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## Learning and study strategies affecting the performance of undergraduate management accounting students in an Australian university

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## Abstract

This study examines the relationship between the academic performance of second year management accounting students at an Australian 'red brick' university and the respective individual learning and study strategies adopted by them in their studies of management accounting. A sample size of one hundred and eighteen valid responses comprises the data for this study. The respondents completed the Learning and Study Strategies Inventory (LASSI). The results demonstrate that learning and study strategies of low and high performing groups differed significantly in six out of ten aspects that were examined, namely: anxiety; attitude; information processing; motivation; the ability to select main ideas; and, strategies employed for tests. These results confirm that learning and study strategies used by high academic achievers and low academic achievers of management accounting undergraduate students differ significantly. These different strategies affect students' academic performance. Some targeted interventions for enhancing the performance of low academic performing students in management accounting are suggested.

## Keywords

study, management, learning, undergraduate, students, affecting, performance, accounting, australian, university, strategies

## Disciplines

Business

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### **Abstract**

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**Keywords:** accounting education, management accounting, learning, study, academic performance, LASSI.

## 1. Introduction

This study examines existing learning and study strategies of second year undergraduate management accounting students at a 'red brick' Australian university. While many student-support strategies have been introduced into this course over the years, they largely focus on proactive activities to be undertaken by teaching staff, as opposed to a focus on the private actions of students. However, these strategies of teacher intervention to date have not been uniformly effective, proving less successful in this cohort for very low academic performing students. This study identifies learning factors that are uniquely present in low academic performing management accounting students, and nominates specific areas in which support is needed to improve their student experience and retention. Specifically, this study identifies the factors of anxiety, attitude, information processing, motivation, the ability to select key concepts, and strategies used in exam conditions as requiring additional student scaffolding in management accounting curricula and student support.

The impetus for this study comes from the authors' frustrations as accounting educators. Management accounting experiences relatively high failure rates compared to other undergraduate subjects offered throughout the business faculty. This is despite the students meeting the same entry criteria and prerequisites to their study. This project probes what study behaviours are employed by low academic achieving students in management accounting. It explores whether or not these behaviours are homogeneous across the group, and the circumstances informing students' behaviours. This will better enlighten future student support strategies. In the history of this student group, many learning support initiatives have been introduced, largely focussing on the activities of teaching staff. Pleasingly to date this has reduced failure rates by 12% from 2008 to in 2012.

Through this examination, the study will identify the major differences between the learning and study strategies adopted by high and low performing management accounting students. For the purpose of evaluating different aspects of the students' learning and study strategies, we adopt the Learning and Study Strategies Inventory (LASSI) developed by Weinstein, Zimmermann, & Palmer, (1988). This model was confirmed to be applicable to different levels of education (universities, schools etc.) and different countries with different cultural backgrounds (Yip, 2013; Diseth & Martinsen, 2003; Garg, 2011; and Yip, 2007).

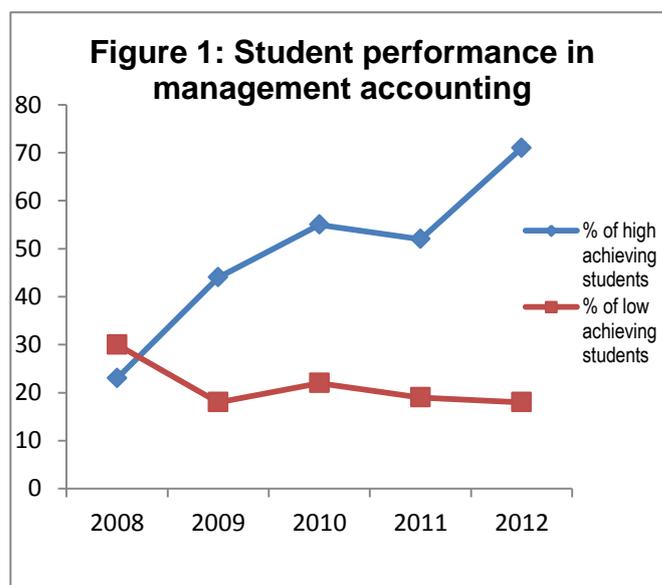
The remaining structure of this paper is as follows: Section 2 contextualises the study, describing the research problem. Section 3 gives a brief overview of prevailing literature on effective study strategies and learning behaviours of undergraduate students. Section 4 describes the method of the paper, and introduces the LASSI model used in the analysis. Section 5 presents the survey results' analysis and findings, and offers a discussion

of the results. Section 6 offers some conclusions and recommendations pertaining to effective study strategies for management accounting students.

## 2. Context and the research problem

Over the years, as accounting educators the authors have adopted numerous teaching and learning strategies, attempting to relieve students' stress and improve their subject learning outcomes in terms of both technical skills and demonstrated graduate attributes such as problem solving abilities and communication skills. Such strategies employed have included changes to both the nature and timing of assessment tasks, increased practical work in tutorial and computer laboratory classes, the introduction of in-class quizzes to scaffold learning, different final examination formats (including allowing student choice of questions), introduction of a custom text book, and extra teacher training led by an educational specialist for all teaching staff including sessional tutors.

These initiatives helped to reduce the failure rates in a second year management accounting subject over the period between 2008 and 2012 by 12%. While pleasing as this is, the poor performance of some students is still troubling, and overall the cohorts of this subject still experienced higher failure rates than the average failure rates of other second year subjects in the business faculty. Over this five year period the performance levels of the lower end academically achieving students remains unchanged. Paradoxically, the academic achievement of higher academically performing students in the identified cohort over this time period improved significantly with the learning strategies introduced. The mystery was while these strategies were deployed in an equivalent way to all students, they were obviously effective for some students but ineffective for others. This is illustrated in Figure 1 below.



Given the relative failure for low academically performing management accounting students of various teaching and learning strategies adopted, there is a need to examine the reasons for this. This is the motivation for this study.

This study does not assume students' receptiveness to learning and teaching strategies is homogeneous, and explores from low academically performing students' perspectives, the factors impacting their academic success. For example, many low academically performing students meeting the criteria of low socio-economic status but are not less academically able than other students. However, their previous experiences may place them in need of different or assistance compared to low performing students not meeting this criteria. This work follows on from the study conducted by De Zoysa and Rudkin, (2007).

### **3. A brief review of literature**

Previous research suggests that students' learning habits and strategies are related to their academic performance (for example, Gadzella and Williamson 1984; Weinstein 1988, Barbara et al. 2001; Deryakulu et al. 2010; Hill 201).

It is a reasonable conjecture that effective study strategies usually result in greater learning. The concept of 'learning strategies' consists of a wide variety of behaviours and learning activities (Yip, 2013). For example, they include note-taking, organising information, scheduling, the ability to concentrate, personal motivation, and ways of mentally storing information (Minnaert & Janssen, 1992; Weinstein, 1988). The relationship between learning and study strategies adopted by students and their academic performance is demonstrated by many studies (Yip, 2013; Akyol, Sungur, & Tekkaya, 2010; Caballos & Esteban, 1988; Weinstein, Husman, & Dierking, 2000). For example, Yip (2013) found that there were clear differences in the learning and study strategies used by high school students with high academic performance, compared to those with low academic performance. Garg (2011) found that the variable of time management was a good predictor for the academic performance of students. However, educational researchers believe that a good mixture of learning and study strategies should be taken into consideration.

Yip et al., (2013) in their previous studies, concluded that there were some important differences in the learning and study strategies between high academic achievers and low academic achievers, which influenced their differing academic performances at the tertiary level (Yip, 2007, 2009, 2012; Yip & Chung, 2002). However, it is not clear whether the same set or mixture of strategies is applicable to the determination of performance of different subjects offered at different levels of education.

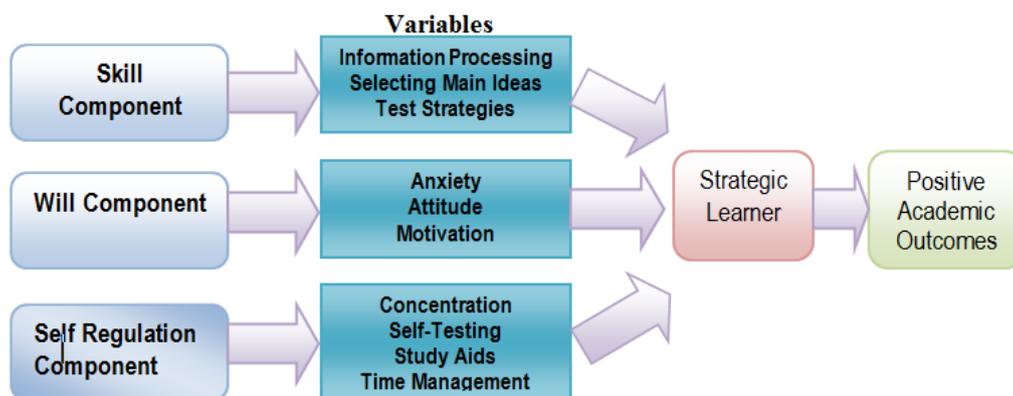
#### 4. Method

This project uses an action research approach which is a systematic investigative research method that can help improve aspects of educational practice (Hand et al. 1996).

##### 4.1 *The Learning and Study Strategies Inventory*

Weinstein, Husman, and Dierking (2000) developed the Learning and Study Strategies Inventory (LASSI) model of strategic learning to elucidate students' academic performance. The LASSI uses a ten point scale, where 80 items are identified to assess students' cognizance of using learning and study strategies. The strategic model is designed around three interlocking components of learning: will; self-regulation; and skill. The will component evaluates students' perception of self-efficacy, their ability to maintain motivation, and their ability to sustain a positive attitude towards their learning. The self-regulation component evaluates students' self-regulating abilities such as time management, self-testing strategies and concentration. The skill component evaluates students' ability to use different cognitive strategies effectively in their learning. These three components work together interactively to complement each other in order to enhance learning. The instrument probes students' covert and overt thoughts, behaviours as well as their attitudes and beliefs about successful learning. Once these traits are identified, they can be specifically targeted for educational interventions. This survey tool provides standardized scores diagnosing students' strengths and weaknesses, as well as specific feedback in the identified areas.

**Figure 2**  
**Learning and Study Strategies Inventory (LASSI) model**



Source: Weinstein et al. 2002.

This model is proven successful, as reflected from the patterns of scores in LASSI, in capturing different aspects of students' learning behaviours, relationship between study strategies and academic performance study strategies (Yip, 2013).

#### 4.2 The approach of this study

A questionnaire survey was conducted with 213 second year undergraduate management accounting students enrolled in a Bachelor of Commerce degree program at a 'red brick' university in Australia. The analysis was based on 118 usable responses, which indicates a response rate of 55 %. The population was categorized into high and low achieving groups 50% (grade 65 or above) 50% (below 65). The profile of the respondents is shown in Table 1 below.

**Table 1**  
**Profile of the respondents**

	Number	%
<b>Gender</b>		
Male	67	56.8
Female	51	43.2
	118	100.0
<b>Student Status</b>		
Domestic	44	37.3
International	74	62.7
	118	100.0

Using the LASSI (Weinstein et al. 2002), the learning and study behaviours of the surveyed students were analysed. While this instrument is well established in the field of education, little evidence of its use in the accounting discipline has been uncovered by the authors. In this study the responses to each question were rated on a five-point Likert scale. The ten categories surveyed were as follows:

- (1) Anxiety Scale—this aspect assesses the degree to which a student worries about university and their academic performance.
- (2) Attitude Scale—this aspect assesses a student's attitude towards and interest in both the university and in achieving academic success.
- (3) Concentration Scale—this aspect assesses a student's ability to maintain their attention and their ability to concentrate on learning materials.
- (4) Information processing Scale— this aspect measures a student's use of verbal and imaginative elaboration; strategies for organizing and interpreting information; and their skills of comprehension, reasoning and use of logic in their learning.
- (5) Motivation Scale—this aspect assesses a student's diligence, self –discipline, and willingness to exert the effort necessary to successfully complete academic

- requirements.
- (6) Self-testing Scale— this aspect assesses a student’s use of both test preparation and test taking strategies.
  - (7) Selecting Main Ideas Scale— this aspect measures student’s ability to identify critical points and key ideas in their learning materials.
  - (8) Study Aids Scale—this aspect assesses a student’s use of support systems, materials and resources in their learning.
  - (9) Time Management Scale—this aspect assesses a student’s use of time management principles for academic tasks.
  - (10) Test Strategies Scale—this aspect measures a student’s knowledge of different types of test strategies and knowledge of preparation that is necessary for their examinations.

## 5. Analysis and Results

For our study, Table 2 below presents the mean score of the low academic achievers and high academic achievers on the ten subscales.

**Table 2**  
**Mean scores for learning and study strategy measures**

Study strategy	Low academic achievers		High academic achievers		<i>p-value</i>
	Mean	STD	Mean	STD	
Anxiety (ANX)	21.6	6.4	24.7	5.2	0.01***
Attitude (ATT)	17.8	4.5	19.3	4.6	0.07*
Concentration (CON)	23.4	4.9	24.0	3.9	0.45
Information processing (INP)	19.3	4.1	21.7	3.6	0.00***
Motivation (MOT)	18.1	4.6	21.0	4.2	0.00***
Scheduling (SFT)	24.6	5.6	24.5	4.2	0.90
Selecting main idea (SMI)	20.8	5.0	22.5	3.8	0.05**
Self testing (STA)	22.4	5.8	22.6	5.7	0.85
Study aids (TMT)	22.4	3.7	23.4	3.5	0.13
Test strategies (TST)	20.2	5.3	22.6	4.2	0.01***

\*\*\* Significant at the 1% level

\*\* Significant at the 5% level

\* Significant at the 10% level

The results in Table 1 show that the learning and study strategies of low and high achievers differ significantly in 6 of the 10 scales. These 6 scales and the mean scores of low and high achieving groups are as follows: anxiety (21.6 for low academic achievers vs. 24.7 for high academic achievers); attitude (17.8 for low academic achievers vs. 19.3 for high academic achievers); information processing (19.3 for low academic achievers vs. 21.7 for high academic achievers); motivation (18.1 for low academic achievers vs. 21.0 for high academic achievers); selecting main ideas (20.8 for low academic achievers vs. 22.5 for high

academic achievers ); and, test strategies applied (20.2 for low academic achievers vs. 22.6 for high academic achievers).

## **6. Conclusions and Recommendations**

The findings of this study elucidate the learning and study strategies of management accounting students attending an Australian university. It was found that the aspects impacting most on low academically achieving students' learning and study strategies were anxiety, attitude to study, information processing abilities, motivation, the ability to select main ideas, and test strategies.

### *Skill component*

The identified cohort of low academically achieving students did significantly worse in the dimensions of the skill components of information processing, the ability to select the main idea, and test strategies. The identification of these aspects enables the development and targeting of specific technical intervention strategies.

### *Will component*

Results of the will component are the most telling dimensions in aiding understanding of the reasons for the performance of low academically achieving students in this cohort. Interestingly, they suffered lower anxiety than their high academically achieving peers. This could be because they had a poorer attitude towards their studies than their peers. They were significantly less motivated. These traits are of an intrinsic nature, and the reasons for them may not be solely in the academic realm. Remedy of these dimensions may not be by technical innovations in delivery of a subject. Given 62.7% of the respondents are international students, it is speculated that issues of culture, displacement, and financial circumstances may be underlying factors. This is identified as an area for further research.

### *Self-regulation component*

This analysis reveals that the low academically achieving management accounting students of the cohort were not dissimilar to their high academically achieving peers for aspects measuring self-regulation. With respect to aspects of concentration, self-testing, use of study aids and time management there was no significant difference between the two groups.

The consequence of this is that the authors speculate that the generalist learning development support strategies already implemented in this management accounting subject have been effective for these traits. Any further efforts around skill building for time management, additional study guides and practice tests may be of limited impact.

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