

# Supporting international students to meet assessment expectations

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***Abstract:** This paper offers practical suggestions for teaching strategies that will assist international students. An example is presented involving the delivery of an introductory engineering unit at Perth Institute of Business and Technology. The approach detailed allowed the academic staff to identify areas of concern in students' learning early in the semester. Detecting and addressing these issues lead to a significant improvement in preparing these students to meet the exam requirements.*

## Introduction

The international education industry is Australia's third largest export sector, behind coal and iron ore, contributing \$17 billion to the Australian economy and supporting more than 125,000 jobs (Access Economics, 2009). Australia is the preferred choice for international students from many countries and is the third most popular English-speaking study destination for these students. About half a million students come to Australia each year (AEI, 2010). Australia offers international students some 26000 courses delivered by more than 1200 universities, training colleges and schools. About 20 percent of students enrolled in Australian universities are from overseas. The Australian Government has identified two aspects which will be fundamentally important to the future of Australian international education: quality and the student experience (Gillard, 2009). To remain competitive we need to continue to enhance our quality education and training system.

Research has highlighted that international students have different needs and issues to the local student population (Biggs, 2003). Particular challenges facing international students that distinguish their experiences from those of domestic students include the language barrier, culture shock, transition issues, learning while developing English language proficiency and learning the academic disciplinary discourse. Research has found that academics are aware of the learning needs of their international students, but may be unclear about how best to address those needs (Ryan, 2005).

In order to further encourage the use of different strategies and approaches in the area of international students' learning, this paper reports on our recent experience at Perth Institute of Business and Technology (PIBT). PIBT is an educational institution providing courses at pre-University and University levels as the leading pathway option to Edith Cowan University (ECU), Perth. PIBT provides Diploma courses in areas including Engineering Studies, which lead into the 2nd Year of the respective Degree courses at ECU. A three-semester system allows students to fast-track their study and complete most courses in 8 months. PIBT staff are fully qualified with university teaching experience.

The program offered by PIBT includes introductory units taught during the first semester of the first Engineering year at ECU. Surveys of international students' experiences in Australia noted that students were generally very positive about their experiences in their courses. However, the students said that they encountered problems to do with initiation into their course (University Planning Office, 2005). Introductory units are therefore very important for addressing these concerns. This paper relates to our experience concerning such a unit, Computer Fundamentals ENS1161. This unit is coordinated by ECU academic staff and is delivered at five institutions outside ECU, including PIBT, where it is taught by the ECU lecturer since 2009, initially by using the same delivery approach as at ECU. The results were, however, disappointing, with a low pass rate (Figure 1). Although this seemed to be in line with the results for other units at PIBT and were regarded as "normal", alternative ways to improve the pass rate and to increase the efficiency of delivering this unit at PIBT were investigated.

Students enrolled in this unit at PIBT come from about twenty different countries and very often with insufficient English language skills (this being one of the reasons they have to study first at PIBT before going to University). Many of them are originally from countries where English may be spoken as a second or third language, or where English is only learnt as a foreign language in school, which leads to reluctance to talk in class. The strategy taken to address these challenges is presented in this paper. The key areas that are discussed include explaining assessment expectations and encouraging participation. Evidence of benefits has also been included. The practical suggestions in this document have been written for academic staff wishing to explore different ideas in their teaching to address the needs of international students. Reflections are offered with international students in mind but can be useful for all students.

## Case study

The ENS1161 Computer Fundamentals unit addresses a number of problems from discrete Mathematics with technical application aspects. Unit content is well established and well organised. All assessment components are well defined and organised, and the exam structure is designed to test the knowledge students acquire during the semester. There are four contact hours per week: every session starts with two hours of lecture and is followed by two hours of tutorials. During tutorial time students are working on a number of problems related to the content of the lecture. By doing this, students learn how to solve practical problems using the theory explained during the lecture. This classical delivery approach is identical to the one used at ECU, where it has been successfully employed. However, as mentioned, the same approach yielded much poorer results with international students at PIBT.

The innovative change taken to address this issue consists of a short written test which covers the material presented in the previous week's lecture. The test is designed in the same way as an exam question related to a particular part of the material. This way of designing the test exposes the students to the exam type of question long before the exam and additionally makes them familiar with the level of complexity of the exam questions. Students can take part in the test on a voluntary basis. The test is marked but the marks are not used as an assessment component. They are rather a feedback mechanism which allows students to discover how familiar they are with a particular topic. Additionally, by marking the test the lecturer is able to discover common errors in the understanding of the material by students, which can be caused for example by a not very precise explanation of that particular topic during the lecture or can be due to the complex interpretations of some formulae. Once detected, this type of problems can be clarified and explained again during tutorial time. Examples include the negation of the if statement, negation of statement with two quantifiers, simplification of Boolean functions using Boolean algebra, Karnaugh maps. Before introducing the test these were recurring critical topics, causing problems in the exam to as many as 80% of the students. However, as a result of identifying them via the test and addressing these problems, recently the percentage has decreased to about 20%. The other benefit is that, once problems are detected early in the semester, they do not cumulate, so students can confidently build up their knowledge.

Voluntary involvement of the students in the test makes it stress-free, which is especially important for international students. The lack of pressure and constraints helps them overcome their fear of failure and their reluctance to participate in class. There are no time constraints regarding the test either, the

students get the test at the beginning of the tutorial and they can return it at the end. They are allowed to collaborate, which encourages the team work. As detailed above, communication is the greatest barrier faced by international students and additional efforts have to be made to make them feel comfortable and to give them confidence to overcome this barrier. The fact that English is the second language for the lecturer, too, is an advantage in this particular case, for at least two reasons. First, students are less discouraged by the language barrier when the lecturer is not a native English speaker. Second, the lecturer is more aware of the challenges foreign students face, based on his own experiences, and a more open communication, based on empathy, can be built.

### Benefits and issues

From the first semester of introducing the test as part of delivering ENS1161 at PIBT, the increase in pass rate for the different groups of students over time was very visible, as shown by Figure 1. Figure 2 details the continuous growth of the pass rate over grade categories as a result of introducing the test and refining the way of providing feedback to the student. It can be seen that the most significant increase affected the HD marks, which is a clear indication of the effectiveness of the test.

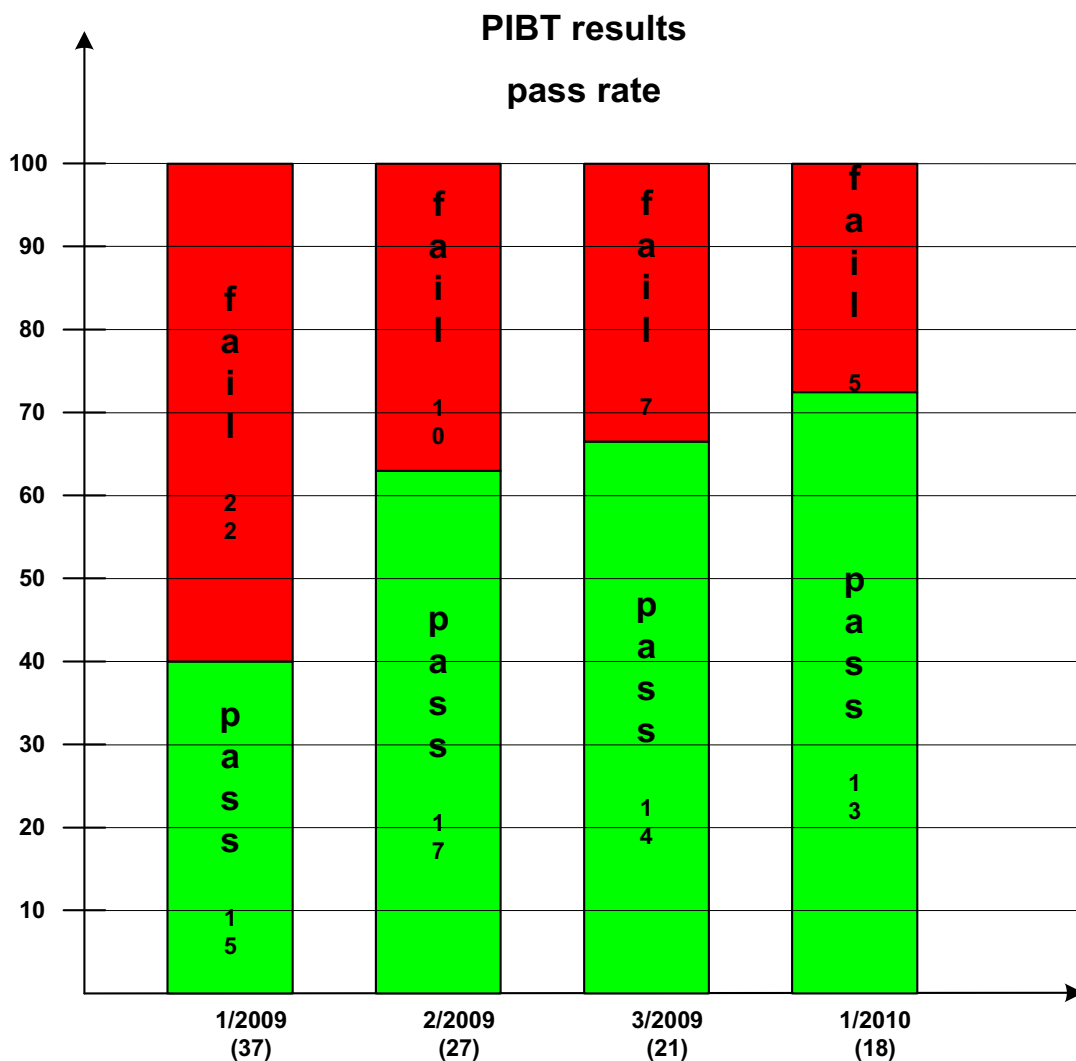
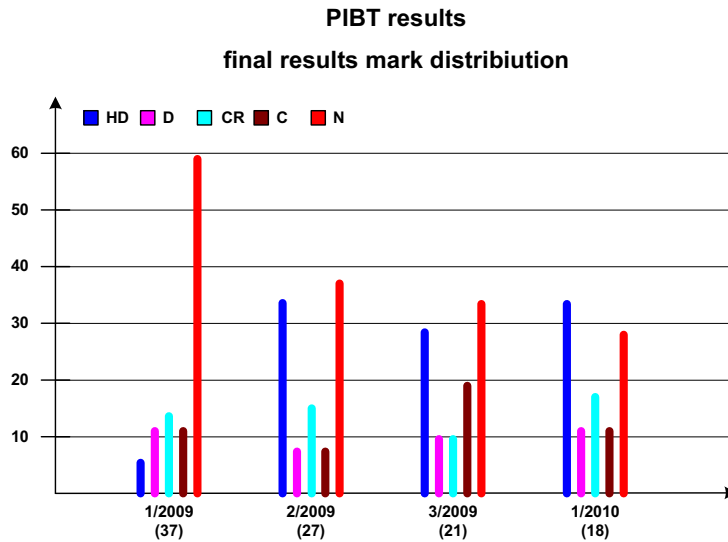


Figure 1: Evolution of pass rate after introducing the test



**Figure 2: Evolution of mark distribution after introducing the test**

Over the time more and more students got convinced that taking part in this process of testing the progress of their work can only benefit them. Actually, although the test is not compulsory, more and more students take it, as shown in Table 1.

It is worth highlighting some typical scenarios. Table 2 lists the performance of five students over the twelve tests during the semester (marks out of 10). Students x and y had a steady good performance, missing one test. However, it can be seen that the other three students had some real issues with some of the tests, i.e., topics. Due to the test, they and the lecturer became aware of these problems and could address them in an appropriate manner. Actually those students who regularly took the test (even when missing one or two) achieved very good results in the final exam.

**Table 1: Evolution of pass rate after introducing the test**

Student volunarily participation in test	
2/2009	70 - 30%
3/2009	80 - 40%
1/2010	85 - 40%

**Table 2: Test results over the whole semester for five students**

	marks											
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
Student x	10	8	10	10	9	10		10	10	10	10	10
Student y	8	10	9	9	10	10	10	10	10		10	10
Student w	8	10	8	9		5.5	4	10	9	4.5	7	10
Student z	8	2	2	5	1	9	3	5	6	7		8
Student v	8	10	8	9	6	5.5	4	10	9	4.5	7	6

We would also like to stress that using this kind of test to monitor students' learning during the semester is especially suitable to international students in the context of institutions like PIBT, where class attendance is compulsory and is a visa condition (even if the test itself is not compulsory, colleagues taking it can be an incentive). While the approach can be used in a similar manner with University students, the difference in attendance requirements can lead to different outcomes.

The only issue we had with adopting the use of the test during the semester was the increase in the workload of the lecturer, associated with the regular marking of the tests and providing individual feedback. However, the positive results compensated the extra effort. Furthermore, changes in marking can be implemented, one option being to consider peer-marking arrangements, under which students complete their answers, then the lecturer reveals the answers on board, students swap their work and then mark and comment. This would further strengthen the collaborative learning experience.

## Conclusion

Suggestions offered in this paper can be used to develop approaches to help international students prepare for their undergraduate studies in Australia. From surveys we know that international students are challenged and exposed to new ways of learning. The challenges and benefits for academics are in optimising opportunities in planning and delivering curriculum to enhance international students learning and create inclusive supportive learning environments for all students. The approach we adopted at Perth Institute of Business and Technology during the delivery of an introductory engineering unit was to offer students a voluntary test each week, similar to the exam, so that we could provide them with feedback on topics which needed clarifications. Results show that this method was effective in significantly improving the performance of the students.

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