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Implications for Accounting Educators of Student Socio-Economic Circumstances

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This study investigates the relationship between students' socio-economic circumstances and students' academic performance in an undergraduate accounting degree at a regional Australian university. The employment patterns and course participation preferences of accounting students are documented to understand actions needed to better attract future quality accounting students. The pilot study encompassed a survey of one hundred third year accounting students. It found no direct significant relationship between students' paid work and their academic performance. Significantly the study revealed a positive relationship between student shift work and academic performance. Other findings were that students displayed a preference for online materials as opposed to traditional lecture delivery, and students identified work commitments as a barrier to their class attendance. These initial results have implications for the viability of traditional accounting textbooks, the pedagogically sound development of online accounting courses for generic skills development, and the assumptions behind current academic workload models. This study is a unique contribution to the understanding of the socio-economic and employment circumstances of Australian accounting students.

Field of Research: Accounting Education.

1. Introduction

There have been a number of studies identifying factors that affect student performance in university accounting courses. These have been done predominantly in American and United Kingdom universities and colleges. Many favour first year undergraduate students as subjects. There are a lesser number of studies undertaken in the Asian and Australian Pacific regions. None of these studies to date have examined the impact of socio-economic circumstances on the academic performance of students in accounting programs in Australia. This is significant given the inability of the university sector to attract high quality accounting students and the Australian economy to retain accounting graduates domestically, resulting in a current severe shortage of accountants in Australia (Robert Half International 2005, Australian Government Department of Immigration and Multicultural Affairs 2006). Also, the recent large international student enrolments in Australian university accounting degrees, and the evaporation of government funded student financial support schemes to Australian students, has meant the financial circumstances of the accounting student body at Australian universities has changed significantly in recent years. However, the impact of these changes on educational outcomes for accounting students and the accounting profession has not yet been assessed.

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This paper presents a pilot study investigating three deficiencies in the literature. First the work patterns of third year undergraduate accounting students at an Australian regional university are documented. Secondly, the quantity and nature of course participation undertaken by working students is surveyed. Thirdly, the study tests whether there is a relationship between accounting student socio-economic circumstances and their academic performance in an undergraduate accounting degree. A survey was done of students enrolled in a capstone 12 credit point financial accounting subject at the University of Wollongong in Autumn session 2006.

2. Previous studies examining the impact of socio-economic circumstances and academic performance.

There is a dearth of research on the impact of socio-economic factors affecting tertiary student performance. A study undertaken in the second and final year levels of an accounting degree at a Welsh university by Gracia and Jenkins (2003) considered gender, prior year performance and students' application to study and their relationship to student performance. Gracia and Jenkins argue that academic failure creates both emotional and financial costs for students, and that significant cultural differences may be attributed to academic success. This study found that if students are actively committed to self-responsibility for their studies, they tend to do well in formal assessment. They also found females outperform males in the second year and that there is a negative correlation between age and grades. Students who have work experience perform significantly better than students who go straight from the second to the final year. They argue that the work experience allows students to get their finances in order thereby reducing the need for them to earn money while studying in the final year, thereby reducing financial and time management pressures.

Nonis and Hudson (2006) note that the Higher Education Research Institute at UCLA's Graduate School of Education has found that since 1987 the time students spend studying outside of class has declined each year, with only 47% spending six or more hours per week studying outside of class compared with 34% in 2003. This corresponds with findings of Gose (1998) who found an increase in the number of students employed with 39% of students working 16 or more hours per week in 1998 compared with 35% working in 1993. Nonis and Hudson (2006) identify a need for empirical research to determine the impact of student work on academic performance, and its impact on the design of academic programs. Their study found a lack of evidence for a direct relationship between time spent working and academic performance.

Wooten (1998) undertook a study of 271 students taking introductory accounting at a major south-eastern American university of which there were 74 students identified as non-traditional defined as aged 25 years or older, and 127 traditional students aged under 25 years. Wooten found that for the traditional cohort grade history, motivations and family responsibilities all influenced the amount of effort these students made. However, neither extracurricular activities nor work responsibilities influenced their effort. However for the non-traditional students, motivation was the only variable that significantly influenced effort. Neither grade history nor extracurricular activities, nor work responsibilities, nor family responsibilities had an effect on motivations. Family activities had a significant negative impact on effort for the traditional students, but not for the nontraditional students. It is conjectured by the authors of this paper that these differences in ages may also capture different socio-economic circumstances.

Much research has been done on common predictive factors of academic performance in accounting courses, including gender, prior knowledge of accounting, academic aptitude, mathematical background, previous working experience, age, class size, lecturer attributes and student effort, as documented by Naser and Peel (1998) and Koh and Koh (1999). The findings are not definitive.

There are limited studies outside the Western context. Cheung and Kan (2002) examined factors related to student performance in a distance learning business communications course in Hong Kong. Their results based on studying 168 students showed females outperformed males, and a positive correlation between previous academic achievement and related academic background and student performance (p261). A positive correlation was found between tutorial attendance and student performance and between previous learning experience and student performance. No relationship was found between semester course loads and student performance. The results are similar to prior Western studies, despite the differences in culture in the education environment.

Gul and Fong (1993) conducted a Hong Kong study on first year accounting students, and found predictors of academic achievement to be personality type, grades achieved at the school certificate in mathematics and accounting, and previous knowledge of accounting.

Sullaiman and Mohezar conducted a study at the University of Malaya in their MBA program. They found conflicting evidence of the impact of work experience on student academic performance. They note studies by McClure, Wells and Bowerman (1986), Schellhardt (1988) and Dreher and Ryan (2000) finding a positive relationship between work experience and academic performance, but studies by Dreher and Ryan (2000, 2002 and 2004) Dugan et al. (2006) and Graham (2001) and Peiperl and Trevelyan (1997) found no relationship between students working and their grade point average. Sullaiman and Mohezar's study found that work experience is not related to MBA performance.

Studies undertaken in the Australian context examine factors that impact upon accounting student academic performance, but fail to incorporate a socio-economic dimension. The study by Booth et al. (1999) used the Approaches to Learning paradigm from the education literature to investigate the learning approaches of accounting students from two Australian universities, as compared to previously reported data for Australian arts, education and science students. This study provided evidence that Australian accounting students tend to take a superficial approach to learning typified surface learning such as rote memorization, while using lower deep learning approaches than their counterparts in Australian arts, education and science studies. Whether this is due to work factors has not been investigated. A study done by Dobson and Sharma (1999) examined the relationship between student performance and the cost of failure, noting both the public and the private dimensions to the cost of failure.

Wijewardena and Rudkin (1999) undertook a study of students enrolled in a first year accounting program at a regional Australian university. They identified that students' attendance at tutorial classes, the commitment of a major in accounting and a demonstrated interest in accounting correlate positively and significantly with academic performance. They also find that local students perform better than their overseas counterparts and that part-time students (who work full time) outperform full time students.

Hutcheson and Tse (2006) at the University of Technology Sydney found that on average students who attended more than half of the tutorials obtained a higher final mark than students who did not, and that this was particularly so for international students. This begs further research as to why, when students pay high fees for classes, they do not attend. This paper identifies the need to investigate whether the need to work is one possible reason for this finding.

Another possible explanation for the issues non-attendance raised by Hutcheson and Tse (2006) is student satisfaction with the teaching performance and course delivery. Strong and Watts (2005) investigated factors affecting accounting student satisfaction at a small public university in New South Wales. They found improvements in the effective allocation of casual and full time staff and the introduction and of common subject outlines lead to improvements in student performance indicators of satisfaction.

Vickers et al. (2003) examined the effects of part-time employment of students on their participation and attrition in tertiary study in Australian universities. They report that the proportion of full-time students undertaking work has increased between 1990 and 2000 from 46% to 56%. They find that an inverse relationship between the number of face to face course hours and the drop out rate of tertiary students, with the more hours of classes the less the drop out rate. They also found that students working 20 or more hours per week are more likely to drop out of tertiary study by 160 – 200% than those who work less than 20 hours. Vickers et al. also find that students receiving Youth Allowance are more likely to drop out of tertiary study than those who do not receive Youth Allowance, despite the fact that the majority of this group do not work part time. They also observe that the odds of dropping out of university decrease by 31-32% if a student is from the highest socio-economic quartile as opposed to the lowest. Those who work between one and 20 hours per week are just as likely to continue in study as those who do not work at all during their studies. The Vickers et al. study is important because it signifies a change in the university experience not only for students but also for academic staff who teach working students.

This study addresses deficiencies identified. Many studies of accounting higher education students focus on first year students, and these themselves are predominantly from the UK or US, and their relevancy and currency to the Australian context is limited. This study focuses on second and final year accounting students in an Australian context, encompassing domestic and international student differences. The study also is novel in its examination of the impact of socio-economic factors affecting student performance in an accounting degree.

3. Method

The School of Accounting and Finance at the University of Wollongong offers a full-time three year accounting degree with professional entry requirements for both the CPA Australia and the Institute of Chartered Accountants in Australia. Admission is based on grades obtained in the University Admissions Index (UAI), or equivalent. Mathematics is not a compulsory entry requirement. There are no domestic undergraduate full fee paying students.

Students follow a prescribed course of study using a subject prerequisite system. This pilot study surveyed one hundred third year students in the final compulsory financial accounting subject. The students were asked about their academic experiences and socio-economic circumstances in the prior session, spring 2005. To obtain a complete sample, students who failed their prerequisite subject in the prior session spring 2005 were also surveyed to obtain a representative population. Academic performance for the purpose of this study is determined as the final grade in the second year financial accounting subject ACCY201, studied in spring 2005.

The research was conducted by paper surveys handed out in compulsory tutorial classes in the last week of session. Participation in the survey was optional. Both day time and night time tutorial classes were surveyed, to ensure a representative mix of part time and full time patterns of study and work commitments. One hundred students were surveyed, 44 males and 56 females. Of the 44 male students, 34 (77%) are enrolled in full time study, while 10 (23%) are enrolled in part time study. Contrastingly, 52 of 56 (93%) of female students are enrolled as full time, while only 3 (7%) are enrolled as part time students. The total number of students that were enrolled full time was 86 out of 100 compared to 14 out of 100 enrolled part time.

The mix of students in the cohort is indicative of the high international student enrolment. In the pilot study of 100 students, 60 (60%) were domestic students, while 40 (40%) were international students. While all but one of the international students were studying full time, 47 out of 60 or 78% of domestic students were enrolled as full time students, while 13 out of 60 or 22% were enrolled as part time students. (See Table 1).

Enrolment
Pattern

Table 1.

	Enrolment					
	Enrolled Part Time Count	%	Enrolled Full time Count	%	Total Count	%
Male	10	71%	34	40%	44	44%
Female	4	29%	52	60%	56	56%
	14	100%	86	100%	100	100%
Domestic	13	93%	47	55%	60	60%
International	1	7%	39	45%	40	40%
	14	100%	86	100%	100	100%

4. Results and Discussion

First, the findings pertaining to student work obligations and their socio-economic circumstances will be discussed. Out of the 100 pilot surveys, 96 students answered questions regarding paid employment. For the purpose of the survey, those working 20 hours or less a week are regarded as part time workers, consistent with the Australian government working regulations of student visas for full time international students. Also, in the Vickers et al. (2003) study 20 hours per week work was a significant indicator as their paper found those students who worked above this amount were most

likely to withdraw from university study. There were 19 out of 96 (20%) of students indicated that they were not in paid employment. Those who worked between 1 and 20 hours were 55 out of 96 (57%), while those who worked more than 20 hours were 22 out of 96 (23%). This immediately indicates that while only 14% were enrolled part time, 23% were working a full time load, meaning 9% were working full time and studying full time simultaneously. The chi-square test carried out found no significant relationship between the number of hours worked and the academic performance of the students (refer Table 2). This is consistent with the previous study by Nonis and Hudson (2006) who found no relationship between the time spent working and academic performance and Sullaimar and Moheza (2006) who found work experience is not related to academic performance. However, it is contrary to the findings of Gracia and Jenkins (2003) who found students with work experience do better academically, and with Wijewardena and Rudkin (1999) who found part time students academically outperform full time students.

Hours
Worked and
Student
Results

Table 2.

Hrs worked	Accy201 Results			Total	%
	0-44	45-64	>65		
None	6	3	10	19	20%
1-20 hours	15	8	32	55	57%
21 and above	7	5	10	22	23%
	28	16	52	96	100%
X ² =1.28091		P=0.864604			

Students were also asked whether their position was permanent, casual or a contract position, the authors assuming those with permanent positions have access to paid leave, and more economic certainty, as opposed to those on casual or contract hours that do not have a guaranteed amount of work or necessarily predictable hours. However, the chi-square test carried out found that there was no significant relationship between being employed on the basis of permanent, casual or contract conditions, and academic performance (see table 3 below).

Table 3 Employment

	Accy201 Results			Total	%
	0-44	45-64	>65		
permanent	4	4	6	14	18%
casual	16	9	34	59	77%
contract	2	0	2	4	5%
	22	13	42	77	100%
X ² =3.05587		P=0.5485			

The survey also asked students whether they did changing shift work or worked regular hours. It was the assumption of the researchers that those students who worked shift work did not have regular timetables and this may impact negatively on their ability to attend classes and participate successfully in study. Of the 59 valid responses, 38 (64%) indicated that they worked changing shift work compared to 21 students (36%) who worked regular hours. An unexpected finding was a positive significant relationship between those who worked changing shifts and academic performance. Of those 38 students that worked shifts, 23 (62%) achieved a credit grade or better. This compared with 5 students (9.5%) of the 21 students who worked regular hours who achieved a credit grade or better. (See table 4 below). This is an unanticipated result with no obvious intuitive explanation. This finding is identified as an area for further research in a wider study.

Table 4 Nature of Hours

	Student Performance	
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	0-44	45-64	>65	Total	%
changing shift work	7	8	23	38	64%
regular hours	15	1	5	21	36%
	22	9	28	59	100%
<p>X²=16.38715 P=0.000 Significant at 1%</p>					

It was asked “In spring session 2005, on average how long did a typical journey take you to travel to university?” The university is a regional university that attracts many students from the metropolitan Sydney catchment area 80 kilometres away. With limited train transport and only local private bus services, many students must travel by car. Also the area has a high local unemployment rate, and many students obtain casual work outside the region. It is the assumption of the researchers that the time spent travelling to and from university first is a proxy for socio-economic circumstance as students who can afford to will live closer to their place of study rather than areas of better employment prospects. Second, it is considered that time spent travelling is time not available for quality university studies and participation. Out of the sample of 100 responses, 72 students indicated that they travelled less than one hour one way to attend university, while 28 students said they travelled more than one hour to attend university in a day. However, there was no significant relationship found between times spent travelling and academic performance, as indicated in Table 5 below.

Table 5 Relationship of time spent travelling to academic results.

Hrs travelled	Accy201 Results			Total	%
	0-44	45-64	>65		
Less than hour	23	12	37	72	72%
More than hour	5	6	17	28	28%
	28	18	54	100	100%
<p>X²=2.00748 P=0.3665 No significant relationship</p>					

Next, the quantity and nature of course participation undertaken by working students is surveyed. First, students were asked the question whether they missed classes because of work. 82 students answered, with 32 (39%) indicating that they always missed classes because of work. 13 (15.9%) indicated that they missed classes most of the time because of work. 9 (11%) indicated that they missed classes about half the time for work related reasons, while 14 (17.1%) said they only sometimes missed classes because of work. 14 (17.1%) never missed classes because of work. These findings suggest that while there is no significant relationship found between the amount of work students do and their academic performance, it does indicate that these students are missing out on the quality of the academic experience in terms of community engagement and networking opportunities. It also intuitively explains the high reliance upon online course materials. It has strong implications for course designers as to how to embed generic skills into courses such as the ability to articulate and communicate effectively ones view verbally in a group situation, for example.

Second it was of interest to the authors to discover the amount of course participation of working students. Students were asked about their class participation selections for the prerequisite compulsory accounting subject ACCY201 taken the previous session. This subject required students to undertake two one hour lectures per week and a compulsory one hour tutorial. Lectures were repeated in evening to accommodate part time students, and tutorial times had evening offerings. In addition, students had access to online lecture notes, a text book, tutorial questions and solutions, additional readings and the opportunity to visit tutors and lecturers during their consultation hours. As tutorial participation is compulsory, it is of interest to the authors of this study to discover the amount and nature of voluntary participation students are engaging in, given the demands of paid employment on their time.

With respect to lecture attendance, 4% of students say they never attend lectures, 6.1% attend only sometimes, 40.4% attend most of the time, and 49.5% always attend. From this data it is indicated that while not as highly utilized as desirable, students still find the lecture format beneficial to the students. However, it is observed that their style of participation is moving away from traditional note taking

during lectures. Students were asked to indicate how often they took written notes during lectures. Only 40.4% of students said always, while a low 36.4% indicated they took written notes most of the time. 18.2% of students took notes only sometimes, and 5.1% never took written notes.

Another move away from traditional study methods is indicated by student use of their prescribed text book. Students were asked how often they read their text. Out of the 100 pilot students surveyed, 97 valid responses were received to the question “please indicate your involvement in the spring session 2005 of how often you read the text book”. Students that indicated they read the text book always were 28 out of 97 (28.9%), those who read it most of the time were 41 out of 97 (42.3%), while those admitting to reading it only sometimes were 27 out of 97 students or (27.8%) and one student (1%) said they never read the text book.

An explanation for the lack of note taking in lectures and reading the text book is offered by the students’ use of online lecture notes. These were not those supplied by the text book publisher, but those written uniquely for the course by the subject coordinator and teaching team. When students surveyed were asked the question how often they used the online lecture notes provided, 99 out of 100 gave a valid response to the question. 81 out of 99 students (81.8%) indicated they always used the online lecture notes. 16 out of 99 students (16.2%) indicated they used online lecture notes most of the time, while 2 out of 99 students (2%) indicated they only sometimes used online lecture notes. Reliance on these notes was much greater than for lectures and textbooks. Students were not asked why they did not read the book, and this is identified as an area of interest for further research. However, as multiple copies of the textbook are available from the library, and there is an active second hand book market, it is the view of the authors that all students had access to the book and so the socio-economic circumstance of affording the book is not considered predominant.

These observations are significant because traditional work load models of academics require resources to be spent on traditional modes of delivery such as face to face lectures. While there are pedagogical imperatives that favour this format such as a synchronous engagement of knowledge building, these findings question the proportion of preparation given to face to face lectures as opposed to online resources when students are most reliant on online materials. This is argued that further research is needed into the effectiveness of various styles of online course material delivery in the accounting discipline as opposed to face to face lectures.

5. Conclusions

This pilot study examines the relationship between employment and study of accounting students in Australia and has ramifications for the nature of accounting program delivery in the Australian context to a student population actively participating in the paid work force, and the quality of university education experience with which the students can engage.

Limitations of this study are acknowledged to include first the use of self reporting by students of lecture attendance, text book use and time spent travelling. Secondly, the small sample size of the pilot study is acknowledged. Further research at different degree stages with a wider sample is identified for future research. Thirdly, this study was conducted at a regional university in Australia, and a comparative study at a metropolitan university would confirm whether the findings can be generalized.

This initial investigation did not find a direct significant relationship between the hours worked and student academic performance in accounting. However a significant positive relationship between shift workers and academic performance was revealed that offers no obvious explanation. This is identified as an area for further investigation.

With respect to the nature of academic accounting programs in Australia, in this study students recorded a preference for online materials. This challenges the efficiency and effectiveness of traditional forms of delivery being lectures and use of a textbook. Students indicated their inability to attend lectures due to work commitments and their heavy reliance on online lecture notes indicates the flexibility of this delivery as needed. This has two implications. First, it identifies a needed research area into the effectiveness of various styles of online course delivery in accounting programs and its implications for the effective embedding of generic skills needed for a profession such as accounting. Second it raises questions as to the value to students of tertiary accounting textbooks in their present form in terms of the practical application of them to student learning and course design. This is identified as an area of further research. Thirdly, it questions the current academic workload

assumptions intrinsic to academic employment regarding time spent in face to face lecturing as opposed to time needed for online course material development.

With respect to the quality of university education experience of accounting students, there are indicators that accounting students may not be optimally engaging in a full university experience because of work pressures. There were 9% of students found to be working fulltime and studying full time simultaneously. The fact that many choose not to present on campus but access materials online does not afford them the opportunities associated with campus life including generic skill development of a social nature, networking with their future professional peers, and engagement with the benefits of cultural exchange with an international student body. In the light of the findings by Vickers et al. (2003) if students work more than 20 hours per week they are 160%-200% more likely to drop out of university, this has implications for attrition rates in accounting courses also.

The authors contest that addressing the mismatch of course delivery and economic constraints of students may assist in reducing in the longer term barriers to accounting students. This will aid in meeting the demand for good Australian accounting graduates.

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