

Improving Student Achievement Through Overseas Experience

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Abstract - The opportunity to gain overseas experience has been a decade long feature of the undergraduate civil engineering program at Griffith University. The accreditation of Australian undergraduate engineering degrees requires the inclusion of a certain amount of industry experience. Civil engineering students have the option of gaining approximately 12 weeks of this experience in an overseas summer placement, called the Overseas Experience Program (OEP), between their third and fourth (final) years. Students planning to undertake OEP receive some language and culture classes during their third year. Typically about 30% of students participate in the OEP at the end of their third year. During their unpaid overseas experience participants are supervised by staff from an in-country partner university. The OEP includes eight countries in SE Asia, with Thailand and Vietnam recently being the most popular destinations. Development of the OEP partnerships has been funded by the Australian Government under grants from the University Mobility in the Asia Pacific region scheme. Anecdotal evidence has been that OEP participants have performed much better upon return to their studies. The final year academic performance of participants in the Overseas Experience Program has been compared with non-participants, confirming this view.

Index Terms – international experience, student performance, work experience.

I. INTRODUCTION

The accreditation of Australian undergraduate engineering degrees requires the inclusion of a certain amount of industry experience. The accrediting professional body, Engineers Australia, expresses this as an appropriate amount of exposure to professional engineering practice. [1] Griffith University like almost all Australian universities, requires students to gain at least 60 days of suitable industry experience during their engineering studies. This requirement is usually met by the student working for engineering organisations during their university vacations.

The civil engineering section at Griffith University, located on the University's Gold Coast campus has developed an alternative way for students to satisfy their professional engineering practice requirement.

Students have the option of undertaking a twelve week overseas summer industry placement, between their third

and fourth (final) years. The placement is called the Overseas Experience Program (OEP) [2]. Other universities offer overseas industry placements for their students [3].

At the beginning of their third year students are invited to nominate for the OEP. It is available to all students regardless of their Grade Point Average (GPA). Students successfully completing the program receive an annotation of their official Memorandum of Results.

II. THE OVERSEAS EXPERIENCE PROGRAM

The OEP encompasses eight countries in SE Asia, with Thailand and recently Vietnam being the most popular destinations. In each country Griffith Engineering has established a partnership with a local university. Development of the OEP partnerships has been funded by the Australian Government under grants from the University Mobility in the Asia Pacific region scheme (UMAP). Under the partnership arrangement, civil engineering staff at the local university take on a mentoring role for the Griffith students undertaking their OEP in that country. Mentoring extends to organizing the placement and accommodation for the students. In return Griffith Engineering offers to host groups of engineering students from the partner university.

The program consists of three parts:

- the preparation for the overseas experience, Students commencing the program undertake a preparatory language and culture program during the first two semester of their third year. This tutoring is provided by international research higher degree students in engineering.
- the actual period overseas At the conclusion of their end-of-year exams, students depart for their overseas destination The overseas experience part of the program consists of about ten weeks of mentored experience in the local civil engineering industry. The students are accompanied to their overseas destination by a Griffith staff member who liaises with the partner university.
- the reporting on the experience Students are required to keep a professional log of their experience and to formally write it up for assessment. This report is both for the partnering institution and for Griffith.

Students are not paid by the organization providing the engineering experience. The OEP is funded by the participating students, with some financial support from

Griffith University. To encourage Griffith students to spend part of their degree studies overseas, the University provides students undertaking approved international studies some financial support. The OEP is such an approved program. In addition to University support, the engineering school puts in some funds so that, in addition, to the preparatory language and culture tutorials, the cost of the international airfare is usually met. All in-country costs are the students' responsibility.

Student demand for placements in particular countries appears to be driven by the cost of the experience which is determined by the relative cost of living in the available destinations.

Each year the engineering school has successfully applied for an Australian Government UMAP grant to expand the OEP to a new country. Each grant has funded partnership building visits by Griffith engineering staff to the partner university. Also funded are the airfares and some living expenses for a small number of students in the first cohort to undertake their OEP in the target country.

III. OUTCOMES OF THE OVERSEAS EXPERIENCE PROGRAM

Typically about 30% of the civil engineering students participate in the OEP at the end of their third year. The outcomes for the students include both the satisfying of most of their industry experience requirement and the effects of the experience on the student.

Almost without exception, students appear to benefit personally by the experience. They have spent 3 months living in an international destination immersed in both the professional and cultural environment. As result of this, the anecdotal evidence has been that OEP participants have performed much better upon return to their studies. They also show great enthusiasm to extolling the virtues of undertaking the program to fellow students.

An additional benefit for participants has been that employers have shown a keen interest in students who have demonstrated initiative by undertaking the program.

IV. COMPARATIVE PERFORMANCE OF OVERSEAS EXPERIENCE PROGRAM STUDENTS

The performance in their final year of students who undertook the OEP in the summer of 2005-6 (between their penultimate and their final years) was compared with the performance of students who had chosen not to. The performance indicator chosen for the comparison was the Grade Point Average (GPA) for the courses studied.

Griffith University calculates the GPA of its students based on the grades they achieve in each of the courses they study. The weightings attached to the various grades are shown in Table 1

In each subject less than 10% of students would be awarded a High Distinction with the most frequently awarded grade being a Pass. An overall GPA of 6 or higher is regarded as indicating a very high level of achievement. In the year before commencing the program, students in the program had GPAs for the year ranging from 7 to 3.3.

TABLE 1
GRADE POINT AVERAGE WEIGHTINGS

Grade	GPA weighting
High Distinction	7
Distinction	6
Credit	5
Pass	4
Pass conceded	3
Fail	1.5
Fail, no submission	0

Table 2 compares the average GPA of OEP participants with that of all corresponding year students for the year before commencing the program, the year of the program, and their performance in the year following the program. It is interesting to note that students undertaking the OEP had a lower GPA than the average student. Experience has shown that the top students generally decided not to undertake the OEP preferring to gain their industry experience with local employers. Perhaps the higher flyers found it easier to gain paid industry experience positions.

TABLE 2
AVERAGE GPA FOR YEARS

Year	OEP participants	Non participants
Before the program	4.85	5.26
During the program	5.37	5.32
After the program	5.66	5.43

It is clear from Table 2 that on average students continuing their engineering degree, achieve better GPAs as they proceed through the program. Students who participated in the OEP made significant improvements to their GPAs in the year in which they were undertaking their preparatory language and culture studies. The improvement in performance continued in the year after they returned from their OEP.

When the semester by semester relative performance of non-OEP students in their final year is examined, see Table 3, students show an increase in performance over the previous year in each semester.

TABLE 3
AVERAGE IMPROVEMENT OF GPA IN FINAL YEAR

Semester	OEP participants	Non participants
First semester	11%	2%
Whole year	7%	3%

However OEP students have a much larger increase in performance in the semester after their return from OEP and

still have enhanced performance compared to non-participants in their final semester.

The increase in performance is not the same for all students. When the individual improvement of student GPAs is investigated it can be seen that the higher performing students had a lower percentage increase in their GPA compared to that for students with lower GPAs. (If a student has a GPA of 7 it cannot be improved.)

Figure 1 shows the relative GPA improvement of OEP participants in the year in which they undertook their preparatory language and culture classes compared to their performance the year before. A ratio greater than 1 indicates an improvement in GPA after participating in the OEP. While most students improved some students actually performed at a lower level

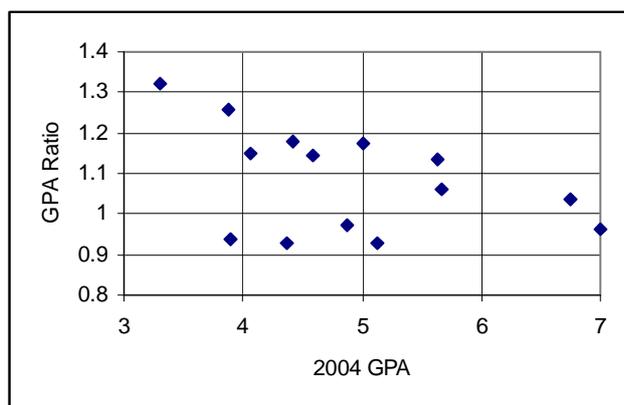


FIGURE 1

RELATIVE GPA IMPROVEMENT OF PARTICIPANTS WHILE UNDERTAKING OEP

When the performance in the year after undertaking their OEP is compared with their performance while undertaking OEP, a slightly different pattern emerges. Figure 2 shows the relative GPA performance of OEP participants in the first semester after completing their OEP compared to their performance over the previous year. All students with a GPA less than 6 improved their grades in the first semester after completing their IAP

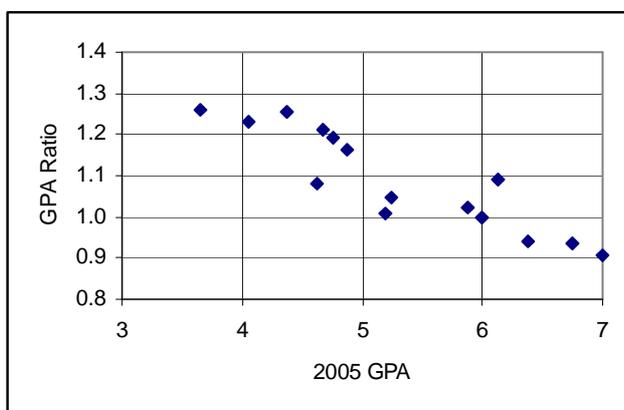


FIGURE 2

RELATIVE GPA IMPROVEMENT OF PARTICIPANTS FOR FIRST SEMESTER AFTER OEP

By comparison Figure 3 shows the relative improvement of GPA for students who did not participate in the OEP. There is a general pattern of improvement with lower performing students showing the most improvement. However there are a number of students with GPAs below 6 whose performance declined in the first semester of their final year.

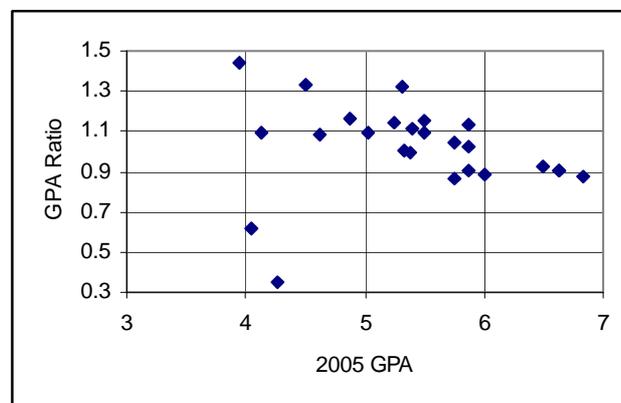


FIGURE 3

RELATIVE GPA IMPROVEMENT OF NON-PARTICIPANTS FOR FIRST SEMESTER AFTER OEP

Figure 4 shows the relative GPA performance of OEP participants in the year after completing their OEP compared to their performance over the previous year. All but the top three students from the previous year improved their grades.

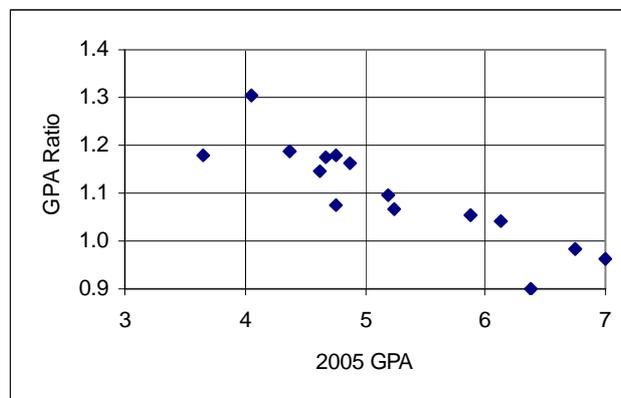


FIGURE 4

RELATIVE GPA IMPROVEMENT OF PARTICIPANTS FOR YEAR AFTER OEP

V. CONCLUSION

Students undertaking an Overseas Experience Program show a clear improvement in performance while participating in the program, and in the year following their experience. The performance improvement was most marked in the semester following their return from their overseas experience. The grade improvement data is in line with the anecdotal data gathered by observing the students enthusiasm for their experience and their willingness to recommend that earlier year students take the opportunity of OEP.

ACKNOWLEDGMENT

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