# NESB STUDENTS - COPing WITH BICT

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As increasing numbers of Non English Speaking Background (NESB) students apply to enrol in information and communication technology (ICT) degree programmes in New Zealand, there are many issues that are arising relating to the entry requirements for these students. Many students far exceed the academic entry requirements, and narrowly fail to meet the English language requirements for entry but could well be capable of success, whereas other students who only just meet both the academic and English language requirements may have low rates of success.

This paper describes how Christchurch Polytechnic Institute of Technology (CPIT) introduced a Foundation Programme for NESB students who meet the academic entry requirements for the Bachelor of Information and Communication Technologies (BICT) degree, but narrowly miss the English language entry requirements, in such a way that still allows the students to complete the BICT degree in 3 years.

The success rates of the first group of students to complete this foundation programme as they move further into the BICT degree point to this move being a successful one. The results of this research will be of significant use to CPIT and other institutions looking for alternative pathways into their degree programmes for NESB students.

## 1. INTRODUCTION

In 2002 Christchurch Polytechnic Institute of Technology introduced a Foundation Programme titled the Certificate of Proficiency (COP) with the following aim: "… to provide students the opportunity to gain the necessary skills and pre-requisite qualifications to meet the entry standards of higher level programmes to which they wish to apply" (CPIT, 2002).

A number of programmes at CPIT have used this Foundation Programme to allow Non English Speaking Background (NESB) students who have not quite met the IELTS requirements for English Language entry to their chosen programme to study a combination of ESOL courses and courses from their chosen or target programme. The particular ESOL courses are chosen so that if students pass the ESOL courses, they are not required to sit the IELTS examination again.

The IELTS entry requirements for the Bachelor of Information and Communication Technologies (BICT) are set at 6.0 for all four sub-tests of Reading, Writing, Speaking and Listening. In the past, some students have been granted special admission to the degree if they were close to this requirement – in particular where their overall score was at least 6.0, but where they had one score less than 6.0. There is some anecdotal evidence to suggest that these students did not have a high success rate in their first semester, particularly in courses that are highly language dependent.

This paper describes how a Foundation Programme was created for NESB students who had just missed the IELTS entry requirement for BICT, and how students who successfully completed the Foundation Programme could still complete all of the requirements for BICT in 3 years. Some attention is paid to the work of Beaver and Bhat (2002) that explored some of the issues related to students from Asia adapting to different educational styles in Australasian tertiary institutions.

The paper goes on to analyse the results of the students who enrolled in this Foundation Programme in semester one and two of 2003, to determine the success or otherwise of the Foundation Programme.

## 2. BACKGROUND

Where students have met all of the entry requirements for the BICT degree they typically study courses totalling 60 credits in their first semester. These courses are shown in Table 1 and their aims are included in Appendix A.

**Table 1 – Courses Typically Studied By BICT Students In Their First Semester**

| | | |
|---|---|---|
| BCIT101 | Information Technology: Concepts and Tools | 15 credits |
| BCPR109 | Programming Precepts | 15 credits |
| BCIS101 | Information Systems 1 | 15 credits |
| BCBU103 | Professional Communication | 15 credits |

**Table 2 – Courses Typically Studied By BICT Students In Their Second Semester**

| | | |
|---|---|---|
| BCIT151 | Multimedia and Internet Technologies | 15 credits |
| BCCS111 | Computer Architecture | 7 credits |
| BCIT241 | Web Site Development | 8 credits |
| BCPR101 | Computer Programming 1 | 15 credits |
| BBPM101 | Principles of Management | 15 credits |

In the past, where NESB students, who had narrowly missed the English language entry requirements, had been granted special admission, there is evidence to suggest that their pass rates, in particular in BCIS101 and BCBU103, was a lot lower than other students enrolled in the degree. On closer examination it can be seen that of the four courses, BCIS101 and BCBU103 are the more English language dependent.

Students in their second semester of study typically enrol in the courses shown in Table 2, with the aims of these courses being included in Appendix A.

# 3. STRUCTURE OF THE FOUNDATION PROGRAMME

In 2002 it was decided to explore creating a Foundation Programme that would allow students who had met the academic entry requirements and narrowly missed the English language requirements to enrol in some BICT degree courses, along with some English language courses. It was decided that the two BICT degree courses that these students would enrol in would be BCIT101 and BCPR109, as these were the two least language dependent, and that the students would enrol in a further 30 credits of ESOL courses, with these all being at level 5.

**Table 3 – Courses Typically Studied By Foundation Students In Their First Semester**

| | | |
|---|---|---|
| BCIT101 | Information Technology: Concepts and Tools | 15 credits |
| BCPR109 | Programming Precepts | 15 credits |
| ESOL5XX | English for Speakers of Other Languages | 30 credits |

**Table 4 – Courses Typically Studied By Foundation Students In Their Second Semester**

| | | |
|---|---|---|
| BCIS101 | Information Systems 1 | 15 credits |
| BCBU103 | Professional Communication | 15 credits |
| BCIT151 | Multimedia and Internet Technologies | 15 credits |
| BCCS111 | Computer Architecture | 7 credits |
| BCIT241 | Web Site Development | 8 credits |

The BICT degree structure that replaced the former Bachelor of Business Computing (BBComp) degree structure from 2002, allows students to include 30 credits of "Other Electives" at level 5 or higher. It was decided that these 30 credits of ESOL courses could be credited to the degree. The result of this was that by completing the Foundation Programme, the students had completed 30 credits of the compulsory courses and their 30 credits of "Other Electives" in the first semester. A consequence of this is that some of the earlier courses in the degree are delayed by a semester, however the prerequisite structure of the degree allows for all of the courses to be completed in a further two and a half years.

During their Foundation Programme the students enrol in the courses shown in Table 3.

**Table 5 – Students Enrolling In Foundation Programme**

| Year | Semester | Number |
|---|---|---|
| 2002 | Two | 1 |
| 2003 | One | 8 |
| 2003 | Two | 8 |
| 2004 | One | 14 |

Provided students pass their entire foundation programme, they are admitted into the degree programme, and during their second semester the students enrol in the courses shown in Table 4:

This results in BCPR101 and BBPM101 being delayed into the first semester of year two, however by the end of year two, the students are able to catch up in at least three of the four possible specialisations in the degree.

# 4. ANALYSIS OF STUDENT RESULTS

The numbers of students enrolling in this Foundation Programme to date are shown in Table 5

Of the nine (9) students who enrolled in the Foundation Programme in Semester Two of 2002 and Semester One of 2003, six (6) completed all of the courses successfully and went on to enrol in the following semester.

These students were enrolled in a total of 30 courses (6 per students as per Table 3) of which 23 were passed giving a pass rate of 76.7%. While the sample size is not significant enough to make any generalisations about the long term success rate, when compared with the overall success rate of all students in all courses in the degree in the years from 2001 to 2003 as shown in Table 6, there is an indication that the success rate is comparable to other students in the degree.

# 5. ANALYSIS AND DISCUSSION

The success rate of the students who completed the Foundation Programme and then continued into the following semester in the BICT degree is on a par with the success rate of all students across all courses in the degree, indicating a good level of success for this initiative. Further analysis of this group of students as they move further through the degree, and of the later groups that have yet to complete a second semester of study will provide better evidence as to the level of success.

**Table 6 – Overall Pass Rate for BICT Students (CPIT, 2004)**

| Year | Pass Rate |
|---|---|
| 2001 | 70.57% |
| 2002 | 71.60% |
| 2003 | 77.66% |

While the main focus of this paper has been on the academic success of the initiative, it is worth considering the impact of the programme on the integration of NESB students into classes. Beaver and Bhat (2002) in exploring strategies for achieving learning goals, and how they differ between Asian and Pakeha students in New Zealand, identified that Asian students consider extra study assistance, particular in English language, to be of prime importance. Beaver and Bhat (2002) went on to conclude that there is a link between this and greater social and cultural interaction in classes. This suggests that by requiring students whose English language ability is marginal to study more English in the early stages of the degree, the positive impact may not only be on their academic achievement, but also on their social and cultural integration into classes

# 6. CONCLUSIONS

The results to date for the students who have completed this foundation programme and moved on through the degree suggests that this venture has been successful, however, with only a small number of students having moved into the degree at the time this paper was written it is not possible to form conclusions of statistical significance about the level of success.

The passing of another year will create a much bigger sample of students who will have moved from the foundation programme into the degree, and may enable conclusions with statistical significance to be drawn. An extra year will also allow some observa-

tion to be made of the first group of students as they progress further into the degree.

# REFERENCES:


Beaver B. and Bhat R. (2002) *Asian Learners in a Multi-Cultural Classroom – Perceptions of Self-Efficacy and Strategies for Assistance*. Proceedings of the New Zealand Applied Business Education Conference, September 2002, Christchurch.

CPIT (2002) *Certificate of Proficiency – Approval Document.* Internal Document, Christchurch Polytechnic Institute of Technology.

CPIT (2004) *Bachelor of Information and Communication Technologies - 2003 Annual Report.* Internal Document, Christchurch Polytechnic Institute of Technology.


# APPENDIX A – COURSE AIMS

The following table shows the aims of the courses that are typically studied by students in their first year in BICT.

BCIT101 To provide students with a grounding in fundamental knowledge of business computing and information concepts and to provide students with an introduction to microcomputer hardware and commercial software applications.

BCPR109 To ensure that students have a minimum level of mathematics to cope with the material that will be presented in the software development papers and the information technology papers and for the students to encounter a range of mathematical ideas that will enhance their problem solving ability.

BCIS101 To teach students recognised object-oriented modelling methodologies and to provide students with the opportunity to use object-oriented techniques to model various business systems and processes.To give students an overview of the relationship between information systems analysis and business strategic planning.

BCBU103 To provide students with the skills, knowledge and expertise to be able to communicate in an information technology industry environment

BCIT151 To provide students with fundamental knowledge of multimedia and the Internet and to provide students with the skills and knowledge to develop multimedia based material for production on CDROM or for Web delivery

BCCS111 To provide students with fundamental knowledge of the architecture and internal operation of a computer system.

BCIT241 To provide students with the skills needed for design and development of World Wide Web and Internet sites.

BCPR101 To introduce students to programming concepts and prepare them to develop business software and to give students the knowledge to carry out Object-Oriented Design: the mapping of an Object-Oriented Analysis onto the implementation features of a specific programming language.

BBPM101 To provide students with an understanding of, and the ability to critique and clearly communicate the underpinning concepts of organization and management, and the ways progressive organizations evolve and to develop the student's ability to communicate in a clear and business-like manner.