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APPROACHES TO LEARNING: IRISH STUDENTS OF ACCOUNTING

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ABSTRACT

Several reports on accounting education have identified the need to improve the quality of student learning. Higher education research identifies the approach to learning as a significant factor affecting the quality of learning. If accounting educators are to find ways of improving the educational experience of their students, they must understand how students learn and the effects of the learning environment on their learning approaches. This study examines the approaches to learning adopted by first year students enrolled on the BA in Accounting and Finance and the Bachelor of Business Studies (BBS) at Dublin City University and assesses the impact of a number of variables in the learning environment on these learning approaches.

INTRODUCTION

The past fifteen years have seen the publication of many reports reviewing the state of accounting education (American Accounting Association (AAA), 1986; Arthur Andersen et al., 1989; Accounting Education Change Commission (AECC), 1990; Mathews, 1990). These reports are remarkably consistent in their conclusions: current accounting education programmes and structures are not suitable or sufficient to prepare future accountants for their professional lives. The principal problem identified relates to the failure of accounting education programmes to keep pace with the nature of the environment in which professional accountants work. As Patten and Williams (1990, p.176) comment:

> The fundamental flaw of accounting education is that while it has tended to remain static, the profession has been changing.

Traditionally, accounting education programmes have had a content orientation, focusing on ensuring that students acquire the necessary technical and general knowledge to pass third level and professional examinations (AAA, 1986). It is now recognised, due to the rate of change encountered in the type of operations, structures and systems of the organisations in which professional accountants work, that accounting education programmes cannot provide accounting students with all the technical knowledge that they will be required to employ throughout their professional lives (Sundem and Williams, 1992). It is also accepted that, if the needs of the future expanding profession are to be met, a knowledge acquisition orientation represents too narrow a focus within accounting programmes. Instead, accounting programmes should assist students to:

> . . . develop an understanding of basic concepts and principles and an ability to apply them in a variety of circumstances. The key word is understanding; memorization of rules, regulations, and techniques does not necessarily lead to understanding (Sundem, Williams and Chironna, 1994, pp.16-17).

Designing educational programmes which support students in developing an understanding of the concepts and principles of accounting provides a challenge to accounting educators. Programmes will need to change from having a content orientation to focusing on the learning process. This will require accounting educators to develop an understanding of how students learn and how their learning is affected by variables in the learning environment.

As accounting education research focusing on student learning is in the early stages of development (Stout and Rebele, 1996), it is necessary to consult the general higher education literature. This literature identifies the approach to learning as a significant factor affecting the quality of student learning. Consequently, the primary objective of this study is to measure the approaches to learning adopted by Irish students of accounting.

The paper begins by presenting a model of student learning. It continues with a discussion of the research instrument used to measure students' learning approaches and describes its validation for use with Irish students. The results and main findings are then presented and the paper concludes by examining the impact of a number of variables on students' approaches to learning.

STUDENT LEARNING AND THE LEARNING ENVIRONMENT

Gaining an understanding of student learning is a necessary prerequisite to devising strategies which will improve learning. As Ramsden (1985, p.65) states:

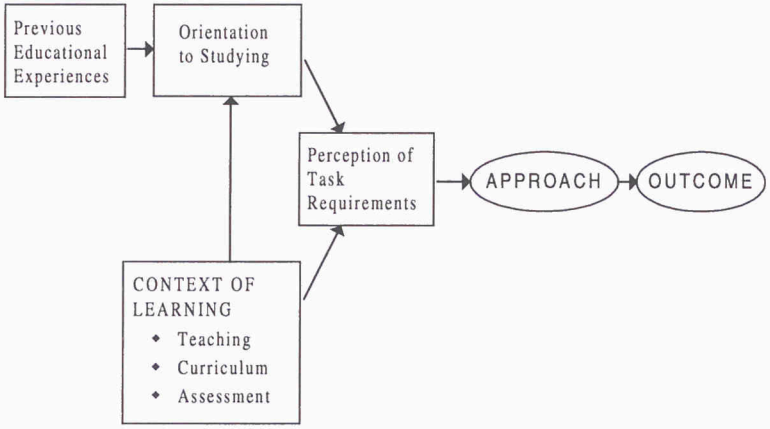
> Tinkering with what are assumed to be necessary skills without considering the learning context and the meaning of learning to the students is worse than useless.

Ramsden (1992) provides a model of the context of student learning in higher education. This model, as outlined in **Figure 1**, shows that the quality of student learning (learning outcome) is influenced by students' approaches to learning. Learning approaches are affected by students' perceptions of the requirements of the learning task which, in turn, are affected by the learning context (teaching, curriculum and assessment) and students' general orientations to studying. Their orientations are influenced by both the learning context and prior educational experiences.

Ramsden (1992, p.39) contends that the approach to learning is one of the most influential concepts to have emerged from research into teaching and learning in higher education during the last two decades. Accounting education researchers have also called for a programme of research which develops an understanding of student learning approaches (Stout and Rebele, 1996; Sharma, 1997). Beattie, Collins and McInnes (1997, p.10) comment:

> The design of intervention strategies which improve teaching and learning in accounting education will require a sound understanding of the complex and contingent nature of learning approaches.

Figure 1: Student Learning in Context



Source: Ramsden (1992, p. 83)

An approach to learning concerns both students' intentions and how they relate to and organise a learning task (Ramsden, 1985 and 1987). It is not something inside a student; it is not a personal characteristic; it is a way of describing how a student responds to a task; it is dynamic (Ramsden, 1987; Biggs, 1993). A learning approach is highly sensitive to the context in which the learning occurs (Prosser and Trigwell, 1999, pp. 58-82).

Early research on student learning, using text reading experiments, was led by Marton at Gothenburg University. Students were asked to read an article and were then interviewed to assess their level of understanding and to determine how they approached the task (i.e. the *process* of learning). Marton and Saljo (1976) identified two main levels of processing which were clearly related to the qualitative differences in the levels of understanding achieved (a high or low level of understanding). They called these levels of processing *deep* and *surface*. In a study at Lancaster University, Entwistle, Hanley and Hounsell (1979) recognised that Marton and Saljo were describing both the student's intention and process and hence concluded that the term 'level of processing' was too narrow. The Lancaster group preferred to use the

term *approach* which was accepted by the Gothenburg group and is now widely accepted as the most appropriate descriptor for the qualitative differences in how students respond to a learning task (Marton and Saljo, 1997).

Students adopting a deep approach to learning set out with the intention of understanding the material. They interact critically with the arguments put forward, relate them to their own prior knowledge and experience, and evaluate the extent to which conclusions are justified by the evidence presented. In contrast, a surface approach is associated with students who orient their learning towards meaningless memorisation and reproduction. They learn by rote in an unrelated way, they fail to interact personally with the material and are constrained by the specific learning task. A deep approach is more likely to result in a high level of understanding while a surface approach is likely to lead to a low level of understanding (Entwistle and Ramsden, 1983, p.18).

The deep and surface approaches to learning were confirmed by other studies in a number of different countries, e.g. Hounsell (1984), Morgan, Taylor and Gibbs (1982) and Ramsden (1979 and 1984) in the United Kingdom, Watkins (1983) in Australia and Van Rossum and Schenk (1984) in the Netherlands. Ramsden (1979) identified a third approach which he called a strategic approach. This describes students who are primarily concerned with achieving the highest possible grades. They use both deep and surface approaches as appropriate and have a competitive and vocational motivation. The defining features of the three approaches to learning are summarised in **Table 1**.

As previously discussed, the accounting education debate highlights the need for students to develop a full understanding of the concepts and principles underlying accounting. If this is to be achieved, students need to be encouraged to adopt a deep approach to learning (Jones, Hassall, Lewis and Joyce, 1996; Beattie et al., 1997; Sharma, 1997). A number of researchers (Lucas, 1996; Beattie et al., 1997; Sharma, 1997) acknowledge that there are very few accounting education studies which empirically examine students' approaches to learning. Bowen, Masters and Ramsden (1987), in an Australian study of seven disciplines, found that first year accounting students adopted a surface approach to learning. Gow, Kember and Cooper (1994) examined the

Table 1: Defining Features of Three Approaches to Learning

Deep Approach
- Intention to understand
- Vigorous interaction with content
- Relate new ideas to previous knowledge
- Relate concepts to everyday experience
- Relate evidence to conclusions
- Examine the logic of the argument

Surface Approach
- Intention to complete task requirements
- Memorise information needed for assessments
- Failure to distinguish principles from examples
- Treat task as an external imposition
- Focus on discrete elements without integration
- Unreflectiveness about purpose or strategies

Strategic approach
- Intention to obtain highest possible grades
- Organise time and distribute effort to greatest effect
- Ensure conditions and materials for studying appropriate
- Use previous exam papers to predict questions
- Be alert to cues about marking schemes

Source: Richardson (1993a) adapted from Entwistle (1987).

learning approaches adopted by Hong Kong accounting students. Their results showed that a deep approach to learning was more predominant in the first year of tertiary studies than in later years. They found that the usage of a deep approach declined sharply between years one and two, and then gradually rose between years two and three, but failed to reach the level recorded for year one. In a more recent Australian study, Sharma (1997) investigated second year accounting students' approaches to learning and found that their approaches were neither surface nor deep. His preliminary results from a follow up project, using data gathered in the students' third year of study, indicated a shift towards a deep approach to learning.

Some initial findings from on-going projects at Sheffield Hallam University into the approaches to learning of both university and professional accounting students have been reported. Jones and Hassall (1997) found age and gender differences in university students' approaches to learning. They also reported apparent differences in learning approaches between students attending semesterised and non-semesterised institutions. Preliminary findings from a study of professional accounting students (Hassall and Joyce, 1997) revealed differences in the approaches to learning of UK and international accounting students, with the international students showing a greater leaning towards a deep approach. Gender differences were also reported.

OBJECTIVES OF THE STUDY

Given the scarcity of learning approach research in accounting and the contradictory results from previous studies, there is a need for further research in the area. Stout and Rebele (1996), in proposing a research agenda for accounting education, strongly argue that, since knowledge depends on having generalisable findings and since replication tells us if results are generalisable, there is a need to replicate and extend prior studies. Bauernfeind (1968) also contends that if the interpretations of original studies are to be extended beyond the original settings, then research must be replicated in different settings. Hence, this research seeks to replicate studies undertaken elsewhere and to add to the literature on approaches to learning in accounting. The specific objectives of the study are:

- To validate the *Approaches and Study Skills Inventory for Students (ASSIST)* questionnaire for use in an Irish context
- To investigate the approaches to learning of first year accounting and business students and to identify any significant differences
- To identify if gender differences exist in approaches to learning
- To explore the impact of variables in the learning environment on the learning approaches.

MEASURING APPROACHES TO LEARNING

Standardised questionnaires have been developed to measure the learning approaches of large groups. The *Approaches to Studying Inventory (ASI)* which was developed by Entwistle and his colleagues (Entwistle et al., 1979; Ramsden and Entwistle, 1981; Entwistle and Ramsden, 1983, pp. 35-55) is probably the most widely used question-

naire on student learning in higher education (Richardson, 1994). It was influenced by the work of Biggs (1976 and 1979), Marton and Saljo (1976) and Pask (1976). A number of revisions were made to the original ASI (e.g. Watkins, 1984; Gibbs, Habeshaw and Habeshaw, 1988) but the developers of the ASI were concerned that these revisions resulted in its conceptual integrity being sacrificed. This led them to revise the ASI, taking current literature on student learning into account (Tait, Entwistle and McCune, 1998). The new inventory is incorporated within a longer questionnaire called ASSIST which also contains sections relating to other aspects of learning in higher education.

The ASSIST measures students' approaches to learning on three dimensions or main scales: deep, strategic and instrumental. Tait et al. (1998) define instrumental as 'surface apathetic'. Other sections of the questionnaire deal with: reasons for entering higher education, preparation for higher education, learning and study skills, influences on studying, and preferences for different types of teaching and courses.

The section focusing on the approaches to learning contains 52 items which are combined into 13 subscales and further grouped into the three main scales. The subscales have been designed to cover the main defining characteristics of the main scales and are described in **Table 2.** Respondents indicate their agreement with the 52 statements, using a five-point Likert scale where *1 = disagree* and *5 = agree.*

Table 2: ASSIST – Approaches to Learning Scales and Characteristic Elements

Deep Approach	**Meaning**
Seeking meaning	Intention to understand
Relating ideas	Relating to other parts of the course
Use of evidence	Relating evidence to conclusions
Related Motives	
Interest in ideas	Interest in learning for learning's sake
Collaborating	Consultation and discussion with others

Strategic Approach	
Organised studying	Able to work regularly and effectively
Time management	Organise time and distribute effort to greatest effect
Monitoring effectiveness	Checking progress to ensure achievement of aims
Related Motive	
Achieving	Competitive and confident
Instrumental Approach	
Lack of understanding	Not understanding material and relying on memory
Lack of purpose	Lack of direction
Syllabus-boundness	Relying on lecturers to define learning tasks
Related Motive	
Fear of failure	Pessimism and anxiety about academic outcomes

DATA COLLECTION

The population consisted of first year students on the BA in Accounting and Finance (A&F) and the Bachelor of Business Studies (BBS) programmes at Dublin City University in the academic year 1997/1998. Although both groups of students study accounting, the attitude of each group may be very different. The majority of A&F students intend to pursue a career in accountancy and so are likely to have a positive attitude towards the subject and an intrinsic desire to learn more about it. The BBS degree is a general business degree and consequently these students may be less interested in accounting. Fransson (1977) found that students are likely to adopt a deep approach to learning when they are intrinsically motivated by the relevance of the syllabus. Furthermore, examining the evidence from two different classes increased the potential variation in students' perception of the learning context, which Sharma (1997) suggests might enable a better assessment of the influence of contextual variables on learning approaches.

The questionnaire was administered to each group at the start of an accounting lecture in week nine of semester one. Before completing the questionnaire, the purpose of the study was explained to the students. They were reassured that their responses would not be used in any context other than for the purposes of this project. There was a potential population of 110 A&F students and 190 BBS students. Completed questionnaires were received from 90 A&F students, yielding a high response rate for this group of 82 per cent. A total of 109 BBS students completed the questionnaire, giving a response rate of 57 per cent. Following the approach of Gow and Kember (1993) non-response bias within the BBS group was tested by comparing characteristics of the respondents with that of the full group. The first characteristic selected was the mark achieved in the end of module exam as suggested by Davidson (1996). No statistical difference was found between the respondents' average mark of 56.2 and the average mark of 53.7 of the full group. Similarly, a chi-square test revealed no significant difference in the gender of the respondents as compared to the full group. These findings indicate that non-response bias is not present. The sample analysed by class and gender is shown in **Table 3**.

Table 3: Sample by Class and Gender

Class	Male	Female	Total
A&F	44	46	**90 (45%)**
BBS	46	63	**109 (55%)**
	90 (45%)	**109 (55%)**	**199**

VALIDATION OF THE ASSIST

Richardson (1994) asserts that when employing a questionnaire in a situation different from that in which it was originally developed, factor analysis should always be carried out to check that its intended constituent structure can be reconstructed in the new context. As the authors believe that this is the first time the ASSIST has been used with

Irish accounting and business third level students, the instrument was validated using factor analysis.

Initially, Cronbach's alpha values were extracted to test the internal reliability of the three main scales and the thirteen subscales. Cronbach's alpha tests the extent to which items within a scale are measuring the same dimension. The alpha values for the main scales range from .78 to .86 and for the subscales from .49 to .73. Tait et al. (1998) state that for this type of research the minimum acceptable alpha value is .5. The relating ideas' subscale, at .49, is the only scale with an alpha value below this level. The alpha values in the present study are very close to the values obtained by Tait et al. in their original validation of the ASSIST. They also compare very favourably with values reported in other studies which validated various approaches to learning questionnaires (Clark, 1986; Entwistle and Ramsden, 1983, p. 43 and pp. 228-233; Richardson, 1990; Tait, 1992, p. 65).

Following the approach taken by Tait et al. (1998), factor analysis was carried out on the subscales using maximum likelihood extraction. Factors with an eigenvalue greater than one were extracted. Previous research studies in this area have used this criterion extensively (Entwistle et al., 1979; Ramsden and Entwistle, 1981; Watkins, 1982; Clarke, 1986;). An oblique rotation of the extracted factor matrix was then carried out. Richardson (1990) recommends this rotation for this type of research. The resulting three factor structure is exactly what was expected conceptually and is the same as that reported in the Tait et al. (1998) study. As in that study, the collaboration subscale is the only one with a loading of less than .3 and monitoring effectiveness loads on two factors. The three factor solution explains 59 per cent of the variance which compares favourably with the 60 per cent explained in the Tait et al. study. The first factor clearly represents the strategic approach, the second represents the deep approach and the third is the instrumental approach. **Table 4** shows the factor structure and the alpha values for the main scales and the subscales.

Table 4: Factor analysis of ASSIST and associated Cronbach's Alpha Values

	Factor 1	Factor 2	Factor 3	Alpha
Deep				.82
Seeking meaning		.70		.62
Relating ideas		.80		.49
Use of evidence		.82		.53
Related motives				
Interest in ideas		.47		.67
Collaboration				.73
Strategic				.86
Organised study	.68			.53
Time management	.92			.72
Monitoring effectiveness	.32	.53		.62
Related motive				
Achieving	.73			.69
Instrumental				.78
Lack of understanding			.80	.56
Lack of purpose			.34	.71
Syllabus-boundness			.31	.66
Related motive				
Fear of failure			.54	.73

Note: Loadings less than 0.3 are omitted

RESULTS

The scores for the 13 subscales were derived by summing individual students' responses to the appropriate statements. The relevant subscale scores were combined to compute the scores for the main scales. As there are five subscales in the deep approach and four subscales in both the strategic and instrumental approaches, for ease of comparison each

main scale was divided by the number of constituent subscales to standardise the scores. This resulted in a maximum score for each scale of 20. **Table 5** shows the mean scores for the main scales for the full sample and for each class.

Table 5: Mean Scores of Main Scales

	Total	A&F	BBS	Difference in means between A&F and BBS
Deep	12.93	13.07	12.80	.27
Strategic	12.54	13.05	12.09	.96 *
Instrumental	12.42	11.88	12.87	.99 **

Note: * significant at 5 per cent level. ** significant at 1 per cent level

While the mean scores have no absolute meaning, they can be used for comparison within a group and between groups, and for correlation with other variables. Paired sample t-tests were carried out to test for any differences between the mean scores within a group. The results of the tests are presented in **Table 6**.

The only significant difference for the full sample is between the deep and strategic mean scores (p=.04), showing that, overall, students favoured a deep approach over a strategic approach. For the A&F group, there are significant differences between the deep and instrumental mean scores (p=.01) and between the strategic and the instrumental (p=.04), showing that these students tend to favour a deep or strategic approach over an instrumental approach. An examination of the differences in the mean scores for the BBS group shows significant differences between the deep and the strategic scores (p=.00) and between the strategic and the instrumental scores (p=.04). This indicates that the BBS group are more likely to favour a deep or instrumental approach over a strategic approach.

Table 6: Differences in Mean Scores within Group

	Full Sample		
	Difference in Mean	**Standard Error of Mean**	**t-value**
Deep – Strategic	.39	.19	2.09*
Deep – Instrumental	.50	.28	1.80
Strategic – Instrumental	.07	.33	.22
	A&F		
	Difference in Mean	**Standard Error of Mean**	**t-value**
Deep – Strategic	0.05	.26	.17
Deep – Instrumental	1.18	.45	2.63**
Strategic – Instrumental	1.12	.52	2.14*
	BBS		
	Difference in Mean	**Standard Error of Mean**	**t-value**
Deep – Strategic	.77	.26	3.00**
Deep – Instrumental	.08	.34	.23
Strategic – Instrumental	.80	.39	2.05*

Note: * significant at 5 per cent level. ** significant at 1 per cent level.

Using an independent sample t-test, a comparison of the mean scores of the two classes shows that although the A&F group scored slightly higher on the deep approach, the difference is not significant (**Table 5**). Significant differences exist between the scores of the two groups on the strategic (p=.00) and the instrumental (p=.02) scales. The A&F group are more strategic than the BBS group, while the BBS group are more instrumental than A&F.

Students were classified as having a preference for a particular approach to learning based on their total score on each main scale. They were classified as being high, moderate or low on each scale by reference to whether their actual score fell into the upper, middle or lower one-third of potential scores for that scale. The number and percentage of students falling within the upper, middle and lower one-third on each scale are given in **Table 7**.

Table 7: Classification of Students' Approaches

	Full Sample		
	Deep	**Strategic**	**Instrumental**
High	43 (22%)	33 (17%)	23 (12%)
Moderate	134 (70%)	124 (66%)	142 (75%)
Low	15 (8%)	33 (17%)	25 (13%)
	A&F		
	Deep	**Strategic**	**Instrumental**
High	24 (27%)	23 (26%)	8 (9%)
Moderate	57 (64%)	52 (59%)	57 (67%)
Low	8 (9%)	13 (15%)	20 (24%)
	BBS		
	Deep	**Strategic**	**Instrumental**
High	19 (18%)	10 (10%)	15 (14%)
Moderate	77 (75%)	72 (70%)	85 (81%)
Low	7 (7%)	20 (20%)	5 (5%)

The table suggests that the majority of these students were unsure of their approaches to learning. This may be explained by the timing of the study as the students were only in week nine of their first year in higher education. Fisher and Hood (1987 and 1988) found that the beginning of degree courses is a time of considerable intellectual and emotional uncertainty. Sharma (1997) reported that first year accounting and finance students tended to be unsure of their approaches to learning.

Ramsden's (1992) model of student learning, presented in **Figure 1**, clearly shows that previous educational experience influences students' learning. He recognises that students with different previous educational experiences are predisposed to certain approaches to learning. It is his belief that orientations towards personal meaning (associated with a deep approach) or towards reproducing (associated with a surface approach) are shaped by experiences in school, in particular experiences associated with formal examinations (Ramsden, 1985). Harper and Kember (1986) suggest that students adopt a surface approach to learning in the final years of secondary education. Byrne and Willis (1997) found that the assessment of second level accounting in Ireland promotes rote learning. The students in this study could well be in the transition stage from an instrumental to a deep or strategic approach.

Richardson (1993b) observes that most research using the ASI has ignored gender as a social variable. Generally, those studies which tested for gender differences in approaches to learning failed to find any consistent evidence (e.g. Richardson and King, 1991). In a study of professional accounting students, Hassall and Joyce (1997) reported a significant difference on the surface learning scale between male and female students. Jones and Hassall (1997), in a study of UK university accounting students, found that the responses of female students were significantly higher on the surface and strategic scales. See **Table 8** for the mean scores of male and female students for the full sample and for each class. A comparison of the scores reveals no significant differences.

Table 8: Mean Scores of Male and Female Students

	Deep			Strategic			Instrumental		
	M	F	M + F	M	F	M + F	M	F	M + F
A&F	13.11	13.03	13.07	13.31	12.80	13.05	12.02	11.75	11.88
BBS	12.43	13.07	12.80	11.52	12.49	12.09	12.93	12.82	12.87
All	12.77	13.06	12.93	12.43	12.62	12.54	12.49	12.37	12.42

INFLUENCES ON STUDENTS' APPROACHES TO LEARNING

There is widespread acceptance in the higher education literature that students' perceptions of the learning environment have an influence on their approaches to learning and the quality of learning outcomes (e.g. Entwistle and Ramsden, 1983; Ramsden, 1989; Entwistle and Tait, 1990; Trigwell and Prosser, 1991; Gow et al., 1994; Marton and Saljo, 1997.) While Rebele, Stout and Hassell (1991) urge accounting education researchers to consider the impact of student and teacher characteristics, assessment methods and other unspecified contextual variables on student learning, a review of the literature revealed only two such accounting studies. Gow et al. (1994) found a decline in the usage of the deep approach by accounting students from year one to year two. On the basis of interviews with students and lecturers, they suggest this decline may be attributed to heavy workload, the nature of assessment, teaching style and student motivation. Sharma (1997) examined the relationship between nine variables from a course

evaluation questionnaire and accounting students' approaches to learning. Their learning approaches were found to be associated with their perceptions of the learning context and Sharma suggests that deep learning approaches can be encouraged and reproducing (surface) approaches discouraged if the learning context is perceived as favourable.

As a preliminary step in identifying factors which influence Irish students' approaches to learning, this study examined those variables which are included in the ASSIST questionnaire. These variables are: reasons for entering higher education, preparation for higher education, learning and study skills, influences on studying, and preferences for different types of course and teaching. The developers of the ASSIST suggest that some, but not all, of the questions relating to these variables may be combined to create a score which measures a particular variable. The internal reliability of the recommended combinations was tested using Cronbach's alpha. The combined score was used in subsequent tests if the alpha value was greater than 0.5. Details of the variables and their alpha values are given in the **Appendix**.

Following the approach used in previous studies (Entwistle and Tait, 1990; Trigwell and Prosser, 1991; Sharma, 1997), students' responses to these variables were correlated to their scores on the three learning scales. The correlations for the full sample and both classes are presented in Table 9. Given the large number of variables, the following analysis is restricted to those variables which show a highly significant ($p=.01$) relationship to a learning approach.

Table 9: Correlations between Selected Variables and Approaches to Learning

	Deep			Strategic			Instrumental		
	All	A&F	BBS	All	A&F	BBS	All	A&F	BBS
Reasons for entering higher education									
Intrinsic interest	.49 **	.61 **	.39 **	.46 **	.49 **	.49 **	-.23 **	-.37 **	-.16
No clear goals	-.15 *	-.09	-.19	-.11	-.12	-.01	.36 **	.31 *	.35 **
Extrinsic Interest									
Job qualification	.07	.05	.09	.09	.04	.16	-.06	-.17	.03
Natural progression	.02	-.01	.05	.02	.02	.07	.11	.09	.08
Personal achievement	.21 *	.34 **	.09	.19 *	.18	.23 *	-.06	-.06	-.06
Social life	.08	.07	.09	-.01	-.09	.11	.10	.16	-.00
Preparation for higher education									
Work independently	.22 **	.32 **	.09	.35 **	.38 **	.30 **	-.31 **	-.43 **	-.14
Prior knowledge	.07	.09	.01	.25 **	.06	.35 **	-.29 **	-.25 *	-.25 **
Study skills	.19**	.23 *	.13	.42 **	.44 **	.34 **	-.32 **	-.37 **	-.24 *
Ability to organise own life	.08	.09	.06	.29 **	.31 **	.24 *	-.27 **	-.42 **	-.11

Learning and study skills									
Good notes	.23 **	.26 *	.19	.28 **	.37 **	.18	-.21 **	-.28 *	-.12
Library use	.14	.22 *	.09	.28 **	.33 **	.29 **	-.25 **	-.33 **	-.25 *
Reading	.34 **	.33 **	.36 **	.28 **	.25 *	.30 **	-.26 **	-.28 **	-.23 *
Essays	.25 **	.25 *	.28 **	.31 **	.41 **	.27 **	-.12	-.30 **	-.01
Problem solving	.29 **	.25 *	.26 **	.26 **	.18	.25 **	-.25 **	-.34 **	-.10
Practical work	.21 **	.26 *	.15	.15 *	.11	.16	-.12	-.10	-.10
Group discussions	.28 **	.45 **	.16	.20 **	.38 **	.13	-.14	-.28 **	-.11
Oral presentation	.21 **	.24 *	.24 *	.14	.23 *	.15	-.00	-.18	.06
Collaborative work	.19 **	.25 *	.18	.07	.16	.09	.02	-.12	.05
Computers	.04	.04	.07	.05	.13	.05	-.23 **	-.31 **	-.23 *
Influences on your studying									
Travelling	.15 *	.26 *	.04	.14	.21 *	.06	.03	-.06	.12
Self care	.17 *	.04	.27 **	.03	-.08	.07	.07	.13	.08
Social activities	.07	.16	-.00	-.08	.01	-.14	.17 *	.26 *	.08
Financial	.10	.12	.08	-.06	-.04	-.08	.18 *	.08	.27 **
Relationships	-.04	-.04	-.03	-.20 **	-.18	-.21 *	.28 **	.30 **	.24 *
English	-.09	-.02	-.21 *	-.09	-.01	-.13	.20 **	.37 **	.08
Maths	-.15 *	-.22 *	-.05	-.17 *	-.14	-.14	.25 **	.26 *	.16
Preferences for different types of course and teaching									
Deep teaching	.52 **	.60 **	.43 **	.32 **	.44 **	.22 *	-.38 **	-.55 **	-.26 **
Surface teaching	-.10	-.13	-.10	.07	-.05	.12	.20 **	.29 **	.22 *

Note: * significant at 5% level. ** significant at 1% level.

Influences on a Deep Approach

Within the full sample, students who adopted a deep approach were intrinsically interested in their course and entered higher education believing they had effective study skills and that they could work independently. In their tertiary study of accounting they felt confident in their learning and study skills and favoured teaching which promotes a deep approach to learning. The only factors reported by Tait et al. (1998) as being positively related to a deep approach are having an intrinsic interest in the course and a preference for teaching and courses which support a deep approach. Similarly, Fransson (1977) concluded that intrinsic motivation is associated with a deep approach.

Observing differences between the two classes, there are three variables which are significantly associated with the deep approach for A&F students but not for BBS students. These variables are: contributing to group discussions, being able to work independently and proving they could succeed in higher education. The variable, 'having to shop and generally look after themselves' is positively related to the deep approach for BBS students but not for A&F. This positive association is surprising and difficult to interpret.

Influences on a Strategic Approach

An intrinsic interest in the subject, feeling well prepared for higher education, being confident with their individual learning and study skills and favouring teaching methods which promote a deep approach to learning were all positively related to the strategic approach to learning for the full sample. Personal relationships or family problems were found to discourage a strategic approach. Feeling well prepared for higher education was the only factor reported by Tait et al. (1998) which had a positive association with a strategic approach.

Taking good notes at lectures and contributing effectively to group discussions were significantly related to the strategic approach for A&F students but not for BBS students. Prior knowledge and problem-solving skills promoted a strategic approach among BBS students.

Influences on an Instrumental Approach

For the full group, no clear goals, the presence of personal relationships or family problems, difficulties in understanding or writing English, lack of mathematical knowledge and a preference for teaching methods which promote rote learning were all positively associated with an instrumental approach. Intrinsic interest, preparation for higher education (including prior knowledge), confidence in learning and study skills and a preference for teaching methods which promote a deep approach to learning were negatively correlated with an instrumental approach. Ramsden (1997) reports that, in research carried out in Lancaster from 1978 to 1981, it was found that inadequate prior knowledge frustrates attempts to understand material. Tait et al. (1998) also report an association between inadequate prior knowledge and personal problems with the instrumental approach. In contrast to this study, Tait et al. found that daily travelling time adversely affects students' learning approaches.

There is a broader range of variables which influence the adoption of an instrumental approach by A&F students compared to BBS students. Factors which showed a significant negative association for the A&F class only were: intrinsic interest, being able to work independently, the ability to organise their own lives, the ability to write essays, problem-solving skills, and contributing to group discussions. Difficulties in understanding or writing English was positively related to an instrumental approach for A&F students. Working to survive financially encouraged BBS students to take an instrumental approach.

Summary

The above results show that students' learning approaches are affected by a wide range of factors in the learning environment. While a number of these variables have a significant influence on the learning approaches of both groups, some variables are influential for only one group. This is not surprising given the suggested differing motivations of each group.

In conformity with studies elsewhere, this study found a strong relationship between intrinsic interest and the learning approach adopted. Likewise, students showed a strong preference for types of teaching and

courses which supported their learning approach. Students adopting an instrumental approach felt they were ill prepared for higher education and had poor tertiary learning and study skills, while the opposite was true for those adopting a deep or strategic approach.

It is recognised that some of the variables examined in this study are outside the control of university educators, e.g. financial and personal relationship issues, and preparation for higher education. Nevertheless, educators need to be fully aware of all variables which influence student learning before devising strategies to improve the quality of learning outcomes.

CONCLUSIONS

This study sought to identify the approaches to learning adopted by first year students in their study of accounting and to assess the relationship between variables in the learning environment and students' learning approaches. The ASSIST questionnaire, having been validated for use with Irish students, was used to measure students' approaches to learning. The study revealed that the majority of first year students tend to be unsure of their learning approach with only a small percentage adopting the preferred deep approach. No gender differences were identified in students' learning approaches. The results of this study confirm the findings of other research studies that students' approaches to learning are influenced by their perceptions of the learning environment. Thus, this research contributes to the small but growing body of accounting education research which aims to develop an understanding of students' approaches to learning within the accounting discipline.

APPENDIX: VARIABLES INCLUDED IN ASSIST

Reasons for Entering Higher Education

Intrinsic interest (alpha .63)

- Course would help me develop knowledge and skills which will be useful later on.
- I would be able to study the subject in depth, and take interesting and stimulating courses.
- I wanted a chance to develop as a person, broaden my horizons, and face new challenges.

No clear goals (alpha .54)

- It would give me another three or four years to decide what I really want to do later on.
- I rather drifted into higher education without deciding it was really what I wanted to do.
- I suppose it was a mixture of other people's expectations and no obvious alternative.

Extrinsic interest (alpha .25)

- Qualification at the end of this course would enable me to get a good job when I finish. (job qualification)
- Having done well at school, it seemed to be the natural thing to go into higher education. (natural progression)
- I wanted to prove to myself that I could do it. (personal achievement)
- The opportunities for an active social life and/or sport attracted me. (social life)

Preparation for Higher Education

- Being able to work independently without much direction from a teacher. (work independently)
- The prior knowledge which your lecturers and tutors seemed to expect you to have. (prior knowledge)
- The study skills you need to carry out your work effectively. (study skills)
- Organising your own life generally, including your finances. (ability to organise own life)

Learning and Study Skills *(alpha .43)*

- Taking good notes from lecturers. (good notes)
- Using the library easily and effectively. (library use)
- Extracting the most important points from reading. (reading)
- Writing well-organised essays or other assignments. (essays)
- Problem solving. (problem solving)
- Carrying out practical work. (practical work)
- Contributing effectively to group discussions. (group discussions)
- Giving a fluent talk to other students. (oral presentation)
- Working collaboratively in a group. (collaborative work)
- Using computers confidently. (computers)

Influences on your Studying *(alpha .35)*

- The time spent travelling. (travelling)
- Having to shop and generally look after myself. (self care)
- Too active a social or sporting life. (social activities)
- Having to work to survive financially. (financial)
- Personal relationships or family problems. (relationships)
- Difficulties in understanding and writing English. (english)
- Lack of mathematical knowledge or skills. (maths)

Preferences for Different Types of Course and Teaching

Deep (alpha .71)

- Lecturers who encourage us to think for ourselves and show us how they themselves think.
- Exams which allow me to show that I have thought about the course material for myself.
- Courses where we are encouraged to read around the subject a lot for ourselves.
- Books which challenge you and provide explanations which go beyond the lectures.

Surface (alpha .66)

- Lecturers who tell us exactly what to put down in our notes.
- Exams or tests which need only the material provided in our lecture notes.
- Courses in which it's made very clear just which books we have to read.

- Books which give you definite facts and information which can easily be learned.

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