the bank and to use this cash to pay the loans, to pay the interest and so on. Because the cash flow was very large, it was huge and in both alternatives cash flow was very large, especially in the first one if you don't use the loan. That's why it was necessary to invest this money because money must work.

Q: How do you think they were going to improve the receivables, turnover and inventory—the stock turnover? You mentioned that that was important for their cash flow.
A: We have the concrete figures but in reality it is a technical problem for the enterprise have some agreement with his clients, with his creditors, instead of 45, 46 or 47 to introduce some medium privileges for those clients who will pay not in 35 days or in advance or after the sale immediately or during 10 days, to use some discounts. Maybe small discounts but it will help because it will provide cash at the bank and it will be more flexibility for the company to use the cash because without cash it is impossible to operate.

Q: What about the inventory turnover, did you see it was possible for them to . . .
A: It is also a technical problem which can be solved at different enterprises where there are different ways maybe. At first it is possible to organise the best
planning, the production mix, to take into account their clients, their demands and the seasons. If the company will operate on long term basis with large clients, it is very easy to short the inventory, to know, because it is much easier to plan properly. That's why for a production company it is very useful to establish long term relationship with wholesale companies and to work according to their orders and to have no stock houses at all.

Q: The Japanese are very good at that.
A: Yes, I like in Japan. Because America is very proud of their wonderful stock houses but Japanese are proud of no stock. But only under the conditions of very stable economy without inflation.

Q: And without industrial dispute.
A: Because now for our condition it is much better to have large and very good stock houses and to keep the goods instead of money because it is much more reliable. It is a real value.

Q: What rate is your inflation level?
A: It is difficult to say.

Q: You know yesterday but not today?
A: Many thousand percent per year. It is very strange, but we have USA dollars inflation too. Nobody has but we have because the prices in the USA dollars are increased for last two years maybe three, five, ten times.

Q: So it will be a very different country that you go back to?
A: Yes, my country is going to produce its own currency later this year because it was declared at the beginning of this week.

Q: Will that be better, do you think?
A: It is not a simple task to introduce currency. It is very complicated.

Q: We changed our currency here but that was a simple change from pounds to dollars.
A: It is a change here but it is not used from the very beginning.

Q: When you looked at that assignment and I asked you what experience you had before to bring to this, do you think after doing this it will give you some other experience you can use?
A: Yes.

Q: Can you think how this will be useful for you?
A: Because I dealt with large assignment—it was a large assignment . . . were very short but this was large and it was . . . I knew profit and loss, balance sheet and cash flows. These statements are useless—all this is necessary, the first statements you have to know how to deal with and I think I have some experience of a system approach. It was very useful and I used a spreadsheet.

Q: Had you used spreadsheets before?
A: No.
Q: Do you think you will be able to use them again now?
A: Yes, because spreadsheets are very popular in my country but it wasn't necessary for me because I have a small company.

Q: So will you be able to use some of this with your own company?
A: Usually I'm dealing with foreign businessmen. That's why all this economical knowledge is very useful.

Q: Anything else you would like to say about it?
A: Maybe you would like to ask something else.

Q: If you were to do the assignment again, say you were given it today, would you do it any differently, do you think?
A: Not differently. Just now I know how to do it and that's why I would probably have a spreadsheet.

Q: What did you use the spreadsheet for?
A: Because for this assignment it is not convenient to use calculator because I have to choose . . . That's why I have to prepare some spreadsheet and only after I have prepared such spreadsheet I can insert all the amount of figures and they can be calculated automatically. Insert the amount of the loan, zero, 50,000, 100,000 and for the maximum loan and all the data is calculated—balance sheet, cash flow statements and all others.

Q: So how did you do them?
A: With the computer.

Q: You used a data table? It was not a problem for you to work out how to do that?
A: It was a problem because I have no experience of doing this spreadsheet before because even though my background is physics when I finish university there were no personal computers at all in the university. The first PC appeared in 1978 but I have already finished. I have at home a PC but I don't use spreadsheets at all because I use . . .

Q: When you said you had to insert only the loan and then everything else would change, what were the main factors that changed? What were the main items that were affected by the loan?
A: All figures, all figures will be changed because from —not accounts receivable, not inventory because they are fixed. Some figures are fixed and there are no alternatives but the profits or loss, interest payments, cash at bank, liabilities, current liabilities, paid up capital will be changed because there are some figures which are fixed because they depend on the assignment.

Q: They are given data at the start?
A: They are given.

Q: What do you think were the key relationships between the statements?
A: They are given.

Q: What do you think were the key relationships between the statements?
A: I don't consider them like different statements. For me it is part of the same statement, three different but interconnected parts of a like statement. It is not different statements for me.

Q: How would you interpret that one large statement? What was the purpose of it?
A: The constituent part of this statement—all these statements they show financial operation, successful or not successful, for the company . . .

Q: From those statements how did you think that company operated? Did it operate well?
A: The company operate well but not impressive. Not active, very quiet. The result changes between a lot years.

Q: Do you think that is good or bad?
A: It depends on the company . . . It may be useful. There are several famous and international companies they are not going to preset productions. They prefer to have a plan for five years or seven years . . . and they are not going to increase—it is also like marketing, not to increase prices.

Q: Increase the profit without production is better?
A: Yes, it is also possible. It depends on the nature of the company. For example, for any supermarket there is a little of population which is around the store. It is no sense to invest additional money because you will not increase turnover.

Q: So they really need to . . .
A: The company must establish their purposes, their aims very distinctly—what is possible, what is impossible, what are the limits of their activity at minimum and maximum level, the most profitable to find the optimum.

Q: And those reports would help them to do that, do you think?
A: Yes, because in this report it is possible to define the leverage, the level of risk. But for each company the level of risk is quite different because it will depend on the nature of the chief executives. Some people like risks, some don't like them.

Q: Do you think this company should tolerate more risk?
A: Very moderate risk. They have no experience with risk at all. That's why I choose a very moderate loan, not maximum loan but about 60% of maximum. I could not believe that this company had enough experience with loans before. If they rely upon them there's a maximum risk. But from the given data it is very easy to calculate the maximum loan and properly prepared spreadsheets will calculate the rest.

Q: Any other comments about the risk or the leverage?
A: No.

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Q: Any other comments about the risk or the leverage?
A: No.
Q: Do you remember the assignment?
A: Yes, in broad terms I do.

Q: What do you feel you understand by the major terms like 'working capital', 'rate of return'?
A: Um . . .

Q: Is that too specific?
A: Fairly specific. I guess I'd probably have to prefix it by saying this has been my first encounter with accounting. So it was kind of like a culture shock, learning a whole new language and a new way of thinking. Having looked over the assignment, I guess what I understood was this is a number of tools to understand and analyse the performance of a company or an organisation or whatever it might be. And I think—is it useful to go through what I think are the processes I went through?

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Q: Yes, it is.
A: Because it was all so new for me I was quite stunned and overwhelmed by the concepts, the language and I was quite shell-shocked for quite a while. Even though I'd done economics at secondary school level in years previously, plus I've always carried a thing I've never been very good with mathematics or numbers, it all kind of combined to throw me a fair bit. So I think the things I eventually found useful in getting my head around it were some of the handouts where I began to see some of the content of the question that was being asked for in the assignment. Three big areas, the profitability, the working capital management and the financial stability but I also found it very useful to talk to people outside of this course. I found I had to do that for myself and I drew on the assistance of a cousin of mine who works in banking. Being able to go through very slowly with him the actual financial statements and beginning to see some of the connections with some of the figures in one chart to the other, some stuff began to fall into place for me.

Q: What do you think was—you say you were beginning to see the connections, what were the connections that you saw? What was the key thing that triggered it off for you?
A: Um, one was a very basic thing. There was a whole lot of ratios and I didn't know whether if a ratio was going in one direction that it was positive or not. So it was sometimes as basic as that sort of thing. And, um, then I guess I remember there was something to do with the inventory. There was a whole problem in this particular company. Just learning to pick up on that and even though talking to my cousin and a couple of other colleagues on this course I realised that the figures may not tell you why there may be a problem but the figures can often just highlight there is some problem there. The outline of the assignment had indicated that some attempts had been done to address that problem but notwithstanding that there seemed to be an ongoing issue there. Just to be able to pick that up from the figures, I think even just little shorthand things that I picked up from my cousin—he said look at the quick ratio. Little things like that
where I began to hear people using the jargon or the tools in the practice if you like. That began to reinforce some things for me.

Q: So the jargon was a real hurdle for you?
A: It was and I suspect it's got something to do with my own past where for a long time until I probably to a very limited degree across through philosophy and science I began to make the connection between symbols in mathematics and what was behind the symbols. Not that I even understand what maths is about today or physics but I find it is a very similar process with accounting. There are all these concepts that I found very difficult to get a sense of what is the life behind them and I would still be struggling with that.

Q: But at least you saw that that is what you are aiming to do?
A: Yes.

Q: How far did you get trying to get behind the symbols do you think?
A: I think, um, the way I would say it is I now have a familiarity with the terminology so I'm not bamboozled. So I think I've gained some literacy at that level in accounting and in gaining that I also acknowledge that there is far more about accounting, analysing a business or an organisation, than I could ever understand at this stage of my development in this area. So it was—the image I have is that the course was an icebreaker for it. It broke that barrier of not understanding, of not knowing and gave me an initial language whereby I think if I felt an understanding trust say in an accountant as a person, I would have some confidence in terms of the language he or she might use with me, and also the confidence for me to say explain a bit more the meaning of this, why are we putting emphasis on this or that.

Q: So you feel more confident now with that ability to ask questions?
A: Yes, and I guess it gave me an overview of some of the things that accounting can do. I remember some of the stuff, for example what we did with you, where you can look at the whole pricing of a particular product. There's a whole lot of ways that I almost could say laterally you can come up and look at what's going on in the business, how can we organise a structure that's better, what's a useful way of understanding all this information and structuring it so that depending on what is my need or the needs of a production manager or a service provider might be. There's a whole range of things in accounting can bring, can offer a person in terms of information and analysis. So it gave me an overview of some of that, of the range of possibilities that do exist but in terms of being able to do it myself, I would still struggle.

Q: In terms of the overview and so on, relating back to the different needs of different users, who did you see were the main beneficiary of the information in this assignment?
A: In this particular one?

Q: Yes, who needed that information most do you think? Who were you addressing in your comments etc?
A: I guess I had a sense of—well, the assignment was almost like as if I was employed by the company, to sort of provide a report to those who were
decision makers which presumably is someone in management and perhaps some key people somewhere within the organisation, someone in charge of the store room or whatever. Um, so I had those sort of people in mind in that particular case.

Q: What sort of advice do you think you would come out at the end for those people?
A: Um, well, I guess when I eventually had some sense of understanding of some of the movements and trends I found myself thinking, "How can I express this in a way that gives a sense of movement, acknowledging say some positive developments and therefore contextualising some problems within the context of either a positive or negative improvement or movement within the company?". I think I remember there was a whole rise in say admin costs that had occurred. At first sight that might be quite frightening but when you actually put it in the context of all that was being produced and the increased profits, a lot of those admin things might have been going back into efforts of sales and marketing, you begin to say when you look at it from that point of view, even though there has been an increase, it may be really worthwhile, that increase. It has brought far more into this organisation than the efforts of that particular group.

Q: So there was some sort of concept of parity with increases being on a par with increases elsewhere?
A: Yeah.

Q: Were there any increases which you felt weren't reasonable or in keeping with the rest . . .
A: I think the principal one I remember was the inventory one and to pick up on that. Because my understanding had been that there had been an investment in machinery as an attempt to address what I suspect may have been some stockpiling of products and notwithstanding that there seemed to be an ongoing problem.

Q: With the inventory levels?
A: Yeah, and I guess I picked up—I think the course began to suggest in terms of practice these days it's probably not a good idea generally to have a very high inventory. So I guess I had that in my mind. I think the assignment also provided information about some comparative levels across the same industry and what were the averages in the industry. So given that in this particular organisation's case the levels were a lot higher than say the industry level as well as that broad concept that to have high inventory levels is not desirable, that alerted me in that case to some things problematic in terms that it required some further investigation or consideration.

Q: How did you see the impact on the inventory would impact on their business totally?
A: Um, probably two things because, as I say, in that abstract sense of knowing what is behind a concept like inventory I was really struggling but I guess at the first level, the most superficial level, there's obviously a lot of stuff in the store room and a theory saying there is too much just hanging around doing nothing, that's idle and the theory seems to say that's not good. Um, but the other thing
was that also went through my mind, there may be something specific that I understood they had been trying to address by bringing in machinery and what have you. Why is it that there is still a problem? Are you doing long runs of something that isn't moving, that isn't required any further? That's the sort of stuff that went through my mind from a distance without knowing the specifics. Something like that might have been going on.

Q: In terms of actually doing the assignment, how do you approach an assignment? You are handed it in class, what do you go through then?
A: Um, I guess coming from a humanities/social sciences background I tended to spend a lot of time on actually looking at the descriptive stuff and then really trying to focus on the stand of the questions. In fact, I think when I look at how I ultimately wrote up the assignment, part one in particular I almost gave the framework within which to write up the assignment, the broad areas that I needed to cover. Um, so I guess in that sense I was lucky that the framing of the questions also provided a framework for the answer. So in that sense perhaps my previous education gave me that clue. But as I recall it, there is a whole important thing of—this is where I was utterly bamboozled and to some extent I would still be about this sort of thing. I was conscious even when I started this course and looked at different people in the group, they would open up and they would see a profit and loss statement. I mean, I am still struggling to recall what is a profit and loss statement, I don't have that fluency yet. I don't use it every day so it's not being reinforced by anything. So other people I notice would look at it and they would begin to pick up stuff immediately. I had to really focus and struggle in this assignment and, as I say, use my cousin to help me. He walked me through it and got me to see some of the connections between some of the different charts.

Q: When you actually came to do it when you discussed it with your cousin, did you discuss it with other people in the group?
A: I had a bit of a talk with G who is someone I work closely with.

Q: Did you find that helpful?
A: Yes, and I found that probably we were both coming from a very similar background of total unfamiliarity. Probably also I discovered in the process that as we then teamed up for other assignments that I found a balance to my sense of limitation with mathematical calculations as a way of dividing up assignments. G, who loved mathematics and was good at it, just thrived on that side of it whereas I would immerse myself in the reading and look at the more analytical stuff and then bring it together and discuss it that way.

Q: You found that was a better way of doing it?
A: Um, well, I guess I'm always left with the question should I have really struggled and tried to cope with it, learnt some of the mathematics. Perhaps I should have but at the same time I felt happy because I, um, I think it's just another way of acknowledging and learning how to do teamwork and working with people's strengths. Possibly if this subject—or had another attempt at it, I would obviously reach a point where I would address my need to have to practice at some level because—that's the other thing I think I've learnt, that this course taught me how to work with someone who is an accountant, who is
trained in this area rather than feeling I have to do all the work. And that was one of my struggles at the beginning of the course when we were looking at just the fundamental principles of accounting, learning how to do the ledger and the movements, I thought that was the whole point of the course, learning how to do that basic stuff and I got caught on that rather than sort of being able to stand back and get the overview. For a long time I got caught on the detail rather than the slightly bigger bits that go to make up the big picture, the big brushstrokes of accounting. So I was confused at that level for a long time.

Q: So do you feel now you have got a better grasp of the big picture?
A: Um, yes. I've got a better grasp of some of the components that go to make up that big picture, yes, and therefore some of the potential and some of the uses of accounting. In terms of evaluating each of them, to give an example like unit costing, I'm in an industry or an area where there's a lot of suspicion about unit costing. And I'm also conscious of other people in my area, which is providing human services, it may in fact be a way of saying to funding bodies, "If you want us to do X for that certain amount of money, we ethically in other ways will not accept doing it at that level". So I'm still trying to evaluate the debate of what is the value and the purpose and the use given to unit costing, is it in fact to destroy something or is it in fact to empower or is it both, depending on the user.

Q: So you don't see it as an objective accountant's type figure, you are seeing it in the broader political perspective?
A: Yeah, a bit like that sort of experience and exposure to the debate and probably ultimately the practice of how it ends up being used in the practice to evaluate some of those concepts and their value ultimately.

Q: You said you didn't have an accounting background. Did you have any previous experience that you could bring to this task, perhaps not the accounting aspect of it?
A: No, in terms of . . .

Q: In terms of any of your previous life experiences perhaps that you could bring to it?
A: Where I'd considered accounting?

Q: Yes, or the actual process of doing the assignment?
A: Well, the process of doing the assignment in broad terms, yes, because I've done a lot of previous study over a number of years in a number of different areas. So I think as a student confronting a task I felt reasonably confident, I wasn't overwhelmed at that level and I wasn't sort of struggling with just the broad culture of being a student or a learner. I felt comfortable at that level. But in terms of the actual subject matter, yes, it was totally new for me. I would still be really struggling with accounting terms.

Q: Have you found that you have been able to take anything away from that which you have found useful?
A: I think just basically that reaching a level where I think probably in terms of at least some of the subject, feeling comfortable and standing back and seeing some of the components and seeing that there are different things that make up
accounting and they could have a use. As I say, unfortunately it hasn't been reinforced in my work, having to use it. So unfortunately it's probably fallen down there than if I had to use it more. That may have reinforced the learning but it's something—in that sense, something I did a few months ago, I spent time reading and doing assignments and going to class and struggling with the feeling of feeling lost at times in a sort of forest. Figuring out where the trees are and being bamboozled, just having some sense and then having promise I left it. There are some considerations around unit costing and talking with people in my organisation, the programs are now going to be behind budget and just feeling comfortable talking accounting jargon, the language. So kind of joining in with my immediate boss and saying, "This will be great" and she draws me in. She sees some potential in what it is. The person who has just become CEO, she was the accountant in our organisation at the time I was doing all this and the time that G and I sat down with her to consider one of the assignments for yourself actually. There was a sense of feeling an acknowledgement that two of us were getting our head around some of the issues that the organisation itself was looking at and an acknowledgement that it would be great to have some people who were getting some knowledge in this area and indirectly might play a role in explaining what it might be all about, or being able to talk a bit about it with other staff. It was that sense also of psychologically feeling some conclusion at another level apart from the direct professional level that J and I are employed at in the organisation. Plus when we've gone to conferences, particularly in my field since the Kennett government came to power, there has been a whole lot of discussion and controversy. A lot of it has been couched in terms of the economics and accounting and therefore I guess coming from a background where I had a total prejudice about that, to gaining some literacy and overcoming both the prejudice and feeling a bit more comfortable I began to actually hear things for the first time. Even though I don't feel I can evaluate everything, I was beginning to hear different arguments, the unit costing example I gave before was one. I began to pick up that there are two points of view here and probably if I hadn't done the course I wouldn't have picked up on that sort of stuff. So that has been useful.

Q: Anything else you would like to say about it?
A: No, I can't think of anything offhand. Just that I feel more comfortable now about it. At times I really struggled while doing it.

Q: Did you find any textbooks helpful?
A: Uh . . . well, the one that was put down for the course was useful. I made a stuff-up and I bought what I thought was a second hand version which in fact didn't turn out to be that, so I was struggling the whole time trying to keep up. But, no, they were useful. It took me a while to get into the culture and the style of writing accounting, coming from social sciences where it is very analytical and what have you, to get used to some of the flow and the language and the approach. I probably held on to that lack of analytical approach as sort of part of my prejudice that I kept projecting on to accounting and saying all these so-called neutral sciences—I'm sort of thirsting a bit for that. But I also came into this course saying I wanted to give myself a chance of allowing the science of management, the components, give myself a chance to expose myself to it on its own terms before I graduated. I keep a critical eye on it but, you know, I have to

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acknowledge my prejudice and not let it get in the way and give it a chance to speak to me on its own terms. So I think I've just begun a bit of a learning curve really of a whole lot of areas that are new to me. In other areas I think it is just beginning to see a whole lot of connections with stuff that I've been doing for years and seeing it is linked to some stuff we've been doing—organisations, human resources, to some extent marketing, the research methods and what have you. I find marketing at times quite refreshing in its sure hand approach, non-judgmental. Don't worry about what people think, give them what they want.

Q: It would be interesting applied to your industry.
A: Yeah. I don't know whether it is that stage of life, the mid-life and wanting to round off a lot of parts of myself as well as just plain professional and personal development, but at this stage of the process I am becoming quite intolerant of some of my colleagues who are beginning to, hopefully in a positive and constructive way, sort of seeing through some of the games that I've been playing for a number of years but at the same time quite tentative because I feel it's all so new ground. There's some sense of breaking with very long held views and values on my part. I struggle with it, ultimately with a world which is very different. Part of the reason I always try to come back to study is to acknowledge that the world is changing and that formal study is a way that I find helpful to sort of keep my mind active. I think the past few years on the value level have been quite a struggle and conflict. As my understanding of the world changes am I betraying old values and old loyalties or how do I re-flesh out that old value in a way that is more meaningful and hopefully have some impact in that context. That is probably broader than just accounting.

Q: How did you end up going in the assignment?
A: Finlay? I get lost in the marking around here. I think it is a distinction.

Q: You never know whether it is a D for distinction or D for just scraped through. That's great. Thank you for that, A.
Q: You remember the assignment and what was required?
A: Yeah, it was mainly about cost ratios and that sort of thing. The main focus of my work was . . . on the gross profit ratios. That's what I looked at very closely and I tended to be a bit too descriptive from what J said in his report on the assignment and I don't think I got down to the crux of why that was the case. I looked at the working capital management and the new technology quality service. I commented about that and the accounts receivable had increased, although . . . one day represents $1280 in sales. J also said I wasn't descriptive enough there and I didn't clarify that the percentage of the creditors, the cash flow problems with the creditors, I didn't bring that up. He didn't put any comment against the long term financial strategy. On the conclusion I said that the gross profit ratio, total assets, retainers, cash from trading and sales group had all been a positive trend with new equipment going in, a lower cost per unit to manufacture it and profit available to cover the interest. The company was on a sound base, profit growth was steady and the momentum must be maintained for future stability of the company. I had a few problems with where they were heading. In future directions I said that the interest bill was . . . recommendation to issue new shares and the shareholder returns would improve to make it more attractive and the funds could not be raised to pay total debt. So pay total debt, pay part—I don't know what that means.

I was a bit worried about the products. I thought they should—the low profit products, they should contract those out to smaller operators and create a niche market where they're going to make decent profit margins. I thought that was something that they should do. They should—sooner or later they should implement total quality management system in the company. I worried about their industrial relations. I thought they should talk to them about an enterprise bargaining situation because as a manufacturing factory I think it's a lot easier to enforce enterprise bargaining on a manufacturing plant where if you've got any machinery you can run it 24 hours a day . . . and reduce cost and look at their accounts payable and receivable procedures to improve cash flow. Do further research and development, not stop there just because they've got new machines, try and develop that and put in more new machines and look where they can increase their profit margin.

Q: Okay.
A: But I tended to look mainly at these figures and compare the figures. I'm not sure what page I did that, it's a while since I did it . . . this is the one. I really looked at the ratios and profitability and working capital management and stability. They're the ones that I really compared—their growth, return on assets, asset turnover, net profit and selling expense ratio and admin expense ratio. I really looked at those and analysed those more than any of the others.

Q: What did you think was the key ratio out of those, that gave you the key to their problem?
A: . . . return on assets improved immensely from when they put the new machines in. I think that was a key issue. Net profit also jumped fairly significantly too. Their gross profit margin more or less stayed the same. And admin expense ratio

Q: Okay.
A: But I tended to look mainly at these figures and compare the figures. I'm not sure what page I did that, it's a while since I did it . . . this is the one. I really looked at the ratios and profitability and working capital management and stability. They're the ones that I really compared—their growth, return on assets, asset turnover, net profit and selling expense ratio and admin expense ratio. I really looked at those and analysed those more than any of the others.

Q: What did you think was the key ratio out of those, that gave you the key to their problem?
A: . . . return on assets improved immensely from when they put the new machines in. I think that was a key issue. Net profit also jumped fairly significantly too. Their gross profit margin more or less stayed the same. And admin expense ratio
dropped and the return on shareholders funds improved because prior to the new machines it was in the negative. Now it was at 8.1. I think they were the main issues. The others stayed the same. The working capital, accounts payable turnover fell away a bit but maybe that was because they dropped off staff in the admin. And their inventory turnover, they improved that by about 10%. So that was a significant trend. Their debt to total assets ratio dropped, although the cost of sales was higher where it was a new purchasing. That's the main one that I looked at. I don't know . . .

Q: That's fine.
A: I did look at the others. I looked at the profit and loss statements of course. The cost of goods sold went up fairly significantly. So did the turnover so that makes sense.

Q: So you felt they were generally in an improving situation?
A: Yeah, I think they were but I think they had to do a lot more work to make sure that they stayed in that situation. They sort of couldn't rest on their laurels. They had to keep looking to improve, put new machinery in.

Q: So the decision they have made you felt was justified in terms of the returns?
A: Yes, definitely. But they had to look at their labour force, the way they do things and keep improving the business and maybe the market, get new customers. You have to do that otherwise you don't have a business.

Q: Did you feel there was anything in your previous experience that you could bring to this assignment to help you tackle the problems?
A: From where I come from? Probably not, no, not personally anyway.

Q: So this was all totally new?
A: Yeah, the bit I had a bit of fun with and if I did this one again or something similar I'd look at it a lot harder would be the future directions. I think I'd have a lot more to say about that. I think the quality management come from my background definitely. I think I picked that up out of the marketing segment of the course. Enterprise bargaining, I suppose that came from my background too and that I got out of the assignment. This one down here was something I got out of marketing again. So the course towards the end of accounting and marketing all seemed to blend in all at one time. I think if we had done a bit more marketing before we did some of these we probably would have used a lot more ideas that we learnt from marketing in the accounting assignments. That really sort of come home really late in the piece, it was all starting to gel together.

Q: So you felt that was a positive thing?
A: I think so, yes, because it is all sort of coming together about running a business and making a success of it.

Q: So you didn't have a lot of experience you said to bring to it but do you feel you've got something to take away from it? From that assignment have you picked anything up that you could use?
A: Yes, definitely. But they had to look at their labour force, the way they do things and keep improving the business and maybe the market, get new customers. You have to do that otherwise you don't have a business.
A: Yes, I certainly have because if someone says something like asset ratio on
turnover and that sort of stuff I know what they are talking about. Half the time I
think accountants tend to try and beat you with their jargon but if you can nip
them in the bud I think it helps. I think life is half bluff, isn't it, and negotiation.

Q: The half you know and the half you pretend to know.
A: Yeah, I know the financial controller from work says, "You're on the ball a bit
more than you used to be". So he's noticed a change and I just look at things a
bit differently than I did before.

Q: So do you think that he gives you more respect now professionally?
A: I think he probably does. Things have changed a bit. We've had new owners and
that but I think he probably does. I think he does professionally now. I think he
sees me a bit differently because I've made the break and done the course at
university.

Q: So you have found it's changed your approach to things at work?
A: Yes, definitely, even personally.

Q: In what way?
A: In second semester with managing people and that sort of thing and managing
organisations, that's just changed my whole outlook. I just look at things quite
differently now. I just consider that I've more in my bag of tricks now. I just
look at things differently and analyse a lot more. I've got a lot out of it. I've
really just got a taste for it actually.

Q: Can you give me an example of where you say you . . .
A: Well, in some ways it's endorsed some of the things I was doing before because
I think Australians as a whole think we're a country of ockers and it's good to
know that you've got something right. Some things I've learned here I'm saying . . .
The main thing I got out of second semester is has been just more self-aware of
what I do, how I do things and that's been really good for me because I can be
a bit—put it this way: if someone asked me what I was like I'd say I was
aggressive, but a people's person, but now I wouldn't say that. What I was saying
before wasn't right, I'm probably not aggressive. I can be but—I'm probably
assertive, a lot more self-aware but I'm still a people's person and I just tend to
look at things differently now.

Just a couple of things. The company, we've always sort of had a newsletter. The
first time it's ever come in a glossy was this year. So just from being here and
marketing and that, all the people I haven't seen since I've been in Adelaide, I
got a list together, got a list of all the other people from our office in Whyalla—
from BHP, they've got a massive plant there. I did a covering letter and sent it
away to every customer and out of that we got invited to tender two jobs. People
didn't know we did that sort of work. We specialise in fire services in Canberra.
The company is very diverse and we do a lot of different services in some areas.
Like in Western Australia we do a lot of transmission work. In Canberra they do
driving. Down here we've got electrical, mechanical and we've got this specialised
thing. We do special . . . welding for the pharmaceutical industry. In Sydney
they do a lot more civil work and that type of thing but it all inter-blends with
Q: Why do you think that pre-reading is helpful?
A: Yeah, pre-reading and that sort of thing and I've enjoyed doing the reading. It was only what I picked up and you learn a lot in industry but just to get some formal training, a little bit more confidence, I think that helps. Maybe try and talk a bit slower, I think I tend to talk too quick, get too excited. Just be a bit more relaxed and more confident in myself. They are some of the things I've got out of the course. I think my writing has improved too. It's probably not not that good anyway but I think that's improved a lot. It's improved a lot since I came in the office but it ... 

Q: Because you know what the standard is?
A: Yeah, my expression skills a bit better. Sometimes they wander but I think as a whole they've improved a lot. And it's really got me to start reading things. I'll be honest with you, in the first semester I wasn't doing any reading but while I've been travelling I've been reading on the plane and doing a lot more reading and I feel I've got a lot more out of it because of that. So if I went on I'd certainly be working a lot harder than what I was in the first semester.

Q: So you are saying you don't do a lot of reading. So when you were doing assignment you didn't use textbooks particularly?
A: No, I didn't to be honest, no. But I did in the second semester. It really sort of clicked with me in the second semester, that's what it's all about. I hadn't done a lot of it before but I certainly picked up that you need to use the textbooks and that. Yeah, next time around I'll do a lot better. I'll organise myself a lot better too.

Q: So that's part of it too, the organisation?
A: Yeah, a couple of them I didn't get to until the last minute. I've got a few problems at work. Before I got changed over I had a lot of work to get through and the time I allotted to do an assignment, it ended up I was taking work home from work to get that out of the way and my assignments were getting second best of my time. That was a disappointment. Now I think—although I still get them ready right on the knocker, I've done some reading beforehand and I'm much better prepared to answer those questions.

Q: So you're not doing the whole thing the day before, you do quite a bit of pre-reading?
A: Yeah, pre-reading and that sort of thing and I've enjoyed doing the reading. I find it a lot of fun.

Q: Why do you think that pre-reading is helpful?
A: Yeah, a bit more follow up and just a bit more tweaked on to what you need to do in business and that sort of thing. See, I've come from a trade background and worked my way up. I've picked up a lot on my way but I went to school for four years to be an electrician and I didn't do any schooling to be a manager. It was only what I picked up and you learn a lot in industry but just to get some formal training, a little bit more confidence, I think that helps. Maybe try and talk a bit slower, I think I tend to talk too quick, get too excited. Just be a bit more relaxed and more confident in myself. They are some of the things I've got out of the course. I think my writing has improved too. It's probably not not that good anyway but I think that's improved a lot. It's improved a lot since I came in the office but it ... 

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A: Yeah, pre-reading and that sort of thing and I've enjoyed doing the reading. I find it a lot of fun.

Q: Why do you think that pre-reading is helpful?
A: You know what the instructor's going to talk about before you walk in the classroom. You've got a bit of an idea, you know. I think you get more out of it because if you read, then you might have some questions that you want to chuck at the lecturer because if you don't read you've got no input. I don't know if you noticed, I was pretty vocal in the class mainly because of the business that I've been in. I've had a lot to do with reporting and that sort of thing. So I know a bit about what you were teaching us.

Q: It was your area, in costing and so on?
A: That's right, yes, so I knew a bit about that. I could get through with my industry knowledge and that sort of thing but in some of the other areas I haven't done a lot and the reading's been really good because if you've got any queries you can ask while you're there. If you don't read, it's too late. But I've got a lot out of that, yes. But I'll certainly be more prepared for it next time around . . . but that's another issue.

Q: Aren't you doing the two year one?
A: Yeah, but we finish this year and then we have to re-apply to get into the next one.

Q: When you approached this assignment is this the way you normally approach them? How did you approach it?
A: I really just went over the note really very quickly and looked at what the questions were. I always keep relating to what is the question and any information on the front of the sheets there. That's the way I did it. That's changed a bit. I usually refer to the textbooks. But the marketing and the accounting was a bit more disciplined than managing people, that's really a personal type thing. Like, I wouldn't let anyone just type my things. I used to get my wife to type them at home and then take them into work and get them printed because some of the things were about work and I didn't want people . . .

Q: There is a confidentiality problem too.
A: Well, there's one, my old secretary, that I trust but I wouldn't give it anyone to type up whereas these are a bit different. The organisation one, no, that wasn't so bad. It was mainly the journals that we did with J [lecturer].

Q: When you were doing assignments, do you find it helpful to discuss with other students or other colleagues?
A: Yeah, I think it is. I didn't do any of that sort of thing in the first half. I did it virtually all by myself except for one but yes, I think it's good doing it in groups. I think any more than three is too many.

Q: Why?
A: I think maybe you get too many different ideas. I'm one that believes conflict's good but I think sometimes you don't get anywhere if you have too many people there and I think three is a perfect number. Not that I ever did one with three. We did one with four in marketing then did one with me and N together. I was in the group for managing, J pulled out and there was just the two of us and that worked really well.
Q: What do you think are the disadvantages of working in a group?
A: I think some people don't pull their weight and others do all the work. That's what I found. But sometimes if there is just two of you and one decides that they are going to do all the writing and the other one is going to do a bit of a preparation for the presentation and that sort of thing, I think that's a good mix. As long as you keep talking to each other, the communication is important and if you keep talking and both are happy with that I don't see that as a problem. As long as it all works out but if you get four and one person goes and does one bit, it might not sort of flow. You need a pretty strong personality to bring it altogether. If you've got a couple of hard heads in there you've got a problem, haven't you?

Q: You need more than the allotted time, don't you, to get through the meetings and things?
A: That's right. I never had any trouble with that. Everyone seemed to—we used to meet at work when we did the marketing one and the others started coming to my place when I was in the group.

Q: Did you find the assignment difficult at all?
A: Yeah, probably initially. But then once I got into it it was okay. I was disappointed with the mark I got and that probably was a fair mark, don't get me wrong, but I just think . . .

Q: What mark did you get?
A: A P. I just wish I had been more aware of what was expected. That was a problem early on, I just didn't know what to expect. Some of them I thought that was okay but it wasn't really what they were after. That's a bit of an issue I think, people should be made more aware of what's expected. Maybe we don't ask enough questions when we first start either, but I think that point should be put and analysed more than just being descriptive.

Q: So if you did it again that's what you'd do?
A: Yes, definitely.

Q: Be more . . .
A: Yeah, definitely. And that's a bit of a skill too actually. That's not something that comes the next day. It's something that you sort of pick up.

Q: Have you had to do that—I know in your work environment—have you had to be analytical at all in your work?
A: Not really. I suppose—I had to do a business report that was a tender when I first went over to Adelaide. It was like doing another bloody assignment. I really got in a trap because I had a week set out before they come and I thought I'll do it all in that week and it won't be a problem. Then my 2-IC said, "We've got to go up to Moomba to meet all the people from Santos", right up in the gas fields in the top of South Australia.

Q: There's a place called Moomba up there, isn't there?
A: Yes, Moomba gas fields and I said "I really don't want to, I've got this thing to do". He said, "You should get up there, J, this thing's coming up for tender and
A: We had a new bloke start, a new general manager start . . . and he said, "What if I can be tough, I can be as tough as anyone. What happened was that I wasn't . . .

Q: So what's happened?
A: I can be tough, I can be as tough as anyone. What happened was that I wasn't very happy about it and I didn't really want to work for this guy. They asked me to go to South Australia because we had a problem over there and I said no. They sort of asked me again and I said no, I'm not going. Send the other bloke, I'll stay here.

Q: Make everybody a bit nervous?
A: Yes, maybe.

Q: Worth a try.
A: We had a new bloke start, a new general manager start . . . and he said, "What if you go over there three days a week", and I said . . .

Q: So were you seen to be too closely aligned to the staff?
A: Not so much too closely aligned but—probably that was part of it but I think they wanted—maybe they thought we needed to be motivated a bit more. I tend not to agree but . . .

Q: So what's happened?
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A: We had a new bloke start, a new general manager start . . . and he said, "What if you go over there three days a week", and I said . . .
Q: So you didn't want to report to him?
A: No, because I thought he was not very good. I told one of the others and anyway, it looks like he mightn't be there too much longer.

Q: So you might get your job back?
A: Yeah, I might. It's not the same job I was running. He doesn't have as much power or control or say as what I had, but still I'd be going home every night. But any rate, I picked that up from being here. I picked up that's why they wanted to cause the conflict and it was good for me going over there because I was going to rouse things up a bit over there. So they got a double benefit out of it but it really hasn't worked here.

Q: Has it worked in Adelaide?
A: Yeah, I think so. I think a lot wasn't done there and things were fairly quiet and still are. In a way I was hoping they were, don't get me wrong but at least I put some things in motion so that we get on tender lists and have a go and do things.

Q: That newsletter sounds like a good idea.
A: Yeah, that's one. We might not get anything out of it but we'll just keep pumping away. The more people I meet, the more I'll send out. It just keep coming back to a focus and it was really well done last time and I think it's the same this time. But I woke up then and I thought "I understand why they did it". What I was annoyed about, I never got any feedback from them why. They didn't come to me and say "J, this is why, these are your strengths and these are your weaknesses". That probably hurt more than anything, that they didn't give you anything to work on. Like I say, I've got a few more tricks in my bag and I'll probably do things a little bit more differently this time around.

So a lot of things have come out that I picked up. That business report really helped me . . . we're really strong up in the iron triangle in South Australia, up around Whyalla and Port Pirie, those areas—not a very nice place to be I might add—but down in the south east there is industry down there and we haven't got any people down there. So that's an area can get into.
Q: You can recall the assignment?
A: I've got it here.

Q: What do you understand by the accounting concepts involved, things like 'working capital', 'rate of return' etc?
A: Um, most of them I've sort of got some idea. Things like rate of return is return on the dollar and working capital is the amount you've got to work with. Most of them are pretty self-explanatory to begin with. The biggest thing with the assignment I found was just learning comparisons between terms, because I've never done it before. It was knowing what I've got to do so I went and saw a friend of mine who did it last year and she sort of said "Well, this is what we did with ours", da, da, da, so she just sort of talked me through it.

Q: So what did you see were the important comparisons?
A: Um . . . how would you put it? Important ones as in . . . ?

Q: What did you see were the main comparisons you had to make?
A: Some of the big ones, like return on assets, shareholders was another one I thought.

Q: Have a look at your assignment.
A: Probably the other ones were the asset turnovers.

Q: What did you see was important about them?
A: There seemed to be ones that can describe the business pretty quickly and fairly thoroughly, within a quick range of time. The same with the ratios. The quick ratios which, as I say, tell you how the liquidity is of the business, an in depth form of the other.

Q: So which was the more in depth form of the other?
A: Current ratio.

Q: Was the more in depth?
A: Yeah, and the quick was just a short term to find out if it is going to survive or not basically.

Q: So was the firm going to survive, do you think, based on the quick ratio?
A: No, I think it's in real trouble.

Q: And so where did you look to see how to help them?
A: I looked at the stock they were producing, how much it was selling and then you sort of find that it wasn't selling and also that the stuff deteriorates after a certain amount of time and they were still producing stock while they've got old stock there which was going to deteriorate anyway. So really they had to stop producing some stock because it was excess, which would also bring down their raw costs because the price of those had also gone up. So if they could just get those down and get it back to a manageable level and maybe wait until the trade picks up again, which they said it was starting to and if it takes off, then they...
start producing more stock. If not, well, then they have got to try another avenue somewhere.

Q: What was the problem then with having—in terms of the figures, what impact did the over-production have on them?
A: It really came down to not so much storage—storage wasn't mentioned in the assignment—but um, it was just the raw costs had gone up so much compared to what they were selling and because sales also had increased but they weren't getting the money for them. So in the order of it all, just going around, they were selling but there was no money coming in. They were still buying raw materials to produce the stock which was in a sense redundant because it wasn't being used and it just sort of sat there doing nothing.

Q: So what do you think, what single thing would break that cycle?
A: As in be able to bring it back to a manageable level?

Q: Yes.
A: To straight away stop the mass production and slow the production of stock down and also stop the amount of raw materials being produced—bought.

Q: Anything else that would improve that cycle?
A: Um, not that I can think of. There's bound to be, but . . .

Q: That's OK. So you have talked about the working capital, the operating cycle, what were the other key comparisons or relationships for the company that caused them difficulty?
A: If I can go through it again . . . the bank as well . . . where the bank would go in and say "Hey, you've got 10 days to pay up or else" and where they couldn't pay up either because they didn't have the funds to give them the money. They'd exceeded their quota in the agreement in their current ratio and the debt to total asset ratio. They exceeded it and also—they went below one and exceeded the other. So therefore the bank had the right to say "money".

Q: That's OK. So you have talked about the working capital, the operating cycle, what were the other key comparisons or relationships for the company that caused them difficulty?
A: To straight away stop the mass production and slow the production of stock down and also stop the amount of raw materials being produced—bought.

Q: Anything else that would improve that cycle?
A: Um, not that I can think of. There's bound to be, but . . .

Q: The party's over?
A: Yeah, which would have sent them bankrupt.

Q: Do you think the business had any warning signs that they should have . . . ?
A: I think they did because if you look through—I've got graphs everywhere and you can see all them there has been a trend right through, that it has been going down and down and down. Some are going up but generally they are going down. If they had been more aware or just looked to see what was going on they would have realised something was going on and they had to do something about it. But they just seem to have ignored the problem.

Q: Hoped it would go away perhaps?
A: I think so.
Q: When you actually do your assignments, this one and other ones, how do you—what do you do? What is the first thing that you do? How do you get from being handed the assignment to the finished product?
A: You've got the assignment there, the first thing I do is pick it up and just read through it and get a rough idea of it in my head, what I've got to do. Then I get a highlighter and highlight the actual questions and the actual points that I have to answer or I have to include in it. Then, well, with this one I just went through and worked out from all the balance sheets and profit and loss and all—worked out all the different ratios for 91, 92 and 93. We'd already been given the average and I just worked it out from there. Then went through and compared them all—graphed them and compared them and analysed them. Generally that's the way you do it. I go through in stages. Do one part. See what I've got to do, do one part of it, get the whole thing done instead of doing a little bit of that one, just do the whole thing and then move on to the next stage.

Q: Do you find that process is easily transferrable? Do you do that with most of your assignments?
A: Most of them. Obviously some you can't, it doesn't work that way. Some you've just got an answer and you've got to find an answer but generally, yes, it seems to work quite well.

Q: Do you find it helpful to discuss it with other people?
A: Definitely, definitely. With me that's an important strategy.

Q: At what stage is that discussion most useful?
A: When I'm running late and I've got to get it in. One when I'm first starting out, to get other ideas on it. Sometimes you read through it and you get this narrow-minded idea of this is what it is. You talk to somebody else and they say, "How about this" and you go, "Oh, yes"! I find that helps, just looking and they say try this and you say OK, going away and doing it and coming back and saying, "I got this, this and this, how did you go?" Then comparing there and arguing over why you got what. Most of the time you are both right but it's just to gain more ideas.

Q: Do you ever have group assignments?
A: Yeah, operations research we did where we are encouraged to work in groups. We've just completed one which we handed in yesterday and that was done, not in a group of two, but I'm in a group of three. So it is only small groups but we do do it there. Then upon doing those we divide it up. We might say, "You do these sections" and, "You do these sections" and then seeing as I got the easier sections I put it altogether or seeing you are running late, we've done ours, you put it altogether. It depends on how you get it done and what is going on.

Q: So even though it is group, it is three individual bits put together?
A: Put together but also with it you normally have to say "What did you get here because I've got to put it into mine" so there is communication there. Then you also need to know how they got it a lot of the time as well. You sort of learn it without doing the hard work sort of.

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Q: So even though it is group, it is three individual bits put together?
A: Put together but also with it you normally have to say "What did you get here because I've got to put it into mine" so there is communication there. Then you also need to know how they got it a lot of the time as well. You sort of learn it without doing the hard work sort of.
Q: Do you find when you learn it like that, without doing the hard work, you learn it better?
A: A lot of the time, yeah, just do a summary in short points. If you don't know how

Q: Do you do that when you study? Do you make summaries or not really?
A: I don't think so, personally. I think when you get down to it and nut it out and
really slug it out it is in your head. If you figure it out instead of being told, it is
normally in your head that little bit better. Then when you are flicking through
notes the next time you say "I remember that" and it just jogs it again whereas if
you look at it and say, "I know what we did there but how did we do it?" That's the
difference.

Q: So it is that process, that individual process you think is more useful?
A: I find it much more useful. Groups are important in a way, just the feedback
and other ideas. It's not someone saying "Hey, do this"; it is just another avenue
for you to try. You might like it, you might not.

Q: Did you find the textbook particularly helpful?
A: Mainly with formulas, just going through it. I mean, I still don't know the
formulas. But mainly with the formulas, I went through and did it and I also got
one out of another one. I can't think of the name of it now, they use it at
Melbourne.

Q: I'm not sure what they are using at Melbourne.
A: I can't think of it now but it's a green one.

Q: It's not Gaffikin or Hilton?
A: No, the microeconomics one, it's about the same colour as that one almost.

Q: It's not one of those?
A: No, it's about the same size though. It's another big thick accounting book but
they're all thick. But anyway that just had a summary. It had the formulas which
were slight variations but it also had a summary of what they all do which I
basically shortened and put it into an appendix at the back there.

Q: Did you have a bibliography?
A: No, I didn't. I sort of rewrote it. They were fairly long and I didn't want big long
ones, so I shortened it and put it in. But I found that helpful in ways of saying,
"What does this mean" when I looked at it. So I went through and did that. Our
text was helpful in that it had all the formulas. If I really wanted to look it was in
there, just that the other one was all on two pages, it was quick and simple.

Q: So you find that sort of layout more useful than just text?
A: I find it much more useful. It's good to have, like, a summary and then to go into
it deeper whereas if you've got it all short, sharp you can go blah, blah, blah.
Some people can say, "I know this part" and you think I don't quite understand
it, so then you can go and find it. It's a good idea having some sort of summary.

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A: A lot of the time, yeah, just do a summary in short points. If you don't know how
to do it, then you go off and do it or go and see somebody and say, "Help".
Q: In the actual assignment which data do you think was most critical in pinpointing the problems of the company or highlighting where you think you should be directing your activities?
A: Well, obviously the current ratio it couldn't exceed and the debt to asset ratio where it couldn't go under it. Those two were I think two of the most important ones from the bank point of view. And that side of it. Stock levels and the rate it was selling and the rate the money was coming back, they were the three critical ones for it. As I said before, they were selling but there was no money coming back and they were producing a lot more that was sitting there.

Q: Did you think about any action they might take to sell faster?
A: Yeah, I did. I think I mentioned it where they could, like, you know, have bulk discounts or a sale now and again. Older stock they could reduce the price on it because the lifetime of it is less, just things like that.

Q: How would that benefit the company?
A: Well, one it would have increased their sales again and they would probably get more money in. Two, it would stop excess stocks from lying around and not being used. It would have got rid of some stock, got money moving in, get things happening again basically.

Q: What would be the down side of that?
A: One, some of the stock may be so deteriorated when you sell it it would be less than what they produce it for or equal to, so they don't make any profit. Advertising, they would have to advertise so there is another cost in that. I guess administration fees in terms of the bookkeeping and that type of thing would also come into it.

Q: If you had to do the assignment again how would you do it differently or would you do it differently?
A: I'd do it differently. One, I'd—when I was reading through it when I got it back and looking at the comments I sort of noticed that it started out quite well and ended up—it deteriorated and deteriorated. So one, on the actual write-up I think I needed to stop more in between. I had to get it in and it was getting a bit sort of mundane type. So I think that was one big problem. Two, go into a bit more depth on why things are happening, not just what's happening. Like, say the assets have decreased and profits gone up or what—say why it's decreased and why it's gone up. I mean, I did it on some of them but I think I could have gone into a little bit more depth and especially towards the end I could have probably a fair bit more on that side of it. Presentation wise I was quite happy with it.

Q: It looks good.
A: I got 73 so I was two marks off a distinction.

Q: Is it better to be two marks off or 10 marks off? You never know do you?
A: That's right. I found out before from H.

Q: Although given you get the actual mark, that all tallies up at the end of the year. It's not as though it stays as a C but it is nice looking at a distinction rather than a C.

Q: In the actual assignment which data do you think was most critical in pinpointing the problems of the company or highlighting where you think you should be directing your activities?
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Q: Although given you get the actual mark, that all tallies up at the end of the year. It's not as though it stays as a C but it is nice looking at a distinction rather than a C.
Q: Did you enjoy doing it?
A: Actually I did. When I first got it I thought, "This will be interesting". Then I looked at it and started it and thought, "I don't really like this". But then once I got into it and went and saw a friend of mine—it just sort of pointed me in the right direction and said, "This is how it happens" and when I got going with it I thought, "This is actually quite fun". Because straight away after I had gone through and done all my figures I thought the business was stuffed. Then it got me going into thinking how do they fix it or how long have they got left and I just sort of had all these avenues going in my head.

Q: When you say you have all those avenues going in your head, did one lead to the other or did they all sort . . .
A: Um, you sort of get it into your head it's stuffed, how long have they got left. First I thought can it be fixed and then you look along and maybe, but it's sort of dicey. Then how long have they got left and you look at that and think they have no time at all. Basically they've got 10 days. They are sort of linked but not really in any in depth way, if you know what I mean.

Q: What do you think the links were?
A: The links mainly are they are in trouble and they all sort of came back to that, solving the problem and just money matters really, how much they have to spend here and there. That was the biggest link.

Q: If you had to give management one piece of advice, what would it be?
A: Well, now . . . probably stop producing so much at the moment. Later on maybe, but at the moment that needs to be slowed down. Not stopped, it can't be stopped, but it definitely needs to be slowed down, especially with the price of their raw materials going up. Maybe another thing is to see if there is another place they can get raw materials cheaper again because there has been an increase there. That would probably be the best piece.

Q: Anything else you would like to say about it?
A: No, not really, not that I can think of.

Q: Thank you, P, that was very helpful.
A: Just to see D instead of a C, but I'm pleased with the mark.
Q: You remember the assignment, you have brought it along with you. What did you think was required of you when you were given it? What was the main requirement of this?
A: I think it was, like, more analysing the company for a manager, to try and find out how the company was performing in terms of profitability and the way they were able to manage their working capital and whether they were financially stable.

Q: When you did the assignment did you have any experience to bring to it to assist you with it?
A: Mmm.

Q: What did you come up as the answers to those three things?
A: . . . I found it wasn't as financially stable as it could be. It's short term prospects weren't good because I seem to recall it had trouble paying—it was paying off its long term debts but it couldn't really pay off its short term debts. That was one thing, that was the financial stability. Profitability—it's profits went down as you could tell with the drop in the net profit margin, which went down from 11.3% in 1991 to 2.27% in 1993. It seemed that the company was going no worse than other companies if you compare it across other industries. It seemed to be performing equally as well but somewhere along the line it wasn't managing its money very well. I think I found out even things like operating expenses and especially selling and administration, they increased and perhaps with the administration the increase was far too large which caused the gross profit margin to decrease and perhaps other companies were managing their operating expenses a little bit better than Forest Products which caused their financial performance to be not as good as other companies.

Q: You mentioned that they weren't managing their money very well. What seemed to be the main problem with their not managing their money or the main reason why that happened?
A: . . . um, that's right, the company continued to produce more than it knew it was able to sell in the second half of 1991 and even though the prospects for this timber industry weren't good, it continued to produce as much as it was in 1991 in 1992 and 1993. Furthermore, it tried to do things like offering credit terms, better deals or debtors in order to buy the products, things like timber and pulp and paper. So it would be like paper manufacturers, APM perhaps. I think in 1992 the trends show that with the things like cheaper prices and lower interest rates for lenders, it really caused the downward spiral and with that set in, even though there were improvements in 1993, the company should have perhaps waited or cut back in production for those couple of years and waited and said our sales are going up now, this is a chance for us to perhaps gradually increase our production.

Q: So it was really a problem with their over-production and not being responsive?
A: Mmm.

Q: When you did the assignment did you have any experience to bring to it to assist you with it?
A: Not really that much. The main—if you are talking in terms of accounting the main thing I found very useful was this thing—we did this in one of the
Sometimes I find the textbooks are perhaps on a different wavelength than the lectures—the Dupont of analysis and interpretation where you find a ratio called the rate of return and then that is dependent on a number of things, like your net profit margin and your gross profit margin and your operating expenses on one side and then your assets and your stocks and your debtors—the turnovers for those—one on the other. It was really just a case of—no, I didn't have much experience. I thought it was just a case of trying to look at the trends for each margin. Like with the net profit margin, net profit margins depend on the gross product margin and the operating expenses. So it was just a matter of trying to break down the ratios into their smallest possible forms to try and find out the reasons why the company went worse in the next couple of years.

Q: So you found that was a bit of a key, did you?
A: Yes, I found that sort of made it easy for me to link the ratios. It was good for that.

Q: Now that you've done it, do you think there will be anything you can take away from that assignment that you can use at any later stage?
A: I think that with my career in maths and computer science perhaps at the moment it's a little bit hard to see how I could use it. But then later on, the idea of using a little bit of mathematics and trying to relate it to the real world, it'd be quite possible I could sit next to an accountant and he might get me to work out some ratios. I don't know. Also if I was in a managerial position—like I say I'm doing maths and computer science and one logical job I could get would be at the Commonwealth Bank. In today's world where you've got to be—you don't have to be but if you want to get a job it's good to be multi-skilled—I think it could be very useful to know how to interpret these ratios and to be able to offer an inside opinion on how companies are performing.

Q: When you were doing the assignment do you find it helpful to discuss with other students what they are doing and how they go about it?
A: Um, yes, I suppose so. I don't know if I discussed it that much but I found the biggest help though was the accounting textbook. I found Kloot and Sandercock was very helpful in that it was all there in front of you. Going back to my experience. I thought it was just a case of trying to look at the trends for each margin. Like with the net profit margin, net profit margins depend on the gross product margin and the operating expenses. So it was just a matter of trying to break down the ratios into their smallest possible forms to try and find out the reasons why the company went worse in the next couple of years.

Q: The authors will be pleased. Do you normally find textbooks helpful or was this one particularly helpful?
A: Sometimes I find the textbooks are perhaps on a different wavelength than the way the lecturers are on about, or the assignments in this case. No, I found it was good that you are actually able to use—directly use—the theory that you're learning in practice and I suppose that's what the whole purpose of doing accounting and any other area of study is.
Q: So what happens in subjects where you don't apply the theory into practice? What's the difference between that and where you do apply the theory—for you?
A: I think probably when we come to an exam I might have to— I probably would end up understanding the stuff if I put in enough work but it would be a lot harder for me to catch on. I'm one of these people who I think I can master any study if I put my mind to it but I find that once I grasp a concept I find it's a lot easier. Things like these little diagrams and that, I find it is a lot easier to get the feel for the whole thing. You have to sort of go through the trial and error of making mistakes and that sort of thing and if you just understand the theory in a way it's useless unless you have something practical to back it up. In the exam you— hopefully the lecturers won't ask you to rehash theory. They'll ask you to try and put it into practice and sometimes I realised towards the last couple of days of exams that it's better—even if I don't know all the theory— just to try and put it all into practice than learn big slabs of material that I might never use again.

Q: So you find you learn it better if you put it into practice?
A: Yes, ask sort of questions. Often in a textbook, all of them might know what they're going on about but until I make the mistake and think my way through it using the example, I mightn't have the motivation to do that.

Q: So it is the mistake that gives you the motivation?
A: Yeah, I'm one of those people who look at a problem and say why is this so? If it's just reading theory, I'm more likely just to skip over it whereas if I'm in a situation where I have to try and make conclusions and that sort of thing, I try and solve different parts of the problem and put it altogether for a conclusion.

Q: You find that's useful across the board with all the subjects that you do?
A: I find that, yes.

Q: Did you find the assignment difficult or any parts of it difficult?
A: I was a little bit concerned when I was starting out. First of all with a couple of the ratios there was some sort of aspects of the different formulas that we haven't covered. They mightn't have been useful but just a couple of little accounting terms that I didn't—I had a lot of trouble grasping but once I realised that perhaps what was required was just the things that had been given and just to use what's been given and not to worry about other things. I think one of the ratios had a thing like marketable securities and I don't think in the end it had a big effect on the—I don't think it had any effect at all on the ratio. So they're the sort of little things that I realised they weren't really worth worrying about. With the linking I thought that it would be a little bit harder than it was but in the end, no, it all seemed to tie together quite well.

Q: Do you mean the linking— what linking did you mean?
A: The linking of the— trying to say that if you've got a lowering of your profit margin as happened with Forest Products that might lead to a lower gross profit ratio and a lower operating expense ratio.

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Q: Do you mean the linking— what linking did you mean?
A: The linking of the— trying to say that if you've got a lowering of your profit margin as happened with Forest Products that might lead to a lower gross profit ratio and a lower operating expense ratio.
Q: So the linking of the causal effect of one to another?
A: Yes, and what causes the net product ratio to decrease.

Q: Would you do the assignment differently if you were given it today? I better ask you how you went on it first, you probably did very well.
A: I got 27 (out of 30). I was happy with that.

Q: What was that, an HD?
A: Yes, it was an HD. I suppose if I did the assignment again I would have learned how to use the graphic on Excel. In the end I had a few troubles and I ended up doing a couple of little hand sketches which perhaps weren't as good but then they still got my message across that there's only three years. You are only measuring one ratio for three years. That's only three statistics on one graph, that's not too hard to graph. I don't think so but in the future I notice using Excel that they had a lot of other useful things, ways you can measure trends and that sort of thing. But at this stage, no, I think I'd need a bit more accounting knowledge to go about it any other way.

Q: Any other comments you would like to make about the assignment?
A: In the end I thought it was quite a good assignment. The only thing perhaps that could have been included was perhaps something that could have been assessed about the stock market because I found the stock market was a very interesting topic. I don't think that anyone had the chance to say anything else about it because we only covered it for one lecture but I find that you go and watch the news and every day there are a lot of other things happening in the world but they still seem to find five or six minutes to talk about shares and how important they are. It's amazing just how much the financial markets—how much world politics is governed by these ratios, things like the All Ordinaries Index and the Dow Jones Index and all that sort of stuff. To relate it to this assignment, perhaps just something small—I don't know exactly how you could do it but something small on external evaluation in terms of perhaps setting up a situation where Forest Products decided that the company should become a public company and they could actually compare this company with two other companies in the industry—just Company A and Company B or whatever. You could put up a situation where you say which company would you prefer to invest in. This is good as a practical exercise when you get out in the world and you start looking where to invest your money. With banks having such low returns these days, other forms of investment are a little bit more desirable. I just think it would be quite useful for the real world.

Q: I used to teach a unit similar to that where we did that but what the problem was—and I suppose with the structure of this unit, as you said, given that it is in the last week it meant students had to do it all themselves but they learned a lot. That's something to consider. Thank you for that, that was very helpful.

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Appendix 2

The assignments for each cohort are:

<table>
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<tr>
<th>Undergraduate</th>
<th>Forest Products</th>
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<tr>
<td>The APTEE</td>
<td>Decor Products or Finlay Metals</td>
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<tr>
<td>Graduate Certificate</td>
<td>Finlay Metals</td>
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Decor Products is given as an example of the assignments, which all follow a similar layout with a scenario set up with relevant background information, supported by data for three years.
ASSIGNMENT 1  DECOR FURNITURE

CASE STUDY—FINANCIAL STATEMENT ANALYSIS

DECOR FURNITURE PTY LTD

Decor is a manufacturer of quality timber furniture. The business has been managed until recently by Trevor Donley who founded the business 25 years ago. Following Donley’s retirement the business has been acquired in December 1993 by Finesse furniture, and Kevin Dyson has been appointed Managing Director by the new owners. Finesse had considered Decor to be a somewhat old fashioned business that had a good reputation and product range but was in urgent need of a major upgrade in plant and equipment if it was to remain in business. One of the major tasks facing Dyson on his appointment was to plan the financing and implementation of the upgrade. He realises that this will have a significant impact on the financial performance of the business which at present appears to be quite profitable because of the old and heavily depreciated equipment.

Dyson has spent some time preparing estimates for the next three years. The following information summarises the results of this planning process:

1. Sales are expected to grow at about 10% per annum.
2. Cost of goods sold will increase to about 65% of sales.
3. Purchases of materials will be about 50% of cost of goods sold.
4. Selling expenses are expected to be 9% of sales.
5. Dyson believes that the growth in administrative expenses can be controlled to around the inflation rate of 2% per annum from 1994 on.
6. For planning purposes tax can be calculated at a rate of 40% on net profit before tax.
7. Dyson plans to maintain a dividend payout ratio of 50% of net profit after tax.
8. If possible a cash balance of $20,000 should be maintained at the end of each of the next three years.
9. He would like to maintain the accounts receivable turnover at 35 days and the accounts payable turnover at 45 days.

10. With improved sales forecasting and production planning he hopes to improve inventory turnover to about 50 days.

11. Existing plant and equipment that will be sold is recorded in the 1993 balance sheet at a cost of $150,000 and with an accumulated depreciation of $100,000. It is expected that it will be sold for its written down value of $50,000.

12. New plant and equipment will be purchased at the beginning of 1994 at an estimated cost of $390,000.

13. Depreciation is based on the straight line method and is estimated to be $50,000 a year following the replacement.

14. At the moment no decision has been made on how the new assets will be financed. Bank finance will be available but the bank is not prepared to see the Total Liabilities to Total Assets ratio exceed 50% or for the Times Interest Earned ratio to be lower that 1.5. The interest rate on both new and existing short and long term debt is expected to be about 8.5% over the next three years.

15. Finesse is prepared to put further equity into Decor if necessary.

16. Other current liabilities are expected to remain at the 1993 level over the next three years.

REQUIRED:


2. Prepare three sets of financial projections for the next three years (1996 to 1999) based on the estimates provided by Kevin Dyson and assuming the following alternative methods of financing the asset replacement:

   a) maximum amount from a share issue
   b) maximum amount from the use of long term debt
   c) 50% share issue and 50% long term debt

3. Write a report analysing the projected performance of Decor over the period 1996 to 1999. Your report should include a recommendation to Dyson on how he should finance the asset upgrading.

Your analysis should be presented in the form of a business report to the Managing Director of Decor.
## DECOR FURNITURE PTY LTD
### COMPARATIVE PROFIT AND LOSS STATEMENTS
#### FOR THE YEARS ENDED 31 DECEMBER

($,000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>300</td>
<td>320</td>
<td>330</td>
</tr>
<tr>
<td>less: Cost of goods sold</td>
<td>184</td>
<td>194</td>
<td>197</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>116</td>
<td>126</td>
<td>133</td>
</tr>
<tr>
<td>Selling expenses</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Administrative expenses</td>
<td>65</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Less Operating expenses</td>
<td>92</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>Net profit before int &amp; tax</td>
<td>24</td>
<td>30</td>
<td>36</td>
</tr>
<tr>
<td>Less Interest expense</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Net profit before tax</td>
<td>21</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td>less: Tax</td>
<td>8</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Net profit after tax</td>
<td>13</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Plus Ret. earnings at beg.</td>
<td>25</td>
<td>31</td>
<td>39</td>
</tr>
<tr>
<td>Available for dividends</td>
<td>38</td>
<td>47</td>
<td>59</td>
</tr>
<tr>
<td>less: Dividends</td>
<td>7</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Retained earnings at end</td>
<td>31</td>
<td>39</td>
<td>49</td>
</tr>
</tbody>
</table>

* Credit purchases | 108  | 114  | 115  |

---

* Credit purchases | 108  | 114  | 115  |
## DECOR FURNITURE PTY LTD

### COMPARATIVE BALANCE SHEETS

**AS AT 31 DECEMBER**

<table>
<thead>
<tr>
<th>($) (000)</th>
<th>1991</th>
<th>1992</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash at bank</strong></td>
<td>12</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td><strong>Accounts receivable</strong></td>
<td>25</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td><strong>Inventory</strong></td>
<td>40</td>
<td>44</td>
<td>47</td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td>77</td>
<td>94</td>
<td>126</td>
</tr>
<tr>
<td><strong>Fixed assets</strong></td>
<td>208</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>Less: accum. depreciation</td>
<td>120</td>
<td>140</td>
<td>160</td>
</tr>
<tr>
<td><strong>Fixed assets (WDV)</strong></td>
<td>88</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>165</td>
<td>174</td>
<td>186</td>
</tr>
<tr>
<td><strong>Accounts payable</strong></td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td><strong>Short term loans</strong></td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Other current liabilities</strong></td>
<td>6</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Current liabilities</strong></td>
<td>29</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td><strong>Long term debt</strong></td>
<td>29</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>58</td>
<td>59</td>
<td>61</td>
</tr>
<tr>
<td><strong>Paid up capital</strong></td>
<td>76</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td><strong>Retained earnings</strong></td>
<td>31</td>
<td>39</td>
<td>49</td>
</tr>
<tr>
<td><strong>Shareholders funds</strong></td>
<td>107</td>
<td>115</td>
<td>125</td>
</tr>
<tr>
<td><strong>Total Liab. and S.H. Funds</strong></td>
<td>165</td>
<td>174</td>
<td>186</td>
</tr>
</tbody>
</table>
### DECOR FURNITURE PTY LTD

**CASH FLOW STATEMENTS FOR YEARS ENDED DECEMBER 31**

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATING CASH FLOWS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash inflow from trading (1)</td>
<td>315</td>
<td>328</td>
</tr>
<tr>
<td>Cash outflow from trading (2)</td>
<td>-273</td>
<td>-277</td>
</tr>
<tr>
<td>Interest</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>Tax</td>
<td>-11</td>
<td>-13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>28</td>
<td>35</td>
</tr>
</tbody>
</table>

**INVESTMENT CASH FLOWS**

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>New capital expenditure</td>
<td>-12</td>
<td>0</td>
</tr>
<tr>
<td>Sale of fixed assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-12</td>
<td>0</td>
</tr>
</tbody>
</table>

**FINANCING CASH FLOWS**

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends</td>
<td>-8</td>
<td>-10</td>
</tr>
<tr>
<td>Short term loans</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other current liabilities</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Long term debt</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Share issue</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-8</td>
<td>-8</td>
</tr>
<tr>
<td>Change in cash balance</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Cash balance at beginning</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Cash balance at end</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>(1) Sales</td>
<td>320</td>
<td>330</td>
</tr>
<tr>
<td>Accs. rec. (+decrease, -increase)</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Cash inflow from trading</td>
<td>315</td>
<td>328</td>
</tr>
<tr>
<td>(2) Cost of goods sold</td>
<td>194</td>
<td>197</td>
</tr>
<tr>
<td>Selling expenses</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Admin. expenses</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total expenses (excl. interest)</strong></td>
<td>290</td>
<td>294</td>
</tr>
<tr>
<td>Annual depreciation</td>
<td>-20</td>
<td>-20</td>
</tr>
<tr>
<td>Inventory (-decrease, +increase)</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Accs. pay. (+decrease, -increase)</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cash outflow from trading</strong></td>
<td>273</td>
<td>277</td>
</tr>
</tbody>
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</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-12</td>
<td>0</td>
</tr>
</tbody>
</table>

**FINANCING CASH FLOWS**

<table>
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<tr>
<th></th>
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<th>1993</th>
</tr>
</thead>
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<tr>
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</tr>
<tr>
<td>Other current liabilities</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Long term debt</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Share issue</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-8</td>
<td>-8</td>
</tr>
<tr>
<td>Change in cash balance</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>Accs. rec. (+decrease, -increase)</td>
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<td>3</td>
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<tr>
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<td>-1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cash outflow from trading</strong></td>
<td>273</td>
<td>277</td>
</tr>
</tbody>
</table>
Appendix 3
Letter of invitation to prospective interviewees, sent on Swinburne University letterhead with questionnaire and reply paid envelope included.

22 October 1993

Ms K.S.

Dear K.

Re: Request for Interview

Allow me to introduce myself; I am Irene Tempone, Lecturer in Accounting at Swinburne University.

I am currently undertaking doctoral studies in teaching and learning in higher education institutions, and am particularly interested in interviewing students with varied educational and cultural backgrounds. I am therefore drawn to you as an APTEE fellow.

The format of the interview will be to discuss your understanding and recollections of the first assignment undertaken with either D.V. or W.P. on Decor Furniture Pty Ltd. The interview will take around 15 – 20 minutes and it can be held either at your place of employment, Swinburne, or at some other mutually convenient place and time.

If you would like to assist me with my research in this manner, I would be delighted to hear from you. I can be contacted at Swinburne on 819 8437, at home on 885 4110 or a message can be left on 885 3759 or 819 8437.

As your time is now limited, I would like to conduct these interviews in the next two or three weeks. Please contact me for either further information, or to arrange a time when I can meet with you.

Yours sincerely

Irene Tempone
Appendix 4
Interview format: for all interviews

1. Recall the assignment—have copy for student review—most should have their own with them.
2. What do you understand by the terms rate of return, working capital and financial stability?
3. Ensure all three covered and any relationships.
4. Was there anything in your previous work/study which would enable you to understand these terms?
5. What did you think you were being asked to do in this assignment?
6. How did you approach the assignment?
7. How have you normally approached assignments or work related tasks that are set for you?
8. Did you discuss this assignment with other students?
9. Did you find that helpful?
10. Did any textbook prove particularly useful in this assignment?
11. In what way?
12. What data in the assignment was most helpful in assisting your understanding of the issues?
13. What other previous experiences were you able to bring to this task?
14. Do you think this experience will be useful for other work/study tasks you may be required to do?
15. Did you find the assignment difficult?
16. What do you think you learned from the assignment about rate of return, working capital and financial stability?
17. How would you do the assignment differently if confronted with it again?
18. How did you go in the assignment?
### Appendix 5

King’s shortened version of the Entwistle and Ramsden Approach to Study Questionnaire

**Questionnaire: Approaches to Studying.**

Please answer every item quickly by giving your immediate response. Circle the appropriate code number to show your general approach to studying.

4 (++) means **definitely agree**
3 (+) means **agree with reservations**
2 (?) is only to be used if the item doesn’t apply to you or if you find it impossible to answer
1 (-) means **disagree with reservation**
0 (--) means **definitely disagree**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>++</th>
<th>+</th>
<th>?</th>
<th>-</th>
<th>--</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I find it easy to organise my study time effectively.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>I like to be told precisely what to do in essays or other set work.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>It’s important to me to do really well in the courses here.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>I usually set out to understand thoroughly the meaning of what I am asked to read.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>When I’m reading I try to memorise important facts which might come in useful later.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>When I’m doing a piece of work, I try to bear in mind exactly what that particular lecturer seems to want.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>My main reason for being here is so that I can learn more about the subjects, which really interest me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>I suppose I’m more interested in the qualifications I’ll get than in the courses I’m taking.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>I’m usually prompt in starting work in the evenings.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>I generally put a lot of effort into trying to understand things, which initially seem difficult.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Often I find I have to read things without having a chance to really understand them.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>If conditions aren’t right for me to study, I generally manage to do something to change them.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>I often find myself questioning things that I hear in lessons/lectures or read in books.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>I tend to read very little beyond what’s required for completing assignments.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td>Rating</td>
<td>Notes</td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>It is important to me to do things better than my friends, if I possibly can.</td>
<td>4 3 2 1 0</td>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I spend a good deal of my spare time in finding out more about interesting topics, which have been discussed in class.</td>
<td>4 3 2 1 0</td>
<td>(C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>I find academic topics so interesting, I should like to continue with them after I finish this course.</td>
<td>4 3 2 1 0</td>
<td>(C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>I find I have to concentrate on memorising a good deal of what I have to learn.</td>
<td>4 3 2 1 0</td>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Score Sheet

Score your questionnaire by writing down the numbers circled for questions marked A, B or C. There should be six numbers for each. Then add up the total for the columns A, B and C.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTALS

‘A’ scale score
This is a score out of 24 on ‘achieving orientation’. This indicates competitiveness, well organised study methods, and hope for success. Students who score high on this scale are oriented towards doing well, whatever this involves. They tend to do well.
(Correlation between scale score and success rating = +0.32)

‘B’ scale score
This is a score out of 24 on ‘reproducing orientation’. This indicates a surface approach to learning. Students who score high on this scale attempt to memorise subject matter and are not interested in studying a subject for its own sake but only out of a concern to pass or gain qualifications. They keep narrowly to the syllabus as laid down in course descriptions and do not follow up interests of their own (if they have any). Despite their concern to pass they tend to do badly.
(Correlation between scale score and success rating = -0.25)

‘C’ scale score
This is a score out of 24 on ‘meaning orientation’. This indicates a deep approach to learning: the intention to make sense of the subject, an interest in the subject itself, and a desire to learn. Students who score high on this scale follow up their own interests even if these are outside those parts of the course which are assessed. They tend to do well.
(Correlation between scale score and success rating = +0.28)

Norms are available from large-scale national studies of how students learn, so you can compare your scores with national averages:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Arts</th>
<th>Social Sciences</th>
<th>Science</th>
<th>Overall</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Achieving</td>
<td>12.5</td>
<td>12.73</td>
<td>13.08</td>
<td>12.82</td>
</tr>
<tr>
<td>B</td>
<td>Reproducing</td>
<td>11.98</td>
<td>13.65</td>
<td>14.26</td>
<td>13.51</td>
</tr>
<tr>
<td>C</td>
<td>Meaning</td>
<td>15.17</td>
<td>14.21</td>
<td>13.93</td>
<td>14.31</td>
</tr>
</tbody>
</table>

Predictor of success: 15.69

The research and theoretical background to the questionnaires is found in Entwistle and Ramsden.
Appendix 6

Data Input sheet for scored Study Process Questionnaire and phenomenographic coding of interviews, as entered into SPSS for Windows.

Legend for variable labels.

<table>
<thead>
<tr>
<th>Variable Label</th>
<th>Variable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>Identification of student interview</td>
</tr>
<tr>
<td></td>
<td>35 students numbered numerically</td>
</tr>
<tr>
<td></td>
<td>A=APTEE, G=Graduate Certificate, B=Undergraduate (this has since been changed to U for ease of identification with cohort)</td>
</tr>
<tr>
<td>Cohort</td>
<td>APTEE=1</td>
</tr>
<tr>
<td></td>
<td>Graduate Certificate=2</td>
</tr>
<tr>
<td></td>
<td>Undergraduate=3</td>
</tr>
<tr>
<td>spqa</td>
<td>Study Process Questionnaire score on Achieving Orientation</td>
</tr>
<tr>
<td>spqb</td>
<td>Study Process Questionnaire score on Reproducing Orientation</td>
</tr>
<tr>
<td>spqc</td>
<td>Study Process Questionnaire score on Meaning Orientation</td>
</tr>
<tr>
<td>spq1a – spq18</td>
<td>Scoring of Study Process Questionnaire items</td>
</tr>
<tr>
<td>outcome</td>
<td>Outcome as a grade for the assignment from HD to Fail</td>
</tr>
<tr>
<td></td>
<td>1=Fail, 5=HD</td>
</tr>
<tr>
<td>finstats</td>
<td>Coding of student’s category of description for understanding financial statements</td>
</tr>
<tr>
<td>group</td>
<td>Coding of student’s category of description for group work</td>
</tr>
<tr>
<td>theopra</td>
<td>Coding of student’s category of description for theory to practice</td>
</tr>
<tr>
<td>finstatr</td>
<td>Re-coding into two-point classification of category of description – higher or lower order approach</td>
</tr>
<tr>
<td>groupsr</td>
<td>Re-coding into two-point classification of category of description – higher or lower order approach</td>
</tr>
<tr>
<td>theoprar</td>
<td>Re-coding into two-point classification of category of description – higher or lower order approach</td>
</tr>
<tr>
<td>outcommr</td>
<td>Re-coding into two-point classification outcome- pass/credit or distinction/high distinction</td>
</tr>
</tbody>
</table>


Tempone, I., Lasky, B., & Evans, B. (in press). Teaching academics learning to research: supportive and compliance intervention compared as a means to increasing research output. Submitted to 32nd Annual Meeting of the Decision Sciences Institute, November 2001, San Francisco.


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Table 1.1 Categories of Description for Three Aspects of Student Approaches/Experiences.

<table>
<thead>
<tr>
<th>Lower/Higher Order</th>
<th>Category</th>
<th>Understanding Financial Statements</th>
<th>Theory to Practice</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Order</td>
<td>A Procedural, non-discriminating</td>
<td>Limited data, course focus</td>
<td>Individual work, expenditure objective</td>
<td>Working individually as it is seen as most expedient</td>
</tr>
<tr>
<td></td>
<td>B Procedural, partially discriminating</td>
<td>Limited data, work focus</td>
<td>Sharing workload, expenditure objective</td>
<td>Using the group to share the workload, seen as most expedient</td>
</tr>
<tr>
<td></td>
<td>C Procedural, selective</td>
<td>Stored data, work focus</td>
<td>Moderating force, assignment focus</td>
<td>Using the group to moderate ideas and content, to produce assignment which is acceptable to academic staff</td>
</tr>
<tr>
<td></td>
<td>D Broader based, historical focus</td>
<td>Proforma development, work focus</td>
<td>Source of good ideas, individual learning</td>
<td>Using the group to help individuals learn by providing additional good ideas to enhance individual assignment</td>
</tr>
<tr>
<td></td>
<td>E Broader based, future focus</td>
<td>Proforma testing, meaning focus</td>
<td>Mechanism for learning, individual learning</td>
<td>Using the group as a mechanism for assisting learning, to develop knowledge in individual students</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>Company history, company identity</td>
<td>Mechanism for learning, enhancing knowledge</td>
<td>Using the group as a mechanism for learning with knowledge in general being extended</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>Company future, company identity</td>
<td>Company future, company identity</td>
<td>Source of good ideas, individual learning</td>
</tr>
</tbody>
</table>

Irene Tempone. Variation in Student Learning in Accounting. Doctor of Philosophy.