



DCU Business School

RESEARCH PAPER SERIES

PAPER NO. 36

March 1999

Approaches to Learning of Irish Students Studying Accounting

Dr. Marann Byrne
DCU Business School

Ms. Barbara Flood
DCU Business School

Ms. Pauline Willis
DCU Business School

ISSN 1393-290X

APPROACHES TO LEARNING OF IRISH STUDENTS STUDYING ACCOUNTING

ABSTRACT

Several reports on accounting education have identified the development of students' learning to learn as the primary objective of accounting education. Higher education research identifies the approach to learning as a significant factor in the overall student learning experience. If accounting educators are to find ways to improve the educational experience of their students, they must understand how students learn and the effects of the learning context on learning approaches. This study examines the approaches to learning adopted by first year students enrolled on the B.A. in Accounting and Finance and the BBS at Dublin City University and assesses the impact of a number of contextual variables 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, is that accounting education has failed 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 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. As Deppe, Sonderegger, Stice, Clark and Streuling (1991, p.258) observe:

Training in accounting that was sufficient for the industrial era is no longer adequate. Competencies for accountants must be expanded *beyond* the technical knowledge and skills currently emphasized.

Central to the development of an expanded set of skills and competencies among the accountants of the future, is the need for accounting students to develop skills that will enable them to adapt to the changes that they are likely to encounter during their professional lives. The reports mentioned above, have stressed that if attempts are to be made to fulfil the profession's future needs, then a primary objective of accounting education programmes must be the development of students' life-long learning skills.

University accounting education should emphasize the skills and capacity needed for lifelong learning. (AAA, 1986, p.185)

The overriding objective of accounting programs should be to teach students to learn on their own. (AECC, 1990, p.309)

This objective of fostering lifelong learning has been incorporated in the revised International Education Guideline 9 (IFAC, 1996). The development of life-long learning skills means helping students to learn how to learn and encouraging them to become active, independent learners. For students to be able to continue to adapt to change in their future careers, accounting education programmes must encourage students to be creative thinkers and problem solvers, who are able to apply knowledge and experience in complex, previously unseen situations. (AAA, 1986; IFAC, 1996).

Designing educational programmes which will provide students with the opportunity to develop such skills, provides a challenge to accounting educators. Programmes will have to change from having a content orientation to focusing on the learning process. It is necessary for educators to develop an understanding of how students learn and the variables in the learning environment which impact on student learning.

As accounting education research is at an early stage of development (Stout and Rebele, 1996), this paper begins with a review of the higher education literature. This literature identifies the approach to learning as a significant factor in the student learning experience. Consequently, the primary objective of this study is to measure the approaches to learning adopted by Irish students studying accounting. The paper continues with a description of the research instrument used and its validation for use in an Irish context. The results are then presented and the main findings are discussed. The paper concludes by examining the impact of a number of contextual variables on students' approaches to learning.

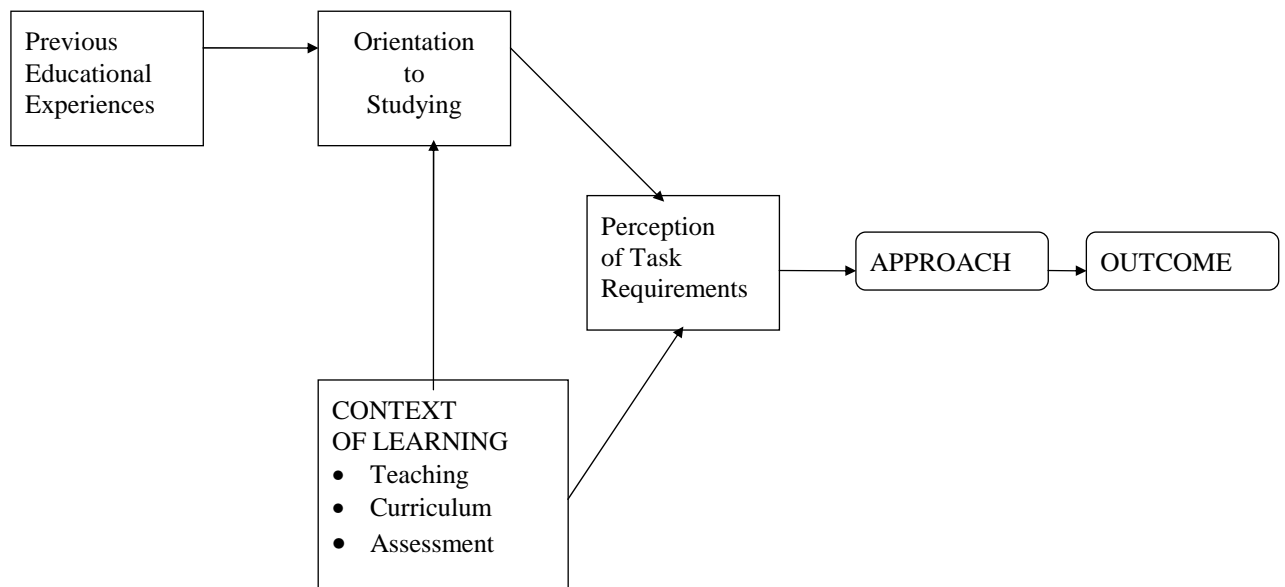
STUDENT LEARNING AND THE LEARNING ENVIRONMENT

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 is influenced by students' approaches to learning and that students' learning approaches are affected by prior experiences and by their perceptions of the requirements of the learning context.

Figure 1: Student Learning in Context



Source: Ramsden (1992, p. 83)

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 15 years. 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.

An approach to learning concerns the way in which a student relates to and organises a learning task (Ramsden, 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).

Early research on student learning was led by Marton at Gothenburg University. In studying university students' approaches to reading academic articles, Marton (1975) identified two main levels of processing. At one level, students started with the intention of understanding the article, they interacted with the arguments put forward, related them to their own prior knowledge and experience and tried to assess to what extent the conclusions of the article were justified by the evidence presented. On the other level, students focused on memorising the parts of the article that they considered to be important, they were constrained by the specific task of reading the article and the knowledge that they would be asked questions about it afterwards. These levels of processing were subsequently defined by Marton and Saljo (1976) as deep and surface. Entwistle, Hanley and Hounsell (1979), in a major research project at Lancaster, concluded that the term processing was too narrow and preferred to use the term approach. The new terminology was accepted by the Gothenburg group and has become widely accepted as the most appropriate descriptor for these qualitative differences.

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, 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. The defining features of the three approaches to learning are summarised in Table 1.

Table 1: Defining Features of Three Approaches to Learning

<p>Deep Approach</p> <ul style="list-style-type: none">• 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 <p>Surface Approach</p> <ul style="list-style-type: none">• 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 <p>Strategic approach</p> <ul style="list-style-type: none">• 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, p. 16)

The accounting reports discussed earlier recognise that accounting education must move from a knowledge acquisition orientation to the development of students' life long learning skills. To achieve this, Beattie et al. (1997); Jones, Hassall, Lewis and Joyce, (1996); and Sharma (1997) all argue that accounting students need to foster a deep approach to learning.

MEASURING APPROACHES TO LEARNING

Most of the early research on learning approaches used a qualitative, interview-based methodology described as phenomenographic. When looking at larger numbers of students, it is unrealistic to consider carrying out one to one interviews. Also,

Richardson (1994) counsels against the use of a phenomenographic approach in the absence of appropriate training and supervision of the researcher. Instead, he suggests the use of standardised questionnaires, which will generate quantitative scores. Three such questionnaires have been developed.

Student Learning Questionnaires

The *Studies Processes Questionnaire (SPQ)* was developed by Biggs (1978, 1985) in Australia and Canada. It is intended to measure three approaches to learning: deep, surface, and achieving (strategic). Studies in Australia and other countries have shown that the SPQ defines just two approaches, deep and surface (Biggs, 1987, p.16; Biggs and Rihn, 1984; Watkins and Akande, 1992; Watkins and Regmi, 1990). Also, Christensen, Massey and Isaacs (1991), and O'Neill and Child (1984) report difficulties with the SPQ's ability to measure the surface approach. Given these problems, Richardson (1994) believes the SPQ cannot be recommended as a useful instrument for research.

The *Inventory of Learning Processes (ILP)* was developed in the United States by Schmeck, Ribich and Ramanaiah (1977). Studies in the United States and elsewhere failed to replicate its intended factor structure (Schmeck and Geisler-Brenstein, 1989; Speth and Brown, 1988; Watkins and Hattie, 1981). Accordingly, Richardson (1994) rejects the ILP as a useful research instrument.

The *Approaches to Studying Inventory (ASI)* which was developed by Entwistle and his colleagues in the UK (Entwistle, et al. 1979; Entwistle and Ramsden, 1983, pp. 35-55; Ramsden and Entwistle, 1981) is probably the most widely used questionnaire on student learning in higher education (Richardson, 1994). It developed from earlier work at the University of Lancaster and was influenced by the work of Biggs (1976 and 1979); Marton and Saljo (1976) and Pask (1976). Due to problems with certain sections of the full ASI, a number of shortened versions were developed, e.g., Gibbs, Habeshaw and Habeshaw (1988). These shortened versions lacked internal consistency (Watkins, 1984).

In 1992 a *Revised Approaches to Studying Inventory (RASI)* was developed by Entwistle and his colleagues at the University of Edinburgh. A reduced version of the RASI was produced in 1994. Although neither forms of the RASI were published, they were available to and used by researchers. However, on reflection the developers of

the RASI admitted that the conceptual integrity of the shortened versions of the RASI had been sacrificed (Tait, Entwistle and McCune, 1997). This led to a further refinement of the instrument and the development of the *Approaches and Study Skills Inventory for Students (ASSIST)*.

ASSIST

The ASSIST measures students' approaches to learning on three dimensions or main scales (deep, strategic and instrumental). Tait et al. (1997) define instrumental as surface apathetic. Other sections of the questionnaire deal with: reasons for entering higher education, preparedness for higher education, orientations to learning, study skills, preferences for different types of teaching and influences on successful studying.

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

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

<i>Deep Approach</i>	<i>Meaning</i>
Seeking meaning	Intention to understand
Relating ideas	Relating to other parts of the course
Use of evidence	Relating evidence to conclusions
<i>Related Motives</i>	
Interest in ideas	Interest in learning for learning's sake
Collaborating	Consultation and discussion with others
<i>Strategic Approach</i>	
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
<i>Related Motives</i>	
Achieving	Competitive and confident
<i>Instrumental Approach</i>	
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
<i>Related Motives</i>	
Fear of failure	Pessimism and anxiety about academic outcomes

OBJECTIVES OF THE STUDY

This study is part of a broader project which aims to provide an understanding of the learning environment of Irish students studying accounting. The specific objectives of this study are:

1. To validate the ASSIST for use in an Irish context.
2. To investigate the approaches to learning of first year accounting and business students and to identify any significant differences.
3. To identify if gender differences exist in approaches to learning.
4. To explore the impact of various contextual variables on the learning approaches of accounting and business students.

DATA COLLECTION

The population consists of first year students on the B.A. in Accounting and Finance (A&F) and the 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 increases 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%. A total of 109 BBS students completed the questionnaire giving a response rate of 57%. Following the approach of Gow & Kember (1993) non-response bias within the BBS group was tested by comparing a characteristic of the respondents with that of the full group. The 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, indicating 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. (1997) 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. This is not particularly worrying as the value is so close to the acceptable 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. (Richardson, 1990; Entwistle and Ramsden, 1983, p. 43 and pp. 228-233; Clark, 1986; Tait, 1992, p. 65).

Following the approach taken by Tait et al. (1997), factor analysis was carried out on the subscales using maximum likelihood extraction. Factors with an eigenvalue greater than 1 were extracted. Previous research studies in this area have used this criterion extensively (Clarke, 1986; Entwistle et al., 1979; Ramsden and Entwistle, 1981; Watkins, 1982). 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. (1997) 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% of the variance which compares favourably with the 60% 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
<i>Related motives</i>				
Interest in ideas		.47		.67
Collaboration				.73
Strategic				.86
Organised study	.68			.53
Time management	.92			.72
Monitoring effectiveness	.32	.53		.62
<i>Related motive</i>				
Achieving	.73			.69
Instrumental				.78
Lack of understanding			.80	.56
Lack of purpose			.34	.71
Syllabus boundness			.31	.66
<i>Related motive</i>				
Fear of failure			.54	.73

Loadings less than .3 are omitted

RESULTS

The scores for the 13 subscales were derived by summing individual students' responses to the appropriate questions. 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 three groups: the full sample, and 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 **

* significant at 5% level

** significant at 1% 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 ($p=.04$). There are significant differences between the deep and instrumental mean scores ($P=.01$) and between the strategic and the instrumental ($p=.04$) for the A&F group, showing that they 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 strategic and the deep 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.

Using an independent-sample t-test, a comparison of the mean scores of the two classes shows that although the A&F group score 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.

Table 6: Differences in Mean Scores within Group

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

* significant at 5% level

** significant at 1% level

Table 7: Classification of Students' Approaches

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

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.

The table suggests that the majority of these students are 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, 1988) found that the beginning of degree courses is a time of considerable intellectual and emotional uncertainty. Sharma (1997), in a study of Australian accounting and finance students, also reports that students tend to be unsure of their approaches to learning.

Harper and Kember (1986) suggest that students acquire 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. Students in week nine of their first year of tertiary studies could well be in the transition stage from instrumental to deep or strategic learning. A planned follow up study will investigate any changes in students' approaches to learning over their degree programme.

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) report 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.

The mean scores of male and female students for the full sample and for each class are shown in Table 8. 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	12.8	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

INFLUENCE OF CONTEXTUAL VARIABLES ON STUDENT LEARNING

There is widespread acceptance in the higher education literature that students' perceptions of the learning context have an influence on their approaches to learning and the quality of learning outcomes (see Entwistle and Ramsden, 1983; Marton and Saljo, 1984; Entwistle and Tait 1990; Ramsden, 1989; Trigwell and Prosser, 1991; Gow, Kember and Cooper 1994). In response, Rebele, Stout and Hassell (1991) urge accounting education researchers to consider the impact of such variables as student and teacher characteristics, assessment methods and other yet to be specified contextual variables on student learning and learning outcomes. Similarly, Sharma (1997, p.144) argues:

What is certain is that more research on students' learning behaviour and the influence of the learning context on students' approaches to learning and learning outcomes is required if we are to implement changes to the accounting curriculum to improve the quality of our students.

Further justification for this form of research is provided by Bauernfeind's (1968) argument that if the interpretations of original studies are to be extended beyond the original settings, the research must be replicated in different settings. Accordingly, this study investigates the effects of a number of contextual variables on Irish students' approaches to learning.

The ASSIST questionnaire includes 48 questions relating to: reasons for entering higher education, preparation for higher education, orientations towards learning, study skills, influences on studying, and preferences for different types of course and teaching. In the score sheet accompanying the ASSIST questionnaire, it is

suggested that some, but not all, of the questions may be combined to create a score which measures a particular dimension. The internal reliability of the recommended combinations were tested using Cronbach's alpha. The combined score was used in subsequent tests if the alpha value was greater than .5. Details of the contextual variables and 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 the contextual 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 contextual variables, the following analysis of the correlations is restricted to those variables which show a highly significant ($p=.01$) relationship to the learning approaches.

Table 9: Correlations between Contextual Variables and Approaches to Learning

	DEEP			STRATEGIC			INSTRUMENTAL		
	All	A&F	BBS	All	A&F	BBS	All	A&F	BBS
Intrinsic interest	.49 **	.61 **	.39 **	.46 **	.49 **	.49 **	-.23 **	-.37 **	-.16
No clear goals	-.15 *	-.09	-.19	-.11	-.12	-.01	.36 **	.31 *	.35 **
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
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
Getting on with things	.18 *	.25 *	.16	.22 **	.31 **	.25 **	.08	-.13	.16
Acquiring facts	.09	.21	-.04	.18 *	.18	.16	-.14	-.24 *	-.01
Remembering	.11	.17	.06	.19 **	.22 *	.16	-.04	-.15	.06
Use information	.35 **	.35 **	.36 **	.13	.14	.16	-.15 *	-.18	-.14
Personal understanding & dev	.43 **	.40 **	.47 **	.32 **	.38 **	.30 **	-.19 **	-.29 **	-.15
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 *
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
Deep - teaching	.52 **	.60 **	.43 **	.32 **	.44 **	.22 *	-.38 **	-.55 **	-.26 **
Surface - teaching	-.10	-.13	-.10	.07	-.05	.12	.20 **	.29 **	.22 *

* significant at 5% level

** significant at 1% level

Contextual Influences on a Deep Approach

For the full sample, students who adopt a deep approach are intrinsically interested in their course and entered higher education believing they could work independently and had effective study skills. They consider learning to involve personal understanding and development and being able to use information acquired. They feel confident in their study skills and favour teaching which promotes deep learning. Tait et al. (1997) also report that a deep approach to learning is positively related to an intrinsic interest in the course and with a preference for teaching and courses which support deep learning. Fransson's (1977) study of the relationship between approaches to learning and motivation, concludes 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.

Contextual Influences on a Strategic Approach

An intrinsic interest in the subject, feeling well prepared for higher education, considering learning as personal understanding and reproducing knowledge, being confident with their individual study skills and favouring teaching methods which promote deep learning are all positively related to the strategic approach to learning. Personal relationships or family problems discourage a strategic approach. Tait et al. (1997) also found that the strategic approach was associated with feeling well prepared for higher education.

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

Contextual Influences on an Instrumental Approach

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 are all positively associated with an instrumental approach. Intrinsic interest, preparation for higher education, recognising learning as personal understanding and development, confidence in study skills and a preference for teaching methods which promote deep learning are negatively correlated with instrumental learning. 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. (1997) also report that the instrumental approach is associated with students feeling that their prior relevant knowledge was inadequate. Their study also found that personal relationships and undertaking part-time work adversely affect students' ability to study effectively.

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

The results show that students' learning approaches are affected by the learning context. While, a number of the contextual variables have a significant influence on the learning approaches of both classes, some variables are influential for only one class. Given the evidence of an association between the learning context and approaches to learning, contextual variables must be considered in devising and implementing changes to accounting programmes. Ignoring this aspect of the learning environment may result in intervention strategies which fail to achieve their desired 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 contextual variables and students' learning approaches. The findings suggest that the majority of students tended to be unsure of their learning approach with only a

small percentage adopting the preferred deep approach. A follow up study will monitor changes in the learning approaches of these students as they progress through their degree programmes.

The results of this study confirm the findings of other research studies that students' approaches to learning are influenced by the learning context. The study identifies a broad range of contextual variables which are associated with the learning approaches of the full sample and of both classes.

The implications of these findings for accounting educators are two-fold. Firstly, there is a need to devise strategies which promote deep learning if students are to develop the skills required to succeed in their future careers. Secondly, care must be exercised in introducing any changes to accounting courses. The learning environment is very complex and a diverse range of factors impact on students' approaches to learning. Consequently, developing an understanding of the learning environment is a prerequisite to devising effective intervention strategies. Changes to curriculum and context without due consideration of the learning environment may not generate the desired improvement in the quality of student learning.

APPENDIX

Contextual 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)

What is Learning

Reproducing knowledge (alpha .36)

- Getting on with the things you've got to do. (getting on with things)
- Building up knowledge by acquiring facts and information. (acquiring facts)
- Making sure you remember things well (remembering)
- Being able to use the information you've acquired. (use information)

Personal understanding and development (alpha .7)

- Understanding new material for yourself.
- Seeing things in a different and more meaningful way.
- Using all your experiences in life.
- Developing as a person.
- Being able to relate to people better.

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 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 lecturers.

Surface (alpha .66)

- Lecturers who tell us exactly what to put down in their 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 be easily be learned.

REFERENCES

- Accounting Education Change Commission (AECC) (1990). "Objectives of education for accountants: position statement number one", *Issues in Accounting Education*, Vol. 7, pp. 307-312.
- American Accounting Association (AAA) Committee on the Future Structure, Content and Scope of Accounting Education (Bedford Committee) (1986). "Future accounting education: preparing for the expanded profession", *Issues in Accounting Education*, Spring, Vol. 1, pp. 168-195.
- Arthur Andersen & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst & Whinney, Peat Marwick Mitchell, Price Waterhouse and Touche Ross (1989). *Perspectives on Education: Capabilities for Success in the Accounting Profession*, New York: Arthur Andersen & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst & Whinney, Peat Marwick Mitchell, Price Waterhouse and Touche Ross.
- Bauernfeind, R.H. (1968). "The need for replication in educational research", *Phi Delta Kappa*, October, pp. 126-128.
- Beattie, V., Collins, B. and McInnes, B. (1997). "Deep and surface learning: a simple or simplistic dichotomy?", *Accounting Education*, Vol. 6, No. 1, pp. 1-12.
- Biggs, J.B. (1976). "Dimensions of study behaviour: another look at ATI", *British Journal of Educational Psychology*, Vol. 46, pp. 68-80.
- Biggs, J.B. (1978). "Individual and group differences in study processes", *British Journal of Educational Psychology*, Vol. 48, pp. 266-279.
- Biggs, J.B. (1979). "Individual differences in study processes and the quality of learning outcomes", *Higher Education*, Vol. 8, pp. 381-394.
- Biggs, J.B. (1985). "The role of metalearning in study processes", *British Journal of Educational Psychology*, Vol. 55, pp. 185-212.

Biggs, J.B. (1987). *Student Approaches to Learning and Studying*, Melbourne: Australian Council for Educational Research.

Biggs, J.B. (1993). "What do inventories of students' learning processes really measure? A theoretical review and clarification", *British Journal of Educational Psychology*, Vol. 63, pp. 3-19.

Biggs, J.B. and Rihn, B.A. (1984). "The effects of intervention on deep and surface approaches to learning" in Kirby, J.R. (ed.), *Cognitive Strategies and Education Performance*, pp. 279-293, Orlando, FL: Academic Press.

Byrne, M. and Willis, P. (1997). "Analysis of accounting at second level", *Irish Accounting Review*, Vol. 4, No. 1, pp.1-26.

Christensen, C.A., Massey, D.R. and Isaacs, P.J. (1991). "Cognitive strategies and study habits: an analysis of the measurement of tertiary students' learning", *British Journal of Educational Psychology*, Vol. 61, pp. 290-299.

Clarke, R.M. (1986). "Students' approaches to learning in an innovative medical school: a cross-sectional study", *British Journal of Educational Psychology*, Vol. 56, pp. 309-321.

Davidson, R.A. (1996). "Cognitive complexity and performance in professional accounting examinations", *Accounting Education*, Vol. 5, No. 3, pp.219-231.

Deppe, L., Sonderegger, E., Stice, J., Clark, D. and Streuling, G. (1991). "Emerging competencies for the practice of accountancy", *Journal of Accounting Education*, Vol. 9, pp.257-290.

Entwistle, N. (1987). "A model of the teaching learning process", in Richardson, J., Eysenck, M. and Warren Piper, D. (eds), *Student Learning: Research in Education and Cognitive Psychology*, pp. 13-28, Milton Keynes: SRHE & Open University Press.

Entwistle, N., Hanley, M. and Hounsell, D. (1979). "Identifying distinctive approaches to studying" *Higher Education*, Vol. 8, pp. 365-380.

Entwistle, N. and Ramsden, P. (1983). *Understanding Student Learning*, London: Croom Helm.

Entwistle, N. and Tait, H. (1990). "Approaches to learning, evaluations of teaching, and preferences for contrasting academic environments", *Higher Education*, Vol. 19, No. 2, pp. 169-194.

Fisher, S and Hood, B. (1987). "The stress of the transition to university: a longitudinal study a psychological disturbance, absent-mindedness and vulnerability to homesickness", *British Journal of Psychology*, Vol. 78, pp. 425-441.

Fisher, S and Hood, B. (1988). "Vulnerability factors in the transition to university: self reported mobility history and sex differences as factors in psychological disturbance", *British Journal of Psychology*, Vol. 79, pp. 309-320.

Fransson, A. (1977). "On qualitative differences in learning: IV - Effects of intrinsic motivation and extrinsic test anxiety on process and outcome", *British Journal of Educational Psychology*, Vol. 47, pp. 244-257.

Gibbs, G., Habeshaw, S. and Habeshaw, T. (1988). *53 Interesting ways to Appraise your Teaching*, Bristol: Technical & Educational Services.

Gow, L. and Kember, D. (1993). "Conceptions of teaching and their relationship to student learning", *British Journal of Educational Psychology*, Vol. 63, pp. 20-33.

Gow, L., Kember, D. and Cooper, B. (1994). "The teaching context and approaches to study of accountancy students", *Issues in Accounting Education*, Vol. 9, No. 1, pp. 118-130.

Harper, G. and Kember D. (1986). "Approaches to study of distance education students", *British Journal of Educational Technology*, Vol. 17, pp. 212-222.

Hassall, T and Joyce, J. (1997). "What do the examinations of professional bodies reward? Some preliminary evidence" in Gibbs, G. and Rust, C. (eds), *Improving*

Student Learning through Course Design, pp. 529-538, Oxford: The Oxford Centre for Staff and Learning Development.

Hounsell, D. (1984). "Learning and essay writing", in Marton, F., Hounsell, D. and Entwistle, N. (eds), *The Experience of Learning*, pp. 103-123, Edinburgh: Scottish Academic Press.

International Federation of Accountants (IFAC) (1996). *International Education Guideline 9: Prequalification Education, Assessment of Professional Competence and Experience Requirements for Professional Accountants*, New York: IFAC.

Jones, C and Hassall, T. (1997). "Approaches to learning of first year accounting students: some empirical evidence", in Gibbs, G. and Rust, C. (eds), *Improving Student Learning through Course Design*, pp. 431-438, Oxford: The Oxford Centre for Staff and Learning Development.

Jones, C., Hassall, T., Lewis, S and Joyce, J. (1996). "Are UK accounting students surface learning and is so why?", paper presented at 19th Annual Congress of the European Accounting Association at Bergen, Norway, May, 1996.

Marton, F. (1975). "On non-verbatim learning: I Level of processing and level of outcome", *Scandinavian Journal of Psychology*, Vol. 16, pp. 273-279.

Marton, F. and Saljo, R. (1976). "On qualitative differences in learning: I Outcome and process", *British Journal of Educational Psychology*, Vol. 46, pp. 4-11.

Marton, F. and Saljo, R. (1984). "Approaches to learning", in Marton, F., Hounsell, D. and Entwistle, N. (eds), *The Experience of Learning*, pp. 36-55, Edinburgh: Scottish Academic Press.

Mathews, R. (Chair) (1990). *Accounting in Higher Education: Report of the Review of the Accounting Discipline in Higher Education*, Canberra: Australian Government Publishing Services.

Morgan, A., Taylor, E and Gibbs, G. (1982). "Variations in students' approaches to studying", *British Journal of Educational Technology*, Vol. 13, pp. 107-113.

- O'Neill, M.J. and Child, D. (1984). "Biggs' SPQ: A British study of its internal structure", *British Journal of Educational Psychology*, Vol. 54, pp. 228-234.
- Pask, G. (1976). "Styles and strategies of learning", *British Journal of Educational Psychology*, Vol. 46, pp. 128-148.
- Patten, R. and Williams, D. (1990). "There's trouble-right here in our accounting programs: the challenge to accounting educators", *Issues in Accounting Education*, Vol. 5, No. 2, pp. 175-179.
- Ramsden, P. (1979). "Student learning and perceptions of the academic environment", *Higher Education*, Vol. 8, pp. 411-427.
- Ramsden, P. (1984). "The context of learning", in Marton, F., Hounsell, D. and Entwistle, N. (eds), *The Experience of Learning*, pp. 144-164, Edinburgh: Scottish Academic Press.
- Ramsden, P. (1985). "Student learning research: retrospect and prospect", *Higher Education Research and Development*, Vol. 4, No. 1, pp. 51-69.
- Ramsden, P. (1987). "Improving teaching and learning in higher education: the case for a relational perspective", *Studies in Higher Education*, Vol. 12, pp. 275-286.
- Ramsden, P. (1989). "Perceptions of courses and approaches to studying: an encounter between paradigms", *Studies in Higher Education*, Vol. 14, No. 2, pp. 157-158.
- Ramsden, P. (1992). *Learning to Teach in Higher Education*, London: Routledge.
- Ramsden, P. (1997). "The context of learning in academic departments", in Marton, F., Hounsell, D. and Entwistle, N. (eds), *The Experience of Learning*, 2nd. ed., pp. 198-216, Edinburgh: Scottish Academic Press.

Ramsden, P. and Entwistle, N. (1981). "Effects of academic departments on students' approaches to studying", *British Journal of Educational Psychology*, Vol. 51, pp. 368-383.

Rebele, J.E., Stout, D.E. and Hassell, J.M. (1991). "A review of empirical research in accounting education: 1985-1991", *Journal of Accounting Education*, Vol. 9, No. 2, pp. 167-231.

Richardson, J.T.E. (1990). "Reliability and replicability of the approaches to study questionnaire", *Studies in Higher Education*, Vol. 15, No. 2, pp. 155-168.

Richardson, J.T.E. (1993a). "Using questionnaires to evaluate student learning: some health warnings", in Gibbs, G. (ed), *Improving Student Learning Theory and Practice*, pp. 73-88, Oxford: The Oxford Centre for Staff and Learning Development.

Richardson, J.T.E. (1993b). "Gender differences in responses to the approaches to studying inventory", *Studies in Higher Education*, Vol. 18, No. 1, pp. 3-13.

Richardson, J.T.E. (1994). "Using questionnaires to evaluate student learning", in Gibbs, G. (ed), *Improving Student Learning through Assessment and Evaluation*, pp. 499-524, Oxford: The Oxford Centre for Staff and Learning Development.

Richardson, J.T.E. and King, E. (1991). "Gender differences in the experience of higher education: Quantitative and qualitative approaches", *Educational Psychology*, Vol. 11, pp. 363-382.

Schmeck, R.R. and Geisler-Brenstein, E. (1989). "Individual differences that affect the way students approach learning", *Learning and Individual Differences*, Vol. 1, pp. 85-124.

Schmeck, R.R., Ribich, F. and Ramanaiah, N. (1977). "Development of a self-report inventory for assessing individual differences in learning processes", *Applied Psychological Measurement*, Vol. 1, pp. 413-431.

Sharma, D.S. (1997). "Accounting students' learning conceptions, approaches to learning, and the influence of the learning-teaching context on approaches to learning", *Accounting Education*, Vol. 6, No. 2, pp. 125-146.

Speth, C. and Brown, R. (1988). "Study approaches, processes and strategies: are three perspectives better than one?", *British Journal of Educational Psychology*, Vol. 58, pp. 247-257.

Stout, D. E. and Rebele J. E. (1996). "Establishing a research agenda for accounting education", *Accounting Education: A Journal of Theory, Practice and Research*, Vol. 1, pp. 1-18.

Sundem, G. and Williams D. (1992). "Changes in accounting education: preparing for the twenty first century", *Accounting Education*, Vol. 1, pp.55-61.

Tait, H. (1992). *Students' Perceptions of Teaching in Relation to their Approaches to Studying*, Unpublished PhD dissertation: University of Edinburgh.

Tait, H., Entwistle, E and McCune, V. (1997). "ASSIST: A reconceptualisation of the approaches to studying inventory", paper presented at the 5th International Improving Student Learning Symposium, University of Strathclyde, September 1997.

Trigwell, K. and Prosser, M. (1991). "Improving the quality of student learning: the influence of learning context and student approaches to learning on learning outcomes", *Higher Education* Vol. 22, No. 3, pp. 251-266.

Van Rossum, E. and Schenk, S. (1984). "The relationship between learning conception, study strategy and learning outcome", *British Journal of Educational Psychology*, Vol. 54, pp. 73-83.

Watkins, D. (1982). "Identifying the study process dimensions of Australian university students", *Australian Journal of Education*, Vol. 26, pp. 76-85.

Watkins, D. (1983). "Assessing tertiary study processes", *Human Learning*, Vol. 2, pp. 29-37.

Watkins, D. (1984). "Student learning processes: an exploratory study in the Philippines", *Human Learning*, Vol. 3, pp. 33-42.

Watkins, D. and Akande, A. (1992). "Assessing the approaches to learning of Nigerian students", *Assessment and Evaluation in Higher Education*, Vol. 17, pp. 11-20.

Watkins, D. and Regmi, M. (1990). "An investigation of the approach to learning of Nepalese tertiary students", *Higher Education*, Vol. 20, pp. 459-469.

Watkins, D. and Hattie, J. (1981). "The internal structure and predictive validity of the Inventory of Learning Processes: some Australian and Filipino data", *Educational and Psychological Measurement*, Vol. 41, pp. 511-514.