

# HOW UNIVERSITY STUDENTS WERE PLANNING TO STUDY INTRODUCTORY MICROECONOMICS? WERE THEIR STUDY PLANS REALISED?

by

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## 1 Introduction

This paper presents the questionnaire responses of students studying first year Introductory Microeconomics in the Department of Economics at Monash University across three campuses Caulfield, Clayton and Peninsula. The aim was to identify how students were planning to study Microeconomics and whether their plans were realised. In order to derive effective strategies to encourage approaches to study consistent with the changes in curriculum and teaching methods knowledge of the learning methodologies of students was essential.

## 2 Theoretical Model

In the last few years economics courses, in Australia and around the world, have been subjected to greater inspection and assessment, which has encouraged experimentation with teaching methods. In Australia, a survey conducted by Lee, Burgess and Kniest (1996) showed that lecturers themselves wished to restructure the organisation and teaching in first year economics. What has motivated the restructuring of teaching economics? Most importantly, the declining number of students studying economics (Lewis and Norris, 1997; Millmow, 2000; Millmow 1997; Fournier and Sass, 2000; Alvey and Smith, 2000, Ashworth and Evans, 2000) has encouraged the development of processes to combat the negative perception of economics and the advancement of innovative methods of teaching (Johnston, James, Lye and McDonald, 2000; Ward, Crosling, Marangos, 2001; Marangos 2000; Ward, Crosling, Marangos, 2000).

However, the effectiveness of these changes depended on the already acquired approaches to study. Students entering university have developed methods of learning, which could be characterised as successful from the student's point of view, since they were the most important factor influencing entry to tertiary education. A knowledge of

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the methods of learning by students which have been developed in high school were essential in determining coherent changes in methods of teaching at university level which enhance learning. It could be argued that failure of new teaching methods were the result of inconsistencies and unrealistic assumptions regarding the learning skills of students entering university. Research and the literature are silent on this issue: How were university students planning to study economics?

### 3 Empirical Results

#### 3.1 *How students were planning to study Introductory Microeconomics? Aggregate Survey Results*

Students studying first year Introductory Microeconomics in the Department of Economics at Monash University across three campuses Caulfield, Clayton and Peninsula were asked to complete a questionnaire in the first tutorial. From a total enrolment of 1698, we received 1283 valid student responses, achieving a response rate of 75.5%. The responses indicated that 49.7% were male and 50.3% female, international students were 19.9% of the sample population and domestic students 80.1%. Students from an English speaking background 64.9% and non-English speaking background 35.1%. The subject was compulsory for 86.9% of the students and for 13.1% it was an elective. The distribution between campuses was Clayton 47.8%, Caulfield 46.6% and Peninsula 5.5%. The survey results are demonstrated in Table 1.

From the responses we can determine the strategies the students were planning to adopt during the course of studying Introductory Microeconomics. First of all, 89.4% of the respondents wanted to perform significantly well in the class with a median of 4.67 and a SIR of 0.55. Only 39.9% of the students set goals before studying while 37.3% of students set goals sometimes (median 3.23 and SIR 0.75). Eighty-eight point two percent of the students will attempt to different degrees memorise the study material (median 3.65, SIR 0.73) reinforcing the strategy of spoon-feeding from high school. Eighty-eight point four percent (median 4.59, SIR 0.57) of the students were planning to attend all tutorials but only 68.6% (median 3.92, SIR 0.62) were consistent/often planning to do the necessary reading before the class. By adding the sometimes response the percentage increases to 93.4. Eighty-nine point three percent of the students (median 3.76, SIR 0.71) were planning to use their lecture and tutorial notes in different degrees in their revision and that 96.6% (median 4.6, SIR 0.59) would most of the time obtain the lecture notes if they missed a lecture. Ninety-five point three percent (median 4.83, SIR 0.34) of the respondents would at least often try to do their best in the assessment tasks, reflecting an 80.5% (median 2.52, SIR 0.82) response in studying most of the time independent when the internal study work is due. There is a high motivation by respondents 82.3% (median 4.27, SIR 0.6) to study the concepts that have not been understood while 71.9% (median 4.04, SIR 0.64) would approach the lecturer or the tutor for assistance. Seventy-three point five percent of the students (median 4.27, SIR 0.74) were planning to study alone while only 26.5% showed some

TABLE 1  
AGGREGATE SURVEY RESULTS

	Consistent (5)	Often (4)	Sometimes (3)	Rarely (2)	Does not (1)	Median	Semi inter- quartile range (SIR) <sup>2</sup>
1. I want to do significantly well in this class	59.9%	29.5%	8.2%	1.3%	1.1%	4.67	0.55
2. Before I start studying, I set myself goals for what I want to achieve in each study session.	13.6%	26.3%	37.3%	15.7%	7.1%	3.23	0.75
3. When I study I try to memorise.	20.1%	35.1%	33.0%	9.0%	2.7%	3.65	0.73
4. I am going to attend all the lectures and tutorials	54.9%	33.5%	8.9%	1.6%	1.0%	4.59	0.57
5. I am going to do all the reading that is required before attending tutorials and lectures	24.4%	44.2%	24.8%	5.6%	1.1%	3.92	0.62
6. After I take notes in the lecture or tutorial I aim to revise them	21.6%	38.5%	29.2%	9.2%	1.5%	3.76	0.71
7. If I miss a lecture, I will make sure that I obtain the notes	55.6%	31.1%	9.9%	2.7%	0.7%	4.6	0.59
8. I will try to do my best on all the assessment tasks	74.6%	20.7%	3.5%	0.7%	0.4%	4.83	0.34
9. I will only work on the subject when assignments are due or when I have a test to study for	4.3%	15.2%	31.3%	30.0%	19.2%	2.52	0.82
10. If I don't understand a concept, I will read up on it	40.1%	42.2%	15.5%	1.7%	0.5%	4.27	0.6
11. If I don't understand a concept, I will ask the lecturer or tutor for assistance	32.1%	39.3%	21.9%	5.5%	1.3%	4.04	0.69
12. I study best when I am alone	43.0%	30.5%	22.2%	3.2%	1.1%	4.27	0.74
13. When I study, I try to relate ideas and concepts to each other.	24.3%	43.9%	27.2%	3.9%	0.8%	3.91	0.62
14. If I can I want to get better grades than most of the other students	47.4%	34.9%	12.3%	3.9%	1.5%	4.43	0.63
15. Although I plan to study hard, I know that I will slack in the semester	9.5%	21.7%	36.6%	20.5%	11.6%	2.99	0.82

1 Median is an indication of the central point in the distribution of responses. It is calculated by assigning to each of the five possible answers, values from 5 for the best to 1 for the worst response. The higher the median for a particular question, the more the bulk of the students will have responded towards the best outcome of the scale.

2 The semi-interquartile range (SIR) is an indication of the spread of responses in a distribution. It is also calculated by using the same values for the median. The small SIR means that students are in agreement on the question.

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interest in studying with other students. Students often link ideas and concepts together, 68.2% (median 3.91, SIR 0.62). Eighty-two point three percent (median 4.43, SIR 0.63) of the students want to get good grades but only 32.1% were confident that their planning for hard study would be realised, by adding the sometimes response it increases to 68.7% (median 2.99, SIR 0.82).

Overall, a very high percentage of students wanted to do their best in the assessment tasks, achieve good marks and generally perform well in the subject, indicating a high motivation and interest in Introductory Microeconomics. They were planning to attend all lectures and tutorials, obtain any notes if they missed a class and mostly planning to study their notes throughout the semester independently when the assignments were due. However, a lesser percentage of students would study before the class, but were motivated to study concepts not understood and even ask for the assistance from the lecturer or tutor. Students were planning to study by linking ideas and concepts, which could further be explored by introducing the construction of concept maps. Nearly, three quarters of the students were planning to study alone and even a higher percentage would attempt to memorise, reflecting the low percentage of students setting study goals. Lastly, nearly only one third of the students were confident that their plans of hard study would be materialised.

### *3.2 How students were planning to study Introductory Microeconomics Disaggregate Survey Results Based on Campuses.*

The survey results can be disaggregated between campuses. The motivation behind the differentiation on the basis of campuses is linked with the possibility to pursue a major in economics. At the Clayton campus students can major in economics while at the remaining two campuses students do not have this option. Students enrolling in a degree on a particular campus were aware of the availability of a major in economics. Thus, campus specific responses can reveal how students planned to study Introductory Microeconomics on the basis of student preferences with regard to their intention to major in economics. Could it be deduced that students enrolling in Caulfield and Peninsula were planning to adopt different study strategies than the students at the Clayton campus who could major in economics?

#### Clayton Survey Results: Major in Economics Available.

The Clayton students enrolled in economics consisted of 47.8% of the total sample. From a total enrolment of 796, we received 565 valid student responses, achieving a response rate of 71%. The responses indicated that 57.3% were male and 42.7% female, international students were 10.9% of the sample population and domestic students 89.1%. Students from an English speaking background 71.7% and non-English speaking background 28.3%. The subject was compulsory for 84.2% of the students and for 15.8% it was an elective. The survey results are demonstrated in the following table.

TABLE 2  
CLAYTON SURVEY RESULT

	Consistent (5)	Often (4)	Sometimes (3)	Rarely (2)	Does not (1)	Median	Semi inter- quartile range (SIR)
1. I want to do significantly well in this class	65.2%	26.5%	6.9%	0.7%	0.7%	4.73	0.49
2. Before I start studying, I set myself goals for what I want to achieve in each study session.	12.0%	26.4%	37.3%	16.1%	8.1%	3.19	0.74
3. When I study I try to memorise.	21.0%	33.5%	34.9%	8.5%	2.1%	3.63	0.73
4. I am going to attend all the lectures and tutorials	54.1%	34.0%	8.5%	1.9%	1.4%	4.58	0.58
5. I am going to do all the reading that is required before attending tutorials and lectures	26.1%	44.0%	23.1%	6.0%	0.9%	3.96	0.63
6. After I take notes in the lecture or tutorial I aim to revise them	23.0%	38.6%	28.6%	8.4%	1.4%	3.80	0.71
7. If I miss a lecture, I will make sure that I obtain the notes	53.6%	31.8%	10.5%	3.2%	0.9%	4.57	0.60
8. I will try to do my best on all the assessment tasks	75.3%	19.2%	4.4%	0.9%	0.2%	4.84	0.33
9. I will only work on the subject when assignments are due or when I have a test to study for	4.3%	15.4%	31.8%	29.5%	19.0%	2.55	0.81
10. If I don't understand a concept, I will read up on it	40.1%	42.6%	15.3%	1.8%	0.2%	4.27	0.6
11. If I don't understand a concept, I will ask the lecturer or tutor for assistance	33.3%	40.1%	21.0%	4.2%	1.4%	4.08	0.66
12. I study best when I am alone.	42.0%	30.9%	22.9%	3.2%	1.1%	4.24	0.75
13. When I study, I try to relate ideas and concepts to each other.	23.5%	44.0%	28.3%	3.4%	0.9%	3.90	0.62
14. If I can I want to get better grades than most of the other students	50.5%	34.6%	10.9%	3.0%	0.9%	4.51	0.61
15. Although I plan to study hard, I know that I will slack off in the semester	11.1%	22.6%	35.3%	20.3%	10.7%	3.04	0.84

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Clayton students responding to the questionnaire revealed that 91.7% with a median of 4.73 and SIR 0.49 (Aggregate Result 89.4%, median 4.67, SIR 0.55) wanted to do significantly well in the class. Only 38.4 % of the students with a median of 3.19 and SIR 0.74 (Aggregate result: 39.9% median 3.23, SIR 0.75) set goals before studying, while 37.3% replied sometimes (Aggregate result: 37.3%). Eighty-nine point four percent of students with a median 3.63 and SIR 0.74 will attempt to different degrees memorise the study material (Aggregate result: 88.2%, median 3.65, SIR 0.73). Eighty-eight point one percent of the students with a median 4.58 and SIR 0.58 (Aggregate result: 88.4%, median 4.59, SIR 0.57) were planning to attend all tutorials. But only 70.1% with a median 3.96, SIR 0.63 (Aggregate result 68.6%, median 3.92, SIR 0.62) were always planning to do the necessary reading before the class. By adding the sometimes the percentage increases to 93.2 (Aggregate result 93.4 %). Eighty-eight point two percent of the respondents with a median 3.8, SIR 0.71 (Aggregate result: 89.3%, median 3.76, SIR 0.71) revealed that at least sometimes they would revise their notes and 95.9 % with a median 4.57, SIR 0.6 (Aggregate result 96.6%, median 4.6, SIR 0.59) would obtain most of the times the notes if they missed a lecture. Ninety-four point five percent with a median 4.84, SIR 0.33 (Aggregate result: 95.3%, median 4.83, SIR 0.34) would often try to do their best in the assessment tasks, while 80.3 with a median 2.55, SIR 0.81 (Aggregate result: 80.5%, median 2.52, SIR 0.82) of the respondents would study most of the time independently of when the assessment was due. Eighty-two point seven percent with a median 4.27, SIR 0.6 (Aggregate result: 82.3%, median 4.27, SIR 0.6) would read up a concept if it was not understood the first time while 73.4 % with a median 4.08, SIR 0.66 (Aggregate result: 71.9%, median 4.04, SIR 0.64) would also seek the assistance of the lecturer or tutor. Seventy-two point nine percent of the respondents with a median 4.24, SIR 0.75 (Aggregate result: 73.5%, median 4.27, SIR 0.74) were planning to study alone and only 27.2 % (Aggregate result: 26.5%) showed some interest in studying with others. Sixty-seven point five percent with a median 3.9, SIR 0.62 of the respondents (Aggregate result: 68.2%, median 3.91, SIR 0.62) often link ideas and concepts together when they studied. Eighty-five point one percent with a median 4.51, SIR 0.61 (Aggregate result: 82.3%, median 4.43, SIR 0.63) wanted to get better grades than most of the other students but only 31% with a median 3.04, SIR 0.84 (Aggregate result: 32.1%, median 2.99, SIR 0.82) were confident that their study plans would be realised while 33.7% (Aggregate result: 31.2%) believed that at the end they would slack off.

Overall, the Clayton students' responses, students who have the opportunity to major in economics, were very close to the aggregate results. A few important points were that a higher percentage wanted to do well in the subject probably reflecting those students who have decided a major in economics, but surprisingly a higher percentage believed in the end they would slack off.

TABLE 3  
CAULFIELD SURVEY RESULTS

	Consistent (5)	Often (4)	Some- times (3)	Rarely (2)	Does not (1)	Median	Semi inter- quartile range (SIR)
1. I want to do significantly well in this class	55.3%	32.6%	9.1%	1.7%	1.2%	4.60	0.58
2. Before I start studying, I set myself goals for what I want to achieve in each study session.	15.3%	25.9%	37.6%	15.3%	5.9%	3.27	0.76
3. When I study I try to memorise.	19.4%	35.7%	32.6%	9.3%	3.0%	3.64	0.73
4. I am going to attend all the lectures and tutorials	55.6%	33.2%	9.0%	1.6%	0.6%	4.60	0.57
5. I am going to do all the reading that is required before attending tutorials and lectures	24.1%	44.9%	25.3%	4.5%	0.9%	3.92	0.61
6. After I take notes in the lecture or tutorial I aim to revise them	20.6%	38.9%	29.4%	9.8%	1.4%	3.74	0.71
7. If I miss a lecture, I will make sure that I obtain the notes	57.4%	30.5%	9.3%	2.3%	0.5%	4.63	0.57
8. I will try to do my best on all the assessment tasks	73.9%	22.3%	2.8%	0.5%	0.5%	4.82	0.36
9. I will only work on the subject when assignments are due or when I have a test to study for	3.9%	15.1%	30.9%	30.4%	19.6%	2.50	0.81
10. If I don't understand a concept, I will read up on it	40.4%	42.4%	14.9%	1.7%	0.6%	4.27	0.6
11. If I don't understand a concept, I will ask the lecturer or tutor for assistance	30.9%	38.9%	22.3%	6.8%	1.1%	4.01	0.71
12. I study best when I am alone.	43.7%	29.6%	22.3%	3.1%	1.3%	4.29	0.75
13. When I study, I try to relate ideas and concepts to each other.	25.5%	43.3%	26.3%	4.2%	0.6%	3.94	0.63
14. If I can I want to get better grades than most of the other students	44.2%	36.1%	13.0%	4.5%	2.2%	4.34	0.64
15. Although I plan to study hard, I know that I will slack off in the semester	7.5%	21.5%	37.9%	21.0%	12.0%	2.95	0.79

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Caulfield Survey Results: Major in Economics Unavailable.

The Caulfield students enrolled in Introductory Microeconomics consisted of 46.6% of the total sample. From a total enrolment of 809, we received 636 valid student responses, achieving a response rate of 79%. The responses indicated that 43.6% were male and 56.4% female, international students were 25.5% of the sample population and domestic students 75.5%. Students from an English speaking background 60.3% and non-English speaking background 39.7%. The subject was compulsory for 89.7% of the students and for 10.3% it was an elective. The survey results are demonstrated in Table 3.

Caulfield students who cannot major in economics responding to the questionnaire revealed that 87.9 % with a median of 4.60 and SIR 0.58 (Aggregate Result 89.4%, median 4.67, SIR 0.55) wanted to do significantly well in the class. Only 41.2 % of the students with a median of 3.27 and SIR 0.76 (Aggregate result: 39.9% median 3.23 and SIR 0.75) set goals before studying, while 37.6% replied sometimes (Aggregate result: 37.3%). Eighty-seven point seven percent of students with a median 3.63 and SIR 0.73 will attempt to different degrees memorise the study material (Aggregate result: 88.2%, median 3.65, SIR 0.73). Eighty-eight point eight percent of the students with a median 4.60 and SIR 0.57 (Aggregate result: 88.4%, median 4.59, SIR 0.57) were planning to attend all tutorials. But only 69% with a median 3.92, SIR 0.61 (Aggregate result 68.6%, median 3.92, SIR 0.62) were always planning to do the necessary reading before the class. By adding the sometimes the percentage increases to 94.5% (Aggregate result 93.4%). Eighty-eight point nine percent of the respondents with a median 3.74, SIR 0.71 (Aggregate result: 89.3%, median 3.76, SIR 0.71) revealed that at least sometimes they would revise their notes and 97.2 % with a median 4.63, SIR 0.57 (Aggregate result 96.6%, median 4.6, SIR 0.59) would obtain most of the times the notes if they missed a lecture. Ninety-six point two percent with a median 4.82, SIR 0.36 (Aggregate result: 95.3%, median 4.83, SIR 0.34) would often try to do their best in the assessment tasks, while 80.9 with a median 2.50, SIR 0.81 (Aggregate result: 80.5%, median 2.52, SIR 0.82) of the respondents would study most of the time independently of when the internal study work was due. Eighty-two point eight percent with a median 4.27, SIR 0.6 (Aggregate result: 82.3%, median 4.27, SIR 0.6) would read up a concept if it was not understood the first time while 69.8% with a median 4.01, SIR 0.71 (Aggregate result: 71.9%, median 4.04, SIR 0.64) would also seek the assistance of the lecturer or tutor. Seventy-three point three percent of the respondents with a median 4.29, SIR 0.75 (Aggregate result: 73.5%, median 4.27, SIR 0.74) were planning to study alone and only 26.7% (Aggregate result: 26.5%) showed some interest in studying with others. Sixty-eight point eight percent with a median 3.94, SIR 0.63 of the respondents (Aggregate result: 68.2%, median 3.91, SIR 0.62) often link ideas and concepts together when they studied. Eighty point three percent with a median 4.34, SIR 0.64 (Aggregate result: 82.3%, median 4.43, SIR 0.63) wanted to get better grades than most of the other students but only 33% with a median 2.95, SIR 0.79 (Aggregate result: 32.1%, median 2.99, SIR 0.82) were confident that their study plans would be realised while 22% (Aggregate result: 31.2%) believed that at the end they would slack off.



TABLE 4  
PENINSULA SURVEY RESULTS

	Consistent (5)	Often (4)	Sometimes (3)	Rarely (2)	Does not (1)	Median	Semi inter- quartile range (SIR)
1. I want to do significantly well in this class	59.1%	25.8%	10.6%	1.5%	3.0%	4.65	0.60
2. Before I start studying, I set myself goals for what I want to achieve in each study session.	10.9%	29.7%	34.4%	15.6%	9.4%	3.23	0.76
3. When I study I try to memorise.	19.7%	42.4%	21.2%	10.6%	6.1%	3.79	0.74
4. I am going to attend all the lectures and tutorials	55.4%	30.8%	12.3%	0.0%	1.5%	4.60	0.59
5. I am going to do all the reading that is required before attending tutorials and lectures	12.1%	39.4%	31.8%	12.1%	4.5%	3.54	0.71
6. After I take notes in the lecture or tutorial I aim to revise them	20.0%	33.8%	32.3%	10.8%	3.1%	3.61	0.75
7. If I miss a lecture, I will make sure that I obtain the notes	54.5%	30.3%	10.6%	3.0%	1.5%	4.58	0.61
8. I will try to do my best on all the assessment tasks	75.8%	18.2%	3.0%	1.5%	1.5%	4.84	0.33
9. I will only work on the subject when assignments are due or when I have a test to study for	7.6%	13.6%	30.3%	30.3%	18.2%	2.55	0.83
10. If I don't understand a concept, I will read up on it	37.9%	36.4%	22.7%	1.5%	1.5%	4.17	0.69
11. If I don't understand a concept, I will ask the lecturer or tutor for assistance	33.8%	35.4%	26.2%	3.1%	1.5%	4.04	0.74
12. I study best when I am alone.	43.8%	37.5%	15.6%	3.1%	0.0%	4.33	0.63
13. When I study, I try to relate ideas and concepts to each other.	18.8%	48.4%	26.6%	4.7%	1.6%	3.85	0.58
14. If I can I want to get better grades than most of the other students	51.6%	26.6%	17.2%	4.7%	0.0%	4.53	0.70
15. Although I plan to study hard, I know that I will slack off in the semester	15.9%	15.9%	34.9%	17.5%	15.9%	2.98	0.95

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Overall, the Caulfield student responses are very close to the aggregate results as well. Some important points to highlight is that there was a higher percentage of students in setting goals before studying, in trying to do their best in the assessment tasks, but less students would seek assistance from the lecturer or tutor. Surprisingly, nearly 10% less than the aggregate responses believed at the end they would slack off.

#### Peninsula Survey Results: Major in Economics Unavailable.

The Peninsula students enrolled in economics consisted of only 5.5% of the total sample. From a total enrolment of 93, we received 66 valid student responses, achieving a response rate of 71%. The responses indicated that 42.6% were male and 57.4% female, international students were 44.3% of the sample population and domestic students 55.7%. Students from an English speaking background 49.2% and non-English speaking background 50.8%. The subject was compulsory for 93.9% of the students and for 6.1% it was an elective. The survey results are demonstrated in Table 4.

Peninsula students, like Caulfield students, cannot major in economics responding to the questionnaire revealed that 84.9% with a median of 4.65 and SIR 0.60 (Aggregate Result 89.4%, median 4.67, SIR 0.55) wanted to do significantly well in the class. Only 40.6% of the students with a median of 3.23 and SIR 0.76 (Aggregate result: 39.9% median 3.23 and SIR 0.75) set goals before studying, while 34.4% replied sometimes (Aggregate result: 37.3%). Eighty-three point three percent of students with a median 3.79 and SIR 0.74 will attempt to different degrees memorise the study material (Aggregate result: 88.2%, median 3.65, SIR 0.73). Eighty-six point two percent of the students with a median 4.60 and SIR 0.59 (Aggregate result: 88.4%, median 4.59, SIR 0.57) were planning to attend all tutorials. But only 51.5% with a median 3.54, SIR 0.71 (Aggregate result 68.6%, median 3.92, SIR 0.62) were always planning to do the necessary reading before the class. By adding the sometimes the percentage increases to 83.3% (Aggregate result 93.4%). Eighty-six point six percent of the respondents with a median 3.61, SIR 0.75 (Aggregate result: 89.3%, median 3.76, SIR 0.71) revealed that at least sometimes they would revise their notes and 95.4% with a median 4.58, SIR 0.61 (Aggregate result 96.6%, median 4.6, SIR 0.59) would obtain most of the times the notes if they missed a lecture. Ninety-four percent with a median 4.84, SIR 0.33 (Aggregate result: 95.3%, median 4.83, SIR 0.34) would often try to do their best in the assessment tasks, while 78.8 with a median 2.55, SIR 0.83 (Aggregate result: 80.5%, median 2.52, SIR 0.82) of the respondents would study most of the time independently of when the internal study work was due. Seventy-four point three percent with a median 4.17, SIR 0.69 (Aggregate result: 82.3%, median 4.27, SIR 0.6) would read up a concept if it was not understood the first time while 69.2% with a median 4.04, SIR 0.74 (Aggregate result: 71.9%, median 4.04, SIR 0.64) would also seek the assistance of the lecturer or tutor. Eighty-one point three percent of the respondents with a median 4.33, SIR 0.63 (Aggregate result: 73.5%, median 4.27, SIR 0.74) were planning to study alone and only 18.7% (Aggregate result: 26.5%) showed at least some interest in studying with others. Sixty-seven point two percent with a median 3.85, SIR 0.58 of the respondents (Aggregate result: 68.2%, median 3.91, SIR 0.62) often link ideas and

concepts together when they studied. Seventy-eight point two percent with a median 4.53, SIR 0.70 (Aggregate result: 82.3%, median 4.43, SIR 0.63) wanted to get better grades than most of the other students but only 33.4% with a median 2.98, SIR 0.95 (Aggregate result: 32.1%, median 2.99, SIR 0.82) were confident that their study plans would be realised while 31.8% (Aggregate result: 31.2%) believed that at the end they would slack off.

Overall, the Peninsula responses were lower than the aggregates except that a higher percentage of students set goals before studying and a higher percentage of students would memorise.

### Comparing Survey Results Across Campuses

By adding up the positive responses (consistent and often) for each campus we can derive the results in Table 5.

Clayton students answered positively with a highest percentage in the following six questions: I want to do significantly well in this class, I am going to do the reading that is required before attending tutorials and lectures, after I take notes in the lecture or tutorial I aim to revise them, if I do not understand a concept I will read on it, if I do not understand a concept I will ask the lecturer or tutor for assistance and if I can I want to get better grades than most of the other students. At the same time, Clayton students achieved the highest percentage in the question: "Although I plan to study hard, I know that I will slack off in the semester". Meanwhile, Caulfield students outperformed the other campuses on the following seven questions: Before I start studying, I set myself goals for what I want to achieve in each study session, I am going to attend all the lectures and tutorials, if I miss a lecture, I will make sure that I obtain the notes, I will try to do my job on all the assessment tasks and when I study I try to relate ideas and concepts to each other: Peninsula students had the highest percentage in the negative formed questions: "when I study I try to memorise" and to the question: "I study best when I am alone". In summary, it does not appear that there are substantial differences between campuses, in other words in whether students have the opportunity to do a major in economics. The differences in percentages range from 2.2 to 8.4. The exception is the question: "I am going to do the reading that is required before attending tutorials and lectures" where there was an 18.6 points of difference between Clayton (70.1%) and Peninsula (51.5%) responses.

### *3.3 Survey Results of A Sample of Caulfield Students at the End of the Semester. Were the Study Plans Realised?*

It was pointed out that the survey was conducted in the first tutorial of the semester and reflected the study plans and motivation of students across campuses in studying Introductory Microeconomics. Another survey with the same questions (adjusted for the new time framework) took place at the end of the semester of 207 students of the Caulfield campus, who cannot major in economics. The responses indicated that 38.6% were male and 61.4% were female, international students 34.3% and domestic students 65.7%. Students from an English speaking background 53.9% and non-English speaking background 46.1%. The subject was compulsory for 95.1% of the students and

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for 4.9% it was an elective. The survey results are demonstrated in the following table. In the parenthesis are the original Caulfield survey results from the beginning of the semester.

At the end of the semester Caulfield students in the question "I think I have done significantly well in the class" reduced the median from 4.60 to 2.71. The median for the question of setting study goals before each study session was also reduced from 3.37 to 2.27. Surprisingly, students' memorisation of the concepts was reduced reflected in the reduction of the median from 3.64 to 3.06. Students attended fewer lectures and tutorials than planned with a median reduction from 4.60 to 3.87, prepared less than planned with a median from 3.92 to 2.69 and also revised their notes less than planned with a median 3.74 to 2.63. There was less interest in obtaining lecture notes if they missed a lecture reducing the median from 4.63 to 3.94, did not try their best in the assessment tasks with a median from 4.82 to 4.04. However, students studied more than just when the internal assessment was due increasing the median from 2.50 to 3.03. They did not read up a concept when it was not understood, median dropped from 4.27 to 3.61 and they did not ask the assistance of the lecturer or tutor substantially reducing the median from 4.01 to 2.79. Twenty-three point five percent of the students studied in a group while originally only 4.4 % were planning to study in a group. Students reduced the median for the question of relating ideas and concepts when studying from 3.94 to 3.18 and also fewer students argued that they deserve to get better grades than most of their fellow students decreasing the median from 4.34 to 3.06. Finally, there was a reduction of students arguing that they slacked off during the semester reducing the median from 2.95 to 2.76.

Overall, it is demonstrated from the responses of the Caulfield students that at the end of the semester their study plans were not materialised. In all questions there was a reduction in the median demonstrating their planning study strategies were not implemented as expected. However, their had to memorise less, had to work harder throughout the semester as the increase in the median of questions 3, 9, 15 demonstrated. This might be due to the nature of studying economics, which cannot be memorised easily and requires study work throughout the semester since it is based on interrelated study-building blocks.

TABLE 5  
POSITIVE RESPONSES ACROSS CAMPUSES

	Clayton (47.8% of the sample)	Caulfield (46.6% of the sample)	Peninsula (5.5% of the sample)
1. I want to do significantly well in this class	91.7%	87.9%	84.9%
2. Before I start studying, I set myself goals for what I want to achieve in each study session.	38.4%	41.2%	40.6%
3. When I study I try to memorise.	54.5%	55.1%	62.1%
4. I am going to attend all the lectures and tutorials	88.1%	88.8%	86.2%
5. I am going to do all the reading that is required before attending tutorials and lectures	70.1%	69.0%	51.5%
6. After I take notes in the lecture or tutorial I aim to revise them	61.6%	59.5%	53.8%
7. If I miss a lecture, I will make sure that I obtain the notes	85.4%	87.9%	84.8%
8. I will try to do my best on all the assessment tasks	94.5%	96.2%	94%
9. I will only work on the subject when assignments are due or when I have a test to study for	19.7%	19%	21.2%
10. If I don't understand a concept, I will read up on it	82.7%	82.8%	74.3%
11. If I don't understand a concept, I will ask the lecturer or tutor for assistance	73.4%	69.8%	69.2%
12. I study best when I am alone.	72.9%	73.3%	81.3%
13. When I study, I try to relate ideas and concepts to each other.	67.5%	68.8%	67.2%
14. If I can I want to get better grades than most of the other students	85.1%	80.3%	78.2%
15. Although I plan to study hard, I know that I will slack off in the semester	33.7%	29%	31.8%

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TABLE 6  
*SURVEY RESULTS OF A SAMPLE OF CAULFIELD STUDENTS AT THE END OF THE SEMESTER*

	Consistent (5)	Often	Some- times	Rarely	Does not	Median	Semi inter- quartile range (SIR)
1. I think I have done significantly well in this class	1.9% (55.3)	11.1% (32.6)	46.9% (9.1)	26.6% (1.7)	13.5% (1.2)	2.71 (4.60)	0.66 (0.58)
2. Before I started each study session, I had set myself goals for what I want to achieve in each study session.	3.4% (15.3)	8.7% (25.9)	31.1% (37.6)	30.1% (15.3)	26.7% (5.9)	2.27 (3.37)	0.82 (0.76)
3. When I studied for this subject, I tried to memorise all the concepts.	7.3% (19.4)	23.4% (35.7)	43.9% (32.6)	18.5% (9.3)	6.8% (3.0)	3.06 (3.64)	0.63 (0.73)
4. I have attended all the lectures and tutorials for this subject.	33.5% (55.6)	26.1% (33.2)	24.1% (9.0)	7.4% (1.6)	8.9% (0.6)	3.87 (4.60)	0.95 (0.57)
5. I came prepared (did all the readings) before attending tutorials and lectures.	2.4% (24.6)	15.9% (44.9)	39.1% (25.5)	27.5% (4.5)	15.0% (0.9)	2.69 (3.92)	0.73 (0.61)
6. After I took notes in the lecture or tutorial, I revised over them	3.4% (20.6)	14.3% (38.9)	36.9% (29.4)	30.0% (9.8)	15.3% (1.4)	2.63 (3.74)	0.74 (0.71)
7. If I missed a lecture, I obtained the notes	36.9% (57.4)	23.3% (30.5)	16.5% (9.3)	7.8% (2.3)	15.5% (0.5)	3.94 (4.63)	1.11 (0.57)
8. I did my best on all the assessment tasks	33.8% (73.9)	35.3% (22.3)	23.0% (2.8)	6.4% (0.5)	1.5% (0.5)	4.04 (4.82)	0.76 (0.36)
9. I only did work when assignments are were due and/or for the mid semester	8.9% (3.9)	21.7% (15.1)	41.4% (30.9)	19.2% (30.4)	8.9% (19.6)	3.03 (2.50)	0.71 (0.81)
10. If I didn't understand a concept, I read up on it.	15.5% (40.4)	38.6% (42.4)	33.8% (14.9)	10.1% (1.7)	1.9% (0.6)	3.61 (4.27)	0.69 (0.6)
11. If I didn't understand a concept, I asked the lecturer or tutor for assistance	7.3% (30.9)	15.6% (38.9)	38.0% (22.3)	24.4% (6.8)	14.6% (1.1)	2.79 (4.01)	0.76 (0.71)
12. I studied in a group.(I study best when I am alone)	7.8% (43.7)	15.7% (29.6)	22.1% (22.3)	31.9% (3.1)	22.5% (1.3)	2.36 (4.29)	0.93 (0.75)
13. When I studied for this subject, I tried to relate ideas and concepts to each other.	9.3% (25.5)	25.0% (43.3)	49.0% (26.3)	11.8% (4.2)	4.9% (0.6)	3.18 (3.94)	0.60 (0.60)
14. I deserve to get better grades for this subject than most of the other students	9.9% (44.2)	21.3% (36.1)	43.1% (13.0)	15.3% (4.5)	10.4% (2.2)	3.06 (4.34)	0.67 (0.64)
15. I have slacked off this semester	9.1% (7.5)	13.6% (21.5)	36.9% (37.9)	19.7% (21.0)	20.7% (12.0)	2.76 (2.95)	0.86 (0.79)

#### 4 Conclusion

The questionnaire responses of students studying Introductory Microeconomics across the three campuses Caulfield, Clayton and Peninsula at Monash University revealed that with regard to motivation and study plans there was no substantial difference between campuses. Students who do not have the opportunity to major in economics such as in the Caulfield and Peninsula campuses did not have a level of motivation or study plans so different to justify a "special" economics subject. Importantly, the study plans of students revealed a sound basis for implementing collaborative problem solving methodology of teaching as well the introduction of concepts maps. A method of teaching incorporating the aforementioned teaching processes could substantially reduce the perception of studying alone as the best technique and would reduce the intention to memorise. Student rely heavily on their notes for revising and that should not be considered a bad study strategy since the student's notes provide an explanation to the concepts as understood by the student. However, taking effective notes is a skill that has to be developed and be taught. An alarming result is that the motivation and study plans were not realised by the end of the semester. Further research is required to identify the reasons for the non-implementation of students' plans. It appears that the new methodologies of teaching are required to maintain and foster interest in the subject material throughout the semester. The foundation exists in the form of interest and motivation, it is up to us to exploit it and reverse the reducing trend in student numbers studying economics.

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