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Diversity, Attrition and Transition into Nursing:

The DATING Project Final Report

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Foreword by Professor Sandra Jowett

**Pro Vice-Chancellor/Dean, Faculty of Health and Human Sciences,
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How best to recruit to educational programmes preparing people to work in the health and social care sector is a vexed question. Students must meet the required standards in a wide range of academic assignments, as well as in a variety of practice placements. They must also, very importantly, be responsive to the needs of the communities they will serve. Despite their importance, relatively little is known about the factors that determine which students will successfully complete their course and move into their chosen profession. This report goes some considerable way in filling our gaps in knowledge and understanding and it provides much cause for optimism. It is clear, for example, that most of those completing the course do progress to employment in the health sector. There are also some fascinating insights here: for example students born abroad, in English speaking countries, were more likely to complete their course than those with UK origins. The report also highlights further information that is needed: for example quantifiable data on employment destinations, systematically tracking outcomes for newly qualified staff.

The significance of this report is that it presents a large body of data to inform key aspects of educational and workforce planning. It is reported, for example, that older students are more likely to complete the course than the youngest. This is followed by a reflective comment on the 'motivation, perseverance and commitment of the older students'. Similarly, the fact that the level of educational qualification on entry does not predict the likelihood of students completing their course is contextualised by a reference to the 'value-added' success of the University. The evidence suggests that students with non-traditional entry qualifications have been able to achieve their professional goals, having been through a higher education system that assessed their skills level and provided them with tailored advice and support.

I would like to thank *Positively Diverse*, NHS Employers whose funding enabled us to do this work. It is vitally important that institutions undertake such studies, even when the outcomes could raise some uncomfortable questions. All academic providers have a responsibility to stimulate interest, debate and action and this report provides us with a very useful focus in relation to diversity. The Race Relations (Amendment) Act of 2000 stresses the imperative to promote race equality, not just to monitor it, and the findings presented here set a framework for heightened awareness of some very complex issues, as well as a longer-term strategic focus.

For the valuable insights this report provides into this challenging and important area I would like to thank the authors: Elizabeth Anionwu, Jon Mulholland, Richard Atkins, Mike Tappern and Peter Franks. The study required meticulous data collection and analysis and this comprehensive report is a fitting record of that complex and demanding task. The team were keen to undertake this study not only because of the intrinsic importance of the questions being addressed, but also because of the opportunity it provided to build on our existing work in this area. Thames Valley University's Mary Seacole Centre for Nursing Practice has a well-established reputation for its innovative approach to diversity matters. It was set up to support the integration of our multi-ethnic philosophy into nursing and midwifery education, practice and scholarship. This study's detailed analysis of student progression and outcomes complements the body of knowledge and expertise already developed by the Centre.

This report will be of value to all of us who wish to ensure that we recruit and retain students from a diverse range of backgrounds, providing them with the opportunity to realise their professional ambitions, and to contribute the richness of their skills and experience to our health and social care services. Incorporating the recommendations of this report into our planning and development will help to ensure that Thames Valley University remains at the forefront of the widening participation movement in higher education and continues to develop its mechanisms and practices for enabling students to succeed.

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Executive Summary

Introduction

The aim of the Diversity, Attrition and Transition Into Nursing initiative, known as the DATING Project, was to monitor the impact of key diversity variables on student nurse progression at Thames Valley University and their transition into practice. The project also wished to contribute towards the broader aim of establishing mechanisms for monitoring the current and future diversity of newly qualified nurses entering the NHS nursing workforce.

A minimum data set was established on the basis of key diversity variables: age, gender, academic qualifications on entry to the course, ethnicity and country of birth. In a review of the literature concerning student nurse attrition, there appeared to be a dearth of papers addressing the latter two factors.

Analysis was undertaken on the outcome of 1808 students enrolled on pre-registration nursing courses between 1999 and 2001.

- * 80% were females and 20% were males.
- * Country of birth was not stated by 0.9%. Where indicated they included UK (28%), Eire (20%), Zimbabwe (22%) and Other (30%).
- * Ethnic group comprised White (25%), Irish (21%), Black (46%), Asian (3%), Other (4%) and Not stated (1%).

Results

Of the 1808 student outcomes analysed:

- * 1431 (79%) successfully completed their course and
- * 377 (21%) did not. Of the latter, 231 (61%) withdrew and 146 (39%) did not meet the required standards of the programme.

Overall, branch of nursing, campus or date of intake were not found to predict student outcomes. However, a few specific cohorts (students on a certain branch of nursing from a certain intake at a certain campus) were found to have significantly different outcomes to the overall average.

Male students had poorer odds of successfully completing the course than females.

Older students were more likely to successfully complete the course than younger students. Older students were less likely to be employed locally in the NHS following successful completion of the course than younger students.

Students who were already qualified to degree level were less likely to successfully complete the course than those enrolling with any other type of qualification. This appeared to be predominantly due to withdrawal rather than being unable to meet the required standards of the programme.

Ethnic origin was found to be largely confounded with country of birth and was eliminated from all multivariate analyses during model building, as it provided no additional information over and above country of birth. Logistic regression to predict success on the basis of ethnic origin alone indicated that this was a significant predictor with Irish, Black and other (not Asian) students having better odds of success than White students. Asian students did not significantly differ from White students. However it should be noted that Asian students formed the smallest ethnic origin group ($N=57$) providing the least power to detect a significant difference.

Visa status was initially found to predict successful completion; however this was no longer significant once country of birth had been controlled for.

Students born in Eire were more likely to successfully complete the course than UK students. These successful completers were less likely to be employed locally in the NHS than UK born students. Overall, the proportion of students initially enrolled who were employed locally in the NHS was similar for students born in the UK and students born in Eire.

Students born in Zimbabwe were more likely to successfully complete the course than UK students. Successful completers were less likely to be employed locally in the NHS than UK born students. Compared to UK students, non-completion was marginally more likely to be due to not meeting the required standard of the programme as opposed to withdrawal for any

other reason. Overall, the proportion of enrolled students born in Zimbabwe who were employed locally in the NHS was lower than the proportion of students born in the UK.

Students born overseas in English speaking countries (other than Zimbabwe and Eire) were more likely to successfully complete the course than students born in the UK. Among these students, non-completion was more likely to be due to not meeting required academic standards (as opposed to withdrawal for any other reason) than UK students. Successful students were less likely to be employed locally in the NHS than UK born students. Overall, the proportion of students initially enrolled who were employed locally in the NHS was similar for students born in the UK and students born overseas in English speaking countries (other than Zimbabwe and Eire).

Students born overseas in non-English speaking countries were not distinguishable from UK born students in terms of odds of successfully completing the course, reasons for non-completion, or probability of obtaining employment locally in the NHS if they successfully completed. However it should be noted this was the smallest country of birth group so there was less power to detect such effects.

Application route (Nursing and Midwifery Admissions Service [NMAS] or direct) was not a significant predictor of any outcomes examined.

Days of absence due to sickness and Bradford score (a scale used to differentiate between people who take a lot of odd days off and those who take time off for a longer period, perhaps due to a more serious illness) did not significantly predict successful completion of the course. Low scores on both of these measures of absence were predictive of withdrawal rather than not meeting required academic standards; however this is likely to be due to the earlier exit of withdrawing students and consequently reduced opportunity to be absent.

Recommendations

1. The Faculty of Health and Human Sciences at Thames Valley University should produce regular information on student attrition and first destination outcomes aimed at academic staff and other interested stakeholders, in addition to the data that is already provided for the NHS Workforce Development Confederations. It is recognised that a national minimum data set is being finalised between the NHS and Higher Education Institutes (HEIs) for introduction in 2006 and that proposed fields include ethnic background and disability.
2. The Faculty should undertake a more detailed analysis of assessment data pertaining to academic performance in various modules, as this was not possible due to time constraints.
3. A series of dissemination events on the findings of the DATING Project should be organised for all relevant stakeholders. This should include utilising the data as part of a Faculty staff development programme to stimulate reflection and discussion around the findings and their implications for underpinning assumptions, recruitment, selection, programme management and current provisions.
4. The Faculty should carry out a more systematic exploration of the factors impacting upon (a) younger students, (b) students commencing the programme with a degree, (c) why students choose to leave the programme and (d) achieving choice of first destination following qualification.
5. Following the removal of the NHS bursary entitlement to applicants from overseas who do not meet the 3 year residency criteria, it is recommended that efforts are maximised to increase recruitment from a diversity of local communities.
6. Outcomes of selection to pre-registration nursing and midwifery programmes and first destination of qualified nurses and midwives should also be routinely tracked by all HEIs, using the same diversity variables. This will enable the whole pathway of would-be applicants to

be monitored and assist HEIs and NHS Trusts comply with their duties under the Race Relations (Amendment) Act 2000 (The Stationery Office, 2001) and other relevant legislation.

Part One: Introduction and Background

Introduction

The aim of the Diversity, Attrition and Transition Into Nursing initiative, known as the DATING Project, was to monitor the impact of key diversity variables on student nurse progression at Thames Valley University and transition into practice. The project also wished to contribute towards the broader aim of establishing mechanisms for monitoring the current and future diversity of newly qualified nurses entering the National Health Service (NHS) nursing workforce.

A database reporting mechanism was developed to evaluate the progression and transition into practice of nursing students at Thames Valley University to practice in local NHS Trusts by gender, age, country of birth, ethnicity, and qualifications on entry. In light of the forthcoming national contract minimum data set in 2006 and the proposed inclusion of fields such as ethnic background, the findings of the DATING Project will be relevant to Higher Education Institutions (HEIs) providing nursing and midwifery education in the UK.

The DATING Project was funded by Positively *Diverse*, NHS Employers for 2 years from June 2003. The team, details of whom are set out on page 1 of this report, was led by Professor Elizabeth Anionwu, Head of the Mary Seacole Centre for Nursing Practice, Faculty of Health and Human Sciences (FHHS), Thames Valley University (TVU).

Background

The DATING Project was concerned with an exploration of the impact of particular diversity variables, (age, gender, ethnicity, country of birth and academic qualifications on entry to the course), upon students' progression through nurse education and their commencement of professional practice. Furthermore, as an outcome of this data generation and analysis, the Project was also concerned to develop a transferable framework, applicable

throughout the sector, for measuring the impact of diversity variables upon student progression and commencement of practice.

A number of developments informed the commissioning of the DATING Project. Most immediately, the National Health Service (NHS) has, as one of its strategic priorities, the enhancement of the diversity of its workforce (see for example: *Human Resources in the NHS Plan. More Staff Working Differently*, Department of Health, 2002). In addition, the Improved Working Lives (IWL) Standard, (Department of Health, 2000) incorporates a commitment to improving recruitment and retention of NHS staff and by April 2003, all NHS employers were expected to have demonstrated their effective implementation of the Standard. In part, this will require evidence of a workforce reflecting the diversity of the demographic composition of the community it serves. In September 2005 the Strategy Unit for Widening Participation in Learning in the NHS was established. The focus will be on improving learning to all NHS staff and especially for those who are under-represented in learning (Department of Health, 2005).

The Race Relations (Amendment) Act 2000 (The Stationery Office, 2001), which incorporates a statutory duty to promote race equality, has provided another important driver for this project. Public authorities, such as NHS Trusts and HEIs, were required to produce a Race Equality Scheme or Race Action Plan by May 2002, (to be reviewed by May 2005) including a strategy for ensuring the effective monitoring of policies and outcomes in relation to recruitment and progress of students and staff. An updated practical guide on ethnic monitoring has recently been produced jointly by the Department of Health, the NHS Health and Social Care Information Centre and NHS Employers (July, 2005).

The adoption by Thames Valley University (2003) of a Race Equality Policy Action Plan expresses this obligation, and commits the university to a range of initiatives concerned with equal opportunities and the achievement of appropriate forms of diversity in respect of students and staff.

Various strategies have been developed within both the NHS and HEIs to widen access to nursing and midwifery programmes, particularly from under-represented Black and Minority Ethnic (BME) communities. Successful examples include:

Cadet Schemes

NHS cadet schemes appear to have effectively widened access to nursing (Watson et al, 2005) although Scholes et al (2004) note that there has been a patchy uptake around the country with some being stopped in favour of Health Care Assistant (HCA) sponsorship programmes.

Recruitment Campaigns

Campaigns to increase recruitment from a diversity of local communities such as the successful TVU led Campaign to Attract Nurses/midwives from Diverse Local Ethnic groups in Slough, otherwise known as the CANDLES Project (Cottell, 2004; Bernard, 2005).

An additional impetus to undertake the DATING Project arose from comments by FHHS staff attending Diversity workshops organised by the Mary Seacole Centre for Nursing Practice in 2001. These workshops ran alongside a staff development series preparing staff for the new 2001 curriculum. The sessions were informed by results of a survey undertaken by the Centre earlier that year concerning staff experiences of teaching students from culturally diverse backgrounds. Completed questionnaires were received from 20 staff and whilst this represented an extremely small response rate (10%), the comments were varied and detailed. Whilst emphasising the low response rate, selections of some of these quotes were used, in a non-attributable way, as triggers in the workshops. The following are a few examples:

- 'How to manage conflicts that arise in the classroom following a misunderstanding/lack of awareness of the diversities in our communities'.

- ‘An appreciation of which teaching strategies will be helpful for students from a variety of different cultural backgrounds in order for them to appreciate learning opportunities in class’.
- ‘Educational system for some overseas students makes it hard for them to become independent and often encourages work from textbooks’.
- ‘Many instances of discrimination in practice (often probably unwitting on the part of the practitioners)’.

Seventy nursing and midwifery tutors attended the workshops and of the 57 completed evaluations, 33 scored the sessions as Excellent, 23 as Good and 1 as Satisfactory. Observations included:

- ‘It is timely to have staff development; the intakes have become very diverse’.
- ‘Good to lead with quotes – allowed individuals to voice opinions’.
- ‘Thought provoking – well worth attending. It should be mandatory for all’.
- ‘This issue is very interesting but issues of race can be very threatening for some teachers’.

Some of these concerns are also reflected in comments by staff interviewed from across the UK by Scholes et al (2004: see Sections 4.4 and 4.4.1) and in Canada by Jalili-Grenier and Chase (1997).

In a study of the experience of gaining their first qualified nursing posts, (conducted in the spring term of 2002 at Buckinghamshire Chilterns University College and Thames Valley University), a small number of student nurses cited occurrences of racism. It included interviews with 592 students and 58 recently registered nurses, followed by 7 focus groups (Andrews et al, 2003; Brodie et al, 2004; see also Andrews et al, 2005 although the reference to racism is not included in this publication). Brodie et al (2004: page 731) asserted that the research had uncovered a neglected dimension of negative experiences that is less often discussed in nursing literature with students identifying ‘dysfunctional team interactions, unprofessional behaviour, ‘everyday’ ward politics, racism and poor morale.’

In respect of TVU staff, many were aware that the profiles of the student populations had changed over the years but felt that it would have helped to have had some comparative data about previous cohorts. In particular, they desired more systematic and advanced knowledge about the profile of those about to start courses as this might provide useful information prior to actually meeting the students.

Attrition

During the workshops there was animated disagreement about causes of attrition as well as which type of students were more likely to withdraw or be unable to meet the required standards of the programme. The main reasons cited were gender, age, qualifications on entry, ethnic origin and whether students were born overseas. Views were mainly justified by using anecdotal information. These comments reflected similar ones made by staff interviewed in a study on attrition commissioned by the South East London NHS Workforce Development Confederation (Mason, 2004). The researchers noted their disappointment that, due to incomplete data, they were prevented from drawing any conclusions concerning attrition except in respect to age and course type.

Glossop (2001) has highlighted the complex methodological issues involved in attempting to ascertain student nurse attrition rates and notes the dearth of studies based on the perspectives of students. Her review of the literature (Glossop, 2001: page 173) identified the following factors reported to contribute to attrition:

- Academic failure
- Personal or family reasons
- Wrong career choice
- Financial problems
- Travel difficulties
- Poor course management
- Ill health

- Negative staff attitudes
- Course pressures
- Inadequate pre-course information
- Lack of tutor support
- Theory/practice imbalance
- Variable placements

Deary et al (2003) undertook a longitudinal study in Scotland of a complete cohort of 90 nursing students in a programme between 1996 and 1999. They reported that personality was a more important indicator of attrition than cognitive ability.

In respect of TVU staff, the key outcome of these passionate debates was universal agreement that staff needed accessible accurate attrition data. There was clear support for an evidenced-based approach to the problems of student attrition underpinned by the systematic analysis of comprehensive data.

In an historical review, Coakley (1997) reports consistent concerns relating to student nurse 'wastage'. Rates as high as 60% in the first year of psychiatric nurse training (and 34% overall), were being reported in the 1960s and by 1980 it was in the region of 15 to 20%.

Whilst the UKCC (1987) had hoped that Project 2000 would help to lower wastage by increasing student satisfaction, this was not borne out by Jowett et al (1994) in their study of the first stage demonstration sites. Twenty-two per cent did not complete their studies, although this had dropped to 14% in the second intake.

The 1999 UKCC *Fitness for Practice* report identified that attrition statistics for pre-registration nursing and midwifery courses were not presented in any comparable format. They noted that across the United Kingdom they ranged from 5 to 30%. Recommendation 9 was that 'A common definition of attrition and a required minimum data set for pre-registration programmes should be

put in place for use across all four countries of the United Kingdom' (UKCC, 1999: page 33). As mentioned earlier, this will come into effect in 2006.

Brodie et al (2004) reported that there is disagreement concerning dropout rates of up to 40% cited in the simultaneous publications of the National Audit Office (2001) and the Audit Commission (2001), a figure that the latter state is similar to that for all university courses. In their review of research on student nurse attrition they note that 'it has demonstrated the complex influence of multiple factors, including the perceived lack of support during placement, travelling difficulties, financial hardship, personal or family problems, disparity in perceptions and wider disillusionment with the health service' (Brodie et al, 2004: page 724).

The study, conducted at Buckingham Chilterns University College and TVU, noted that the average rate of attrition of cohorts from 1997-2000 was 17.7%. The analysis per year for each university (only citing Diploma course figures) showed a range of between 18% to 25% for University A and 12.6% to 22% for University B (Andrews et al, 2003: page 50). The researchers do stress, however, that these rates can only function as a guide as the university databases do not track individuals who may have switched programmes, deferred for a year, converted to part-time courses and transferred between branches etc.

The Royal College of Nursing (RCN) review of the 2003 UK nursing labour market (Buchan and Seccombe, 2004) observes that despite the high tuition costs for each nursing diploma student (about £19,370 over three years), consistent and comprehensive information about the number of students entering or completing their education is not available. Based on information in Hansard 21 January 2004, the average drop-outs for 1997/1998 pre-registration nursing and midwifery student intakes averaged 20% with a range of between 12.45% and 25.64%. On the 22nd April 2004, the Secretary of State for Health stated that 'The human resources performance framework, published in 2000, set a target of 13 per cent attrition for students entering nurse training in 2000 to 2001' (Hansard, 2004).

The authors also record the answer of the Secretary of State for Health to a question in the House of Commons on the number of students who successfully complete their courses: 'Data is not held before the 1994-95 financial year and has not been collected since October 2001' (Buchan and Seccombe, 2004: page 31). A year later, however, they are able to record that a new attrition data collection system administered by the Higher Education Statistics Agency (HESA), the body that holds figures on nursing students in higher education, is now in place (Buchan and Seccombe, 2005). A consistent definition has now been agreed between the NHS and Higher Education Institutions (see www.healthcareworkforce.org.uk/).

This is a welcome development as the lack of accurate data makes it difficult to challenge media reports, such as BBC *You and Yours*, transmitted 27/1/2005 that student nurse attrition rates could be as high as 50% at some universities (see for example www.unison.org.uk/: 4/2/2005). In comparison, the 'latest DH planning for NHS workforce demand and supply analysis to 2008/09 continues to use a *wastage from training* assumption of 20%, although the Department of Health reports that the 'latest' figure is 18%' (Buchan and Seccombe, 2005: page 33).

Finally, the evaluation by Scholes et al (2004), of the *Making a Difference* or *Partnership* curriculum across 16 demonstration sites, reported that the self-attrition rates of the HEIs ranged from 5% to 23%. These figures were, however, worked out in different ways. One site, for example, calculated the number of students on the day of recruitment rather than those who attended on the first day of the course. As experienced by Andrews et al, (2003) these statistics were also confounded by factors such as those who returned from breaks and by those who changed branch.

The authors reinforced the UKCC's recommendation by proposing that 'a standardised method of recording attrition be introduced and that individual student records of age, ethnicity, nationality, academic qualifications be recorded which can be subject to longitudinal analysis of attrition' (Scholes et al, 2004: Page 244).

A welcome report is that a new minimum data set is currently being finalised and should be in place by March 2006 as part of the forthcoming Standard National Framework Contract for pre-registration education programmes (Thomas, 2005). In addition to the proposed general attrition fields, others include ethnic background and disability.

These strategic developments concerning the possible impact of diversity on student progression must themselves be understood within a broader context.

Diversity

The term diversity is a complex and contested one. Kandola and Fullerton (1998: Page 12) include the following definition of diversity as resulting from 'differences in gender, ethnic or national origin, religion, age, physical or mental capability, marital status, sexual preference, social background, organisational role and many other factors which cause people to have different perspectives on the same set of facts or issues.' Brah (1996) points to the multidimensional nature of the differences upon which the diversity principle rests.

The utilisation of diversity for research purposes has proved equally complex and all models will inevitably produce some degree of methodological debate around the validity and reliability of the data produced in its name. This is particularly the case in respect of ethnicity (see Bradby 2003, Aspinall 2001), which forms one of the principal foci of this project. The concept of ethnicity continues to be the object of contestation; although a sociological consensus has emerged around the notion that ethnicity is a social construction. Accordingly, "...all commentators on the concept of ethnic group agree that it refers to the social elaboration of collective identities whereby individuals see themselves as one among others like themselves. [For]...ethnicity to spring to life it is necessary that real or perceived differences of ancestry, culture, and language are mobilised in social transactions" (Fenton 1999: p.6). Whilst saying that ethnicity is a social construction, this is not to say that it is not real; ethnicity acquires a social reality in its causes, forms, and effects.

Within an emerging diversity agenda, ethnicity has become important for two principal reasons. Firstly, because the needs produced by real or perceived ethnic differences have been inadequately recognised or valorised by service providers, resulting in discrimination and exclusion. We may refer to this as the problem of *difference unrecognised*. Secondly, because ethnicity has operated as a form of *othering*, whereby differences have been attributed to ethnic minority groups (vis-à-vis a majority norm), and formed the basis of unfavourably differential treatment. We may refer to this as the problem of *difference over-stated* (Mulholland, 2004). Recognising the dynamic and constructed nature of ethnicity is important as a counterweight to a legacy of naïve empiricism in ethnic health research whereby the nature of, and differences between, ethnic groups has been taken for granted as self-evident. It also alerts us to the importance of understanding the social, political and economic context impacting upon ethnicity and the experiences of different ethnic groups.

We take the view that given the multi-dimensional character of ethnicity (as a personal and social identity, as a basis of group mobilisation, as an object of attribution and a cause of inequality and discrimination), its mode of use should be informed by the nature and purpose of the research undertaken (see Bradby 1995, 2003). As the aim of this project has been to produce a quantitative data set with maximal value, both in terms of its comparability with existing data, and as a basis for producing a transferable framework for future equivalent data collection and analysis, ethnicity has been defined in terms of the categories utilised within the 2001 Census (see Aspinall, 2001).

The challenge of diversity, and the implications it raises for service providers within the public and private sectors have become an integral and irreversible feature of contemporary social and political life. Social diversity is the manifestation of a range of far-reaching social, political and economic developments, operating across a global, national and local terrain, that are set to transform the nature of need and service provision within the British context. In short, Britain, as elsewhere, is witnessing a profound diversification

in its demographic composition, along lines of 'race', ethnicity, nationality, social class, gender, sexual orientation, and a host of life-style variables.

Such diversity supports multiple group identities and has become deeply implicated in a range of social, economic and political inequalities, reflected in systematically differential life chances, experiences and needs. It has also become the basis of group mobilisation within the political and social spheres, with attendant claims to a range of economic, social, political and cultural rights.

Within such a context, where citizenship encompasses a multiplicity of identities and needs, it becomes ethically incumbent upon service providers to understand the nature of these differential identities, experiences and needs. In addition they need to adapt the structure and functioning of service provision accordingly in pursuit of equitable, sensitive and effective provision. The point of commencement must necessarily be the gathering of base-line information relating to the impact of various modes of diversity upon patterns of opportunity, experience and outcome in the delivery of professional health care. It is in its contribution to the development of such a base line, within the contexts of nurse education and the commencement of newly qualified nurses into practice, that the DATING project must be understood and evaluated.

The DATING Project's data set has been derived exclusively from the records held within TVU, and pertains to student cohorts commencing in Ealing (west London) and Slough (Berkshire) from April 1999 to October 2001.

The *Faculty of Health and Human Sciences* at TVU is one of the major providers of pre- and post-registration nursing and midwifery programmes for the National Health Service with a catchment area from Paddington in London to the whole of Berkshire (e.g. Slough and Reading). These educational programmes are commissioned by 2 NHS Strategic Health Authorities, i.e. North West London and Thames Valley.

As of October 2003 there were a total of 2,530 pre-registration students at TVU with clinical placements at over 20 NHS Trusts.

Table 1.1: Pre-registration Nursing and Midwifery Students as at October 2003

Pre-registration Programme	NW London	Berkshire
Nursing	1,583	700
Midwifery	179	68
Total = 2,530	1,762	768

The Mary Seacole Centre for Nursing Practice

The *Mary Seacole Centre for Nursing Practice* at TVU (www.maryseacole.com) was established in 1998 to 'enable the integration of a multi-ethnic philosophy into the process of nursing and midwifery recruitment, education, practice, management and research' (Pearce, 2004).

Activities of the Centre have included the production of a Faculty Nursing and Midwifery recruitment video targeted at under-represented groups such as mature students, men, minority ethnic groups and particularly Black Caribbean and various South Asian communities. It highlights, through examples of current students, the various educational pathways into nursing and midwifery education programmes, such as Access courses, National Vocational Qualifications (NVQs), as well as the traditional GCSE and 'A' level routes. The Centre has also led on a 2 year campaign (October 2003-September 2005) entitled CANDLES – Campaign to Attract Nurses/midwives from Diverse Local Ethnic groups in Slough. This initiative was funded by the Thames Valley Strategic Health Authority Workforce Development Confederation in collaboration with partners such as Slough NHS Teaching Primary Care Trust and Slough Race Equality Council (Cottell, 2004; Bernard, 2005).

The team involved in designing the DATING Project wished to focus on an evaluative endeavour to track outcomes of pre-registration nursing students - by factors such as gender, ethnicity, age, qualifications on entry, country of birth, and campus site - from entry to studies to their first destination in local NHS Trusts. By way of contextualising the characteristics of this data set, an outline of the key curricula and organisational developments within the Faculty

of Health and Human Sciences (previously the Wolfson Institute of Health Sciences), Thames Valley University, will now be provided.

Part Two: Context

History and Context of Nurse Education within the Faculty of Health and Human Sciences, Thames Valley University

This section aims to provide an overview of some of the key curricula and organisational developments taking place within TVU's Faculty of Health and Human Sciences (and its predecessor, the Wolfson Institute of Health Sciences), as a means to contextualising the data generated within the DATING Project. Following a brief and selective account of the provenance of the Faculty of Health and Human Sciences, the chapter will go on to offer an account of the central characteristics of the two principal phases of the Faculty's pre-registration nurse training; namely, the 1996-2001 and 2001-2006 curricula. As the DATING project is concerned solely with exploring the impact of diversity variables upon the progression and transition of nursing students, an account of developments within midwifery education will not be included.

The Entry of Nurse Training into Higher Education

The origin and subsequent development of nurse educational provision within the Faculty of Health and Human Sciences is complex. As with most other university faculties concerned with the delivery of nursing and midwifery education, the origins of the Faculty of Health and Human Sciences can ultimately be traced back to the strategic decision, made in the late 1980s, to relocate nurse education within a higher educational context. Prior to the initiation of 'Project 2000' (UKCC, 1986), a momentum for change had been established. A number of reports such as Briggs (1972) and Judge (1985) had contributed towards a sense that substantial changes were needed within nurse education if the rapidly evolving needs of both the population and the health care system were to be satisfactorily addressed.

The establishment of the UKCC (United Kingdom Central Council for Nursing, Midwifery and Health Visiting), via the Nurses, Midwives and Health Visitors Act 1979, enabled a more global consideration of the future of nurse education. Amongst the many component elements of the UKCC's report, *Project 2000 – A new Preparation for Practice* (1986) was an emphasis placed upon the need for nurse education to move towards a higher educational context within which nurse trainees could enjoy supernumerary student status. For both students and staff, the relocation of nurse education within higher education promised a more diverse, stimulating and socially integrated environment for learning. This relocation became perceived as a pre-requisite for nursing to acquire a fully professional status. The entry into higher education was driven by concerns regarding the limitations of the 'apprenticeship system' that had characterised the NHS hospital-based training programmes to that point. It was also seen as having a potential to reduce attrition rates (UKCC, 1987).

It was through a range of local responses to these developments that the Faculty of Health and Human Sciences came into being. Three parallel developments were of particular significance. The merger of Hammersmith and Ealing colleges of nursing and midwifery into Queen Charlotte's College, and its subsequent incorporation in 1992 into what had then become Thames Valley Polytechnic, provided the initial impetus. The merger of three London colleges of nursing in 1992 (Queen Charlotte's, NW London and Riverside) to form the North West London College of Nursing, was followed by their incorporation into the now Thames Valley University in 1994. The merger of the East and West Berkshire colleges of nursing and midwifery to form the Berkshire College of Nursing and Midwifery in 1989 (affiliated to the University of Reading) was ultimately to lead to the College's incorporation into TVU in 1995. This brought the then Anglia and Oxford Regional Health Authority contract, together with the North West London contract, under the auspices of TVU.

These colleges provided the principal constituent elements of what became the Wolfson Institute of Health Sciences, a faculty within the university

concerned overwhelmingly with the provision of pre- and post-registration nursing and midwifery education. With immediate effect, the Wolfson Institute of Health Sciences became one of the largest providers of nursing and midwifery education in the country and by 1997 was comprised of over 300 staff, 2,000 pre-registration nursing and midwifery students, and 3,000 post-qualifying students.

The general structure of the Institute's provision reflected, and in fact continues to reflect, this original composition. Parallel nurse and midwifery education programmes have consistently been delivered at two educational sites. Westel House (in Ealing), serving the now North West London Strategic Health Authority (SHA) commission, and the Slough (Berkshire) campus serving the needs of the Thames Valley SHA.

Through a number of changes of nomenclature, the Wolfson Institute of Health Sciences became the Faculty of Health and Human Sciences. In the process it experienced a noticeable diversification in its range of educational provision. Beyond nursing and midwifery education, the Faculty substantially enhanced its involvement in other forms of health-related education, most notably in the areas of Education, Complementary Therapies and Psychology. Within the nursing field, pre-registration programmes have been supplemented by a dramatically growing provision at BSc and MSc level.

Nevertheless, the character of the Faculty remains in large part defined by the scale of the pre-registration nurse and midwifery training provision. In fact, the Faculty has consolidated its position with a total of 2,530 pre-registration students who have clinical placements at over 20 local NHS Trusts as well as in the private sector.

The Project 2000 Curricula

Phase 1 - The 1996 Curriculum

Both the North London College of Nursing and Midwifery and the Berkshire College of Nursing and Midwifery had successfully commenced Project 2000

prior to their incorporation into Thames Valley University, and as such were obliged to continue with these programmes for their registered students. It was in 1996 that the first Wolfson Institute Project 2000 programme commenced. The pattern was maintained of recruiting two intakes per year (October and April), with the April intakes generally recruiting 20-30% fewer students than in October. Students commencing on the programme needed to have satisfied both the academic entry requirements, (5 GCSEs or equivalent such as the DC test, although the latter is no longer recognised by the NMC), and been successful within the selection process.

Project 2000 introduced an 18 month Common Foundation Programme (CFP) followed by more specialised study in the student's chosen Branch (i.e. Adult Nursing, Child Health, Mental Health and Learning Disability). The CFP was concerned with health and nursing, rather than disease. This was part of a philosophical drive to break with a bio-medical disease model and a strategic shift towards preparing nurses for a broader role that also incorporated health promotion. A building block model informed the curricula, with the first year centred upon theory, the second year upon theory application, and the third being practice centred.

Common Foundation Programme

The programme was designed around a modular structure, though in practice the modules were studied according to a fixed sequence and were extremely broad in their curricula coverage. The 18-month Common Foundation Programme (1996-2001) was comprised of 6 modules.

As part of a commitment to the educational value of small group learning, the October and April intakes were divided into learning groups, formed, for the majority of the curriculum's life, on the basis of the first letter of the student's surname. As such, Group A would be comprised of approximately 25 students, all of whom were in possession of surnames beginning with the letters A and B, for instance. With a few exceptions, students remained exclusively within these learning groups for the duration of the CFP. This small group approach had a significant implication for staff work loading. For

example a particular lesson would need to be taught on as many as 14 occasions in Ealing and 5 occasions in Slough.

However, this format did offer those teaching the programme the opportunity to directly compare and contrast the learning environments within the respective learning groups. There was an unforeseen, but immediately evident, implication of the allocation of students to learning groups on the basis of surnames, namely an overwhelming concentration of students with particular national and ethnic identities within certain learning groups. For instance, a disproportionately higher percentage of students of African and Irish origin had surnames beginning with the letter M, resulting in learning groups almost entirely comprised of such students.

This ethnic concentration had another unforeseen consequence in respect of the quality of the learning environment. The groups comprised of students recruited from overseas enjoyed little collective experience of the British context within which they were now studying and working. Given their high numbers within particular groups, overseas students' opportunities to learn from others with a greater understanding of the British context was inevitably reduced. Similarly, other learning groups, with a disproportionately low number of overseas and minority ethnic students had less opportunity to learn from the comparative insights offered by overseas and minority ethnic students. An interesting consideration is whether, in some cases, this could possibly result in differential educational outcomes and attainments.

The Branches

Applicants were required to specify their chosen branch at the point of initial recruitment. Following successful completion of the CFP, students could progress through to their 18-month Branch programme¹. Four Branches were offered, each comprised of four modules. These were the Adult Branch, the

¹ Should a student wish to change their branch programme, they were required to submit a formal request to change, the enablement of which depended upon a 'first come-first served' principle and upon the availability of a 'free-space' within the specified branch

Mental Health Branch, the Child Health Branch and the Learning Disabilities Branch.

Within the Adult Branch, Learning groups were generally comprised of 20-25 students, with specific local arrangements emerging for the allocation of students to groups. Berkshire students were divided into two cohorts in accordance with their respective practice areas: West (based at the Royal Berkshire Hospital in Reading) and East (based at Heatherwood and Wexham Park Hospital in Slough). The Reading cohort were subdivided into two learning groups, with one at Slough. At Ealing, the learning groups were organised on the basis of the NHS Trusts with which the students were associated.

In the Mental Health Branch at Ealing, there were generally four learning groups, each composed of approximately 15 students. At the Reading/Slough site, smaller numbers dictated one learning group per intake.

In the Child Branch, due to a smaller intake, a pattern was established of one learning group per intake at both Slough and Ealing sites.

The Learning Disabilities Branch, which until October 2001 was only available on the Slough site, was comprised of one learning group, again due to the smaller number of students.

Support for Student Learning

The Director of Studies (DOS) scheme was introduced in 1998 across the University as part of the *New Learning Environment Strategy*, a strategy underpinned by a model of the higher education student as a pro-active and self-directed learner. The DOS scheme fulfilled an important strategic role in providing students with the key transferable learning skills necessary for this pro-activity and self-direction to be realised.

The DOS groups within the CFP were generally comprised of 20-25 students, each drawn from two different learning groups, thus broadening the student's experiences. Within the Branches, various arrangements were developed. In the Berkshire Adult Branch, there were two DOS groups per intake at the

Reading site corresponding directly to the two groups into which the students were divided for their learning. At Slough, there was one DOS group. At Ealing, the member of staff responsible for leading a learning group was also allocated as their DOS leader. This group leader was also linked to the NHS Trust where their DOS students were placed.

In the Mental Health Branch at Ealing, there were generally four DOS groups per intake, each composed of approximately 15 students (with the groupings being the same as the tutor groups). At the Reading/Slough site, there was one DOS group per intake. In the Learning Disabilities Branch the smaller numbers meant that the branch intake teacher became the DOS leader. In the Child Branch, a smaller intake required merely one DOS group per intake at both Slough and Ealing, with DOS leaders allocated on a rotating basis.

The DOS scheme was charged with a range of responsibilities including:

- The identification of potential study skills deficits.
- The development of key transferable skills as embodied within the South East England Consortia (SEEC) competency descriptors adopted by the University (see www.seec-office.org.uk/ for more details).
- The monitoring of performance and progression.
- The facilitation of the development of the student's individual profile of achievement.
- The referral of students to specialist learning support where necessary.
- Monitoring and advising vis-à-vis student attendance.
- Advising on relevant policies and procedures.
- Signing-off completed student individual profiles.
- The writing of references.

Key Skills

Since 2000, as part of the national QCA Key Skills framework, all TVU students have been required to take a Key Skills assessment at the

commencement of their course. Students need to achieve Stage 2 in respect of English, Use of Number and Information Communication Technology. Initially, the assessment of English was carried out via a piece of free writing, but logistical difficulties in processing such an assessment led to its replacement by a multiple choice test. In cases where students did not achieve Stage 2 (by gaining 50% or less in any of the three realms), they have been advised to attend a programme in which extra support is provided. Due to the difficulties experienced by the nursing students in attending the scheduled Key Skills support sessions, (due to practice placements), other arrangements were made through liaison with the programme leader and Director of Studies and later, the student's Learning Skills Development Scheme (LSDS) leader.

The Learning Skills Centre offers the following services:

- Weekly workshops entitled Develop Your English and Develop Your Maths.
- A weekly English Language Grammar class for international students.
- ICT classes covering MS Word, Excel and Access.
- 4-week workshops on how to write in an academic way and how to research and plan assignments.
- A series of single workshops covering skills such as revision and examination strategies.
- Drop-in sessions for individual support.

The value of such support has been demonstrated by Beck (1980) who found significantly less attrition amongst students who attended study skills seminars compared to those who did not (cited in Glossop 2001).

The Portfolio

The portfolio, introduced in 1996, has been an integral component of the student's learning experience throughout the CFP and Branch. This initiative was an expression of the valorisation of the personal-professional portfolio

emerging within the nursing profession as a whole, as reflected in key strategic documents such as *Fitness for Practice* (UKCC, 1999) and *Making a Difference* (Department of Health, 1999). Though not a summative² assessment, students were required to maintain a portfolio within which their progress throughout the programme was charted, and their evaluative and reflexive skills assessed. Successfully completing the relevant parts of the portfolio became a condition for progression into branch, and finally for professional registration itself.

Assessment

For the duration of the entire programme, all TVU students were required to achieve a minimum of 40% in all summative theoretical assessments, and all component parts thereof. Students were entitled to two attempts at any theoretical assessment. Should students not achieve 40% on the first attempt, or not submit their first attempt assignment by the due date, (without any prior extension having been granted), their assignment was deemed a referral, and their subsequent second attempt would be capped at 40%. Should the student not achieve 40% in their second attempt, they were deemed to have not met the required standards of the programme and were subject to a discontinuation. In exceptional cases, students were able to submit three attempts, where one of the previous attempts had been deemed a non-submission. Students were able to request an extension in advance of submission if significant unforeseen circumstances prevented them from completing the assessment by the due date. The length of the extension was negotiated on an individual basis with the programme leader.

Students were required to pass all summative practical assessments in accordance with the regulations described above. However, with practice assessments needing to be completed by the end of the clinical placement, the same extension facility could not apply.

² 'Summative' is used to describe those modular assessments which must be submitted, successfully passed, and which subsequently contribute directly to student progression and overall academic achievement

The Academic Organisation

The organisational structure of the Faculty of Health and Human Sciences underwent a number of important changes. These changes have in turn reflected a host of influential shifts in policy and educational/philosophical orientations on many levels.

Initially the organisational structure was informed by a dual model, whereby staff were distributed within programme-based groupings such as the CFP/ Branch Groups and subject groupings. With the latter, staff were distributed according to their affiliations to academic disciplines such as Behavioural Sciences. Philosophically, this structure was informed by a particular reading of nursing knowledge as comprised of constituent and foundational academic knowledge forms, most notably; anatomy, physiology, psychology, sociology, ethics and community and professional studies.

Facilitating subject specialisation within discrete academically defined subject groups was therefore deemed to be necessary, as a means to ensuring quality in the facilitation of student's learning in respect of these disciplines. This organisational structure was, however, a consistent source of debate within the educational community, with a perception held by some that it was responsible for strategic and philosophical tensions between *programme* and *subject* interests. Whatever the stance taken, there is little doubt that a consensus developed within particular Faculty constituencies that a new and radically revised organisational structure would be required to effectively deliver the planned new curriculum.

Phase 2 - The 2001 Curriculum

A number of important drivers informed the re-structuring of the nurse training programme within the Faculty, expressed in the form of the 2001 Curriculum.

Making a Difference (Department of Health, 1999), the national nursing strategy, stated that whilst valuing the contribution of nurses, their education required the adoption of a partnership model. Universities and the NHS should work more closely together and the NHS should give a stronger lead to

the universities. This philosophy informed the development by TVU of Learning Communities in order to provide a student-centred approach to the delivery of education. One aim was to regain closer contact between all stakeholders, which had somewhat been dissipated through the move from schools/colleges into universities (Thomas et al, 2002). Learning Communities are geographically defined and include NHS Trusts and the private health care sector that provide clinical placements for TVU students. Membership includes students, researchers, educators, clinicians and support staff.

Fitness for Practice, the report of the UKCC's Commission for Nursing and Midwifery Education, was concerned "...to prepare a way forward for pre-registration and midwifery education that enables fitness for practice based on health care need" (UKCC: 1999, p. 1). The report made 33 recommendations in total and some of these could be accommodated within the existing programme framework. A number of them did however suggest the need for a more fundamental examination of the capabilities of the extant programme to meet the pre-requisites of *Fitness for Practice*. Arguably of greatest significance, was the emphasis placed upon inter-professional education, as a medium through which to prepare nurses for an integrated care approach. In addition, there was a reaffirmation of the need for nurse education to be practice-centred as a means to ensuring theory-practice integration. Whilst the Faculty has not realised 'inter-professional education' in its 2001 curriculum programme, there was a perception that a new form of learning environment needed to be created. The objective was to enable students to ground their learning within the complex and rapidly changing context of health need and care.

Requirements for Pre-Registration Nursing Programmes, (UKCC, 2001). In line with The Nurses, Midwives and Health Visitors (Registered Nurse Amendment Rules and Training Amendment Rules) Approval Order 1989, and Statutory Instrument 2000 (No 2554) the Common Foundation Programme (CFP) within pre-registration nursing programmes was to be reduced to 1 year. Theory and practice were to be divided equally within the CFP and Branches.

The Faculty's pre-registration programmes were directly and indirectly accountable to a range of stakeholders, most notably to the NHS Workforce Development Confederations (WDCs) who award the educational contracts. Programme development within the Faculty can therefore be understood in part as a response to the evaluations fed back from the WDCs via the Trust representatives and Learning Communities Operational Groups.

With its emphasis upon situated, applied and collaborative learning within small group contexts, *social constructivism*³ had been adopted as the learning philosophy underpinning the delivery of the pre-registration nursing programme.

Closely associated with the constructivist approach, *enquiry-based learning*⁴ had become seen as a model suitable to the realisation of practice-centred and integrative learning at pre-registration level.

The 2001 curriculum embodied a number of significant developments. Firstly, the institutionalisation of Learning Communities as the framework within which student learning was to be organised. Secondly, the introduction of three qualification pathways within one pre-registration programme. Whereas the Faculty had previously offered separate bursaried Diploma and non-bursaried Degree programmes leading to registration, the 2001 curriculum introduced an integrated 3-tier programme leading to a Diploma, Advanced Diploma and BSc (Hons).

³ Renshaw (1995) offers an account of the social constructivist approach to learning as underpinned by the following core assumptions: Learning is a social activity; is interactive and co-constructive; is self-regulated group membership; is evaluating shared ideas and values. Teaching is a joint activity with students; is a guided conversation; is assisting joint constructions; is enacting and role modelling community values.

⁴ Enquiry based learning is an umbrella term used to describe a particular philosophical approach based on constructivist theories of learning. It is based on the broad premise that deep learning that can be applied to new situations, is best learned when the student actively engages with knowledge, facts, concepts, evidence, theory and practice.

Diplomas, Advanced Diplomas and Degrees

All students were initially enrolled on the Diploma programme for the duration of the 1 year CFP (120 credits at Level 4) comprised of 4 modules and the first year of the Branch Programme (120 credits at Level 5) comprised of 3 modules. Should the students achieve an average of 55% or more for the first two years, they are enabled to choose either to continue on their Diploma pathway (acquiring a further 60 credits at Level 5) or select an Advanced Diploma or BSc Nursing pathway for their final year. For the Advanced Diploma, students complete a further 60 credits at Level 6, whilst the BSc Nursing students complete the full 120. Consequently, the final 3 modules operate as Level 5 single-modules (for the Diploma students), Level 6 single-modules (for the Advanced Diploma students) and Level 6 double-modules (for the BSc Nursing students). The three pathways prepare students for a common set of programme learning outcomes/competencies as laid down by the Nursing and Midwifery Council.

The students from all three pathways study together throughout the CFP and the first three modules of the Branch programmes. In the final three modules (8, 9 and 10), learning outcomes, assessments and learning experiences diverge as a means to achieving the differential expectations of the Diploma, Advanced Diploma and Graduate profiles.

The Advanced Diploma differs from the Diploma profile in two principal respects, namely; the emphasis placed within the former upon both *critical* appraisal of self and others, and the capacity to *initiate* planning and implementation. In turn, the Degree differs from the Advanced Diploma in its development of critical appraisal skills to a point where the nurse is enabled to consider new ways of developing clinical practice.

Entry Requirements

To commence on the programme, students must be successful at interview and satisfy the basic entry requirements, namely 5 GCSEs/O-levels grade C

or above, one of which must be in English⁵. A number of alternatives are acceptable:

- BTEC National Certificate or Diploma
- GNVQ Advanced
- GNVQ Intermediate PLUS at least one GCSE Grade C or above (preferably English)
- NVQ level 3
- NVQ Level 2 PLUS at least one GCSE grade C or above (preferably English)
- Kite marked Access course (any subject)
- CACHE awarded Diploma (Nursery Nursing)
- HNC, HND, AVCE or a University degree would also be sufficient to meet the entrance criteria.

Other qualifications such as ITEC Diplomas, Open University Credits etc are sometimes considered as part of an application. UK NARIC provide verification of overseas qualifications

The Common Foundation Programme (CFP)

The one year CFP has been devised to enable the students to achieve both the learning outcomes laid down by the NMC for the purposes of transition to Branch, and the SEEC Level 4 descriptors. These outcomes pertain to four domains: Professional and Ethical practice; Care Delivery; Care Management; Personal and Professional Development. The CFP is comprised of 4 modules.

Modules 1 and 2 are reversible. Half of the intake commences with Module 1 and the other half with Module 2, at the conclusion of which the groups interchange. Module 3 and 4 are studied by the whole cohort in sequence.

⁵ If an older student holds CSEs rather than GCSEs or O-Levels, then they must all be at grade 1 to count as the equivalent of a GCSE or O Level grade C

The organisation of the students' learning experience has also been subject to change. Throughout the CFP, a component of the syllabus is taught within a large-group context (of up to 100 students), with the bulk of learning being delivered within smaller learning groups of approximately 25 students. The allocation of students to learning groups has been informed by the introduction of Learning Communities.

A variety of approaches seem to inform the distribution of mental health, child and learning disabilities students within the (numerically) adult-predominated learning groups. This distinction between large-group and small-group learning is formalised in Module 4 with the commencement of an *enquiry-based learning* curriculum model. Large group learning takes the form of Fixed Resource Sessions, the purpose of which are to provide the students with a learning resource to support their small-group, scenario-based, activities.

The Branches

Applicants are required to specify their chosen branch at the point of initial recruitment. Following successful completion of the CFP, students may progress to their 2-year Branch programme⁶. Four Branches are offered, each comprised of six modules.

Support for Student Learning

The Director of Studies (DOS) format was replaced within the 2001 curriculum by the Learning Skills Development Scheme (LSDS) and the Personal Tutor role.

Each module within the programme incorporates learning hours designated for LSDS with contributions from all members of the team. The LSDS scheme is designed to offer students support in respect of 6 key transferable skills:

⁶ Should a student wish to change their branch programme, they were required during module 3, to submit a formal request to change, the enablement of which depended upon a first come-first served principle and upon the availability of a free-space within the branch in question

- Communication
- Application of Number
- Information Technology
- Working with Others
- Improving own Learning and Performance
- Problem Solving

Key Skills

The Key Skills strategy continued to underpin the new curriculum.

The Personal Tutor Role

At the commencement of the course, a personal tutor is allocated to a group of students for the duration of the three years. Typically, the tutor will be derived from the same Branch as the student. The tutor is responsible for the provision of support and pastoral care, and will direct the student to central services where appropriate⁷. They must meet their tutor individually at least three times within any given academic year.

Assessment

Initially, the procedures governing the theoretical and practical assessments were unchanged from the 1996-2001 curriculum. However, from November 2002, the Faculty changed its policy in line with the TVU Academic Office document, *Mitigation: Policy, Regulations, Guidance and Forms*. Mitigation has been defined as 'taking into account of any circumstances which were not within the foresight and control of the student and which the University believes might adversely affect the academic performance of a student'.

The policy remains unchanged in all but two respects. Students are able to request an extension of up to 10 working days in advance of submission if

⁷ The University offers a range of support services for the student population. These include: Careers Guidance Service, financial, legal and welfare advice, a Chaplaincy, an Accommodation Centre, Health Centre and Counselling Service

significant unforeseen circumstances prevented them from completing the assessment by the due date. Secondly, a mitigation panel (meeting monthly) considers all cases of referrals, failed submissions and non-submissions in accordance with the mitigation policy. Students are required to provide documentary evidence of their mitigating circumstances for consideration by the mitigation panel.

The Academic Organisation

The introduction of the 2001 curriculum marked a watershed in the underpinning philosophy and academic organisational structure adopted for the pre-registration programme. Whereas academic subject specialisation had previously informed both the philosophy and academic organisation of the 1996 curriculum, a more singular programme model informed the 2001 structure. The subject groups have been abandoned and staff re-organised into module teams responsible for, and competent to deliver, all elements of a particular module. This has been seen to be a necessary condition for delivering a practice-centred and applied programme informed by a social constructivist educational model. Staff simultaneously belong to a number of module teams and achieve the bulk of their work-loaded teaching hours in the service of their respective modular commitments.

It remains the case though that module teams may still depend upon staff members from out-with the module team to deliver particular themes within the syllabus on the basis of their known subject expertise in disciplines such as physiology, psychology, sociology and current clinical skills.

Recruitment Issues and Challenges

The recruitment policy within the Faculty has been informed by a number of policies, regulations and developments.

The NHS Workforce Development Confederations (WDCs) and the Nursing and Midwifery Council (NMC) required Higher Education Institutions to recruit applicants who reflect the cultural and ethnic mix of the client groups being cared for in local hospital and community settings. The WDCs commission

recruitment numbers for each intake based on replacement projections and anticipated workforce requirements. In addition, the recruitment activities are informed by the Quality Assurance Agency for Higher Education Code of Practice for the assurance of academic quality and standards in higher education.

Prior to the changes made to bursary regulations in 2001, a substantial and growing proportion of student places were filled by non-UK citizens, most notably from Eire and a number of African countries, mainly Zimbabwe. For example, over a period of 15 years the previous Berkshire College of Nursing, and later Thames Valley University, had a collaborative link with a number of Further Education Colleges in Eire, in particular with Cavan FE College. Finlayson et al (2002a) noted that many universities were struggling to fill places on nursing courses and were recruiting students from overseas.

Removal of Bursaries for EU Nationals and Overseas Applicants. In May 2001 the NHS Bursary Scheme regulations were changed in order to bring nursing diploma students into line with other university students. To satisfy the criteria for a non-means tested bursary, students will need to have been resident in the UK for 3 years prior to the start date of the programme (for reasons other than full-time education), and have settled status under the terms of the 1971 Immigration Act. Though the documentation produced from the Department of Health was initially unclear, it quickly became apparent that students from EU countries would also have to meet the 3-year residency criteria, including those from Eire⁸.

⁸ A Department of Health decision was made to the effect that any overseas student who had enrolled at an FE College to do either an access to nursing course, GNVQ Advanced in Health & Social Care, NVQs in Care and AVCE in Health & Social Care by 31st December 2001 would be exempt from the new ruling. A further bulletin advised that any student who had made an earlier application either through NMAS or who had applied directly to a HEI by 8th May 2001 would also be exempt from the new criteria, provided that they could provide the necessary proof.

The bursary regulation changes will also affect the numbers recruited to local Further Education Colleges who offer Access to Nursing Courses, as students requiring a visa will no longer be able to apply for Nursing and Midwifery programmes in the UK. These Access students presently represent a significant number of applications to TVU Nursing and Midwifery programmes. In the past, approximately half of all those on Access courses have been students who require a visa.

The new regulations commenced for students applying for the spring 2002 intake. The change in the NHS bursary criteria will have a significant impact on London Universities as they have traditionally recruited a higher than national proportion of students who are now no longer eligible for a bursary. However, Scholes et al (2004) noted similar findings in their evaluation of the 16 UK demonstration sites of the *Making a Difference* curriculum, particularly in respect to students from African countries. They commented that the changes 'to student eligibility for student bursaries have had a significant impact on the ethnic profile as these changes take effect (Page 51).'

For the past 3 or 4 years there has been a significant increase in applications to Nursing and Midwifery programmes through NMAS. Unfortunately the majority of these have been from overseas students who are no longer eligible for NHS bursaries. Many are from Zimbabwe, Sierra Leone and Eastern Europe. In addition, a significant number of enquiries come from self-financing EU and overseas applicants. Due to pressure on clinical placements the Faculty has, however, been instructed by the Workforce Development Confederations not to offer places for self-funding students.

The Faculty is committed to increasing the proportion of local applications. Many applications received in Berkshire via NMAS have been from people living in the London area. These have been transferred to Ealing for application processing as a reflection of the Faculty's strategy for local recruitment, and to reduce the number of students requiring accommodation. Staff from the recruitment department, and service colleagues, attend all available Careers Exhibitions and Job Fairs in the Berkshire and West London catchment area, in order to promote the Nursing, Midwifery and TVU Access

programmes. In addition there are widely advertised Open Afternoons held twice each month to give information and promote the programmes. There are four Further Education Colleges within Berkshire, and 36 within the London catchment area with which the Faculty has regular contact. Each term, recruitment staff visit students on Access courses to discuss the programmes on offer and facilitate the process of direct applications. These applicants are guaranteed an interview as part of the service provided by the Faculty. At present the Faculty also has contact with several schools in the area and further contacts with local schools are planned as part of the Learning Community initiatives to support local recruitment.

In 2003 the Mary Seacole Centre for Nursing Practice was awarded two years funding from Thames Valley SHA Workforce Development Confederation to devise and initiate a community development recruitment strategy entitled 'Campaign to Attract Nurses/midwives from Diverse Local Ethnic groups in Slough', known as the CANDLES Project. The CANDLES project was implemented in partnership with Slough Primary Care and Heatherwood and Wexham Park NHS Trusts, Slough Race Equality Council, TVU's Widening Participation Team and the Recruitment Department of the Faculty of Health and Human Sciences. The funding enabled the appointment of a coordinator/outreach worker and development of additional recruitment materials in order to reach under-represented local groups, particularly those from South Asian and Black Caribbean communities (Cottell, 2004; Bernard, 2005). The project was successful in recruiting such individuals into pre-registration programmes as well as onto the Skills Escalator Pathway, in preparation for applying to study on such courses. In light of this the FHHS has funded the post holder to remain for a further two years from October 2005, now working within the newly established External Events team.

Throughout the year, recruitment staff have attended a number of National Exhibitions and 42 UCAS Career Exhibitions for young people who are about to make their Higher Education choices.

Where possible the Selection Days are carried out on NHS Trust sites, in order that the day can include a tour of the hospital site and an opportunity to meet Trust staff and ask questions about practice placements.

Recruitment Issues Pertaining to the 2001 Programme Structure

All students applying for the new programme can be recruited with the minimum entry requirements but have the opportunity to exit with a diploma/advanced diploma or degree. This is dependent entirely on the student's performance in year 1 & 2 and does not relate to initial entry criteria. A degree pathway for Learning Disabilities has also subsequently been established. The new programme structure became effective for the intake commencing in September 2001.

It has been well received, with its flexible approach and improved funding for those students who do eventually go on to undertake the degree pathway. In the past, degree students have been required to apply for a means-tested bursary. Students on the degree pathway can now apply for a means-tested bursary for year 3 and will receive a non-means tested bursary for the first two years of the programme. This will widen opportunities for students otherwise lacking the qualifications to register for a degree.

Eligibility Criteria

The following is the latest eligibility information from the Department of Health:

1. Pre-registration students of nursing, midwifery, the allied health professions, dental auxiliaries, audiologists and operating department practitioners can receive bursaries if they are personally eligible and are accepted for NHS funded places, either full or part-time, in England. This means that they need to have been ordinarily resident in any UK country on the first day of the first academic year of the course, and have been ordinarily resident in the UK and islands throughout the 3-year period preceding the first day of the first academic year of the course. Eligible students should have settled status under the immigration laws.

2. However, individuals for whom a valid application was received before 8 May 2001, and individuals whose applications for an Access, or any of the other courses listed below, was received by the relevant institution on or before 31 December, or who was already attending such a course on or before that date, will not have to meet the rules on prior residence. They will remain eligible for the non-means tested bursary regardless of when their nursing or midwifery programme begins. These courses are (i) NVQ levels 2/3 in Care, (ii) GNVQ Advanced Health and Social Care, and (iii) AVCE Health and Social Care.
3. A student is not eligible if they are sponsored or seconded by their employer so that her/his income exceeds the maximum Bursary - maintenance plus tuition fee - payable. Students, who are ineligible because they have not been recruited to NHS funded places, but who are otherwise entitled to mainstream student support, retain that entitlement. Students receiving such support (apart from the reduced rate student loans mentioned in paragraph 9) cannot receive a bursary on top, but previous receipt of public funding does not in itself preclude eligibility for a bursary.

Student Retention and the Inclusive Learning Project

The Faculty introduced a range of initiatives to reduce student attrition on the pre-registration nursing programmes, including the introduction of DOS, LSDS and additional literacy support. It remains the case that the diversity of the Faculty's student profile may present important challenges in supporting the learning of student cohorts who come from such varied backgrounds. Evidence gathered in 2002 indicated that 50% of the pre-registration nurses based at Ealing were identified, by the current diagnostic tool, as having literacy and numeracy needs. To address this, an Inclusive Learning Project was initiated to develop an action plan to provide support for students with learning needs.

The Project is currently engaged in four principal areas of work:

1. The employment of an educational consultant to develop an effective diagnostic tool capable of determining the precise level of individual student learning need.
2. An embedding of key skills within the curriculum through the provision of additional skills sessions.
3. A staff development programme aimed at raising awareness and expertise concerning the inclusive learning agenda.
4. Educational research into the effectiveness of current key skills testing in numeracy and literacy with a view to providing data enabling further development.

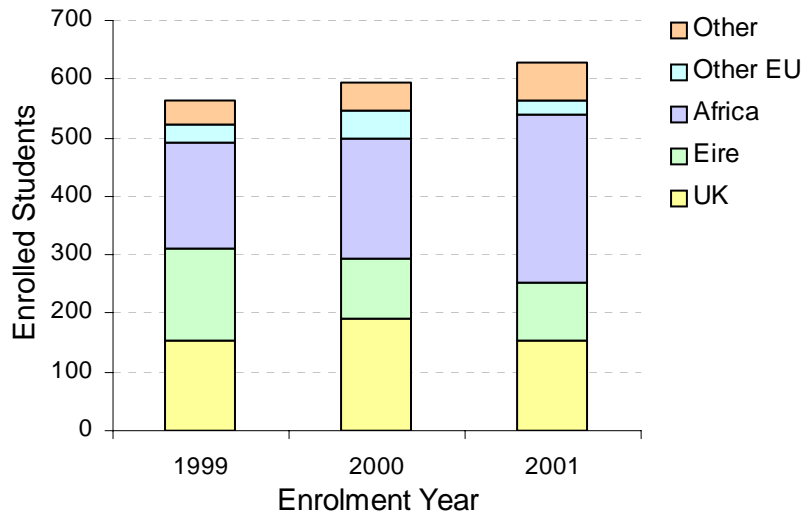
The Changing Student Profile

Country of origin

During the 1989 to 2002 period (mostly prior to the change in NHS bursary regulations) there was a noticeable increase in applications from a wide variety of overseas students. Word of mouth recruitment via existing students has in the past provided a significant source of direct applications. The greatest number was from Zimbabwe, Mauritius, Ghana, Nigeria, and other African countries. A significant number of applicants were recruited directly from Eire. In addition, students also came from other EU countries. Country of birth was therefore identified as one of the key diversity variables within the DATING Project minimum data set.

Buchan and Seccombe (2005; page 30) report that the Nursing and Midwifery Advisory Service (NMAS) statistics show that in 2004 'minority ethnic groups accounted for almost 43% of applications, but only 22% of accepted applicants. The percentage of successful applications was 11% compared with 30% for white groups.' The authors caution that it is not possible to undertake a trends analysis because NMAS have now adopted a non-standard ethnic classification and that this has changed for two successive years.

Figure 2.A: Categorized Country of Birth by Year of Enrolment



Age

During this period, the age profile of the applicants for pre-registration nurse training has become considerably older, particularly at Ealing. Whereas the bulk of the Faculty's applicants for Nursing and Midwifery were from the 18-30 age groups, there are now a larger number of applicants from the 30-45 categories. This change appears in part to be due to the increasing number of Access courses as a student must be at least 21 years old to enrol on these programmes. Of particular note is the number of students over the age of 30 on such Access courses, seeking to develop a new or second career. The age profile of applicants at the Slough campus remains younger, though this is showing signs of changing towards a significantly older age group. Many of the older students have parental responsibilities thus increasing the challenges associated with returning to education.

These figures reflect a national trend as noted in the RCN 2004/2005 Labour Market Review (Buchan and Seccombe, 2005: page 28) which records that in 2000/01, 62% of pre-registration nursing students receiving bursaries were aged 25 or under, compared to 51% in 2004/2005.

Table 2.1: Median and IQR of Student Age by Campus and Year

Year Enrolled	Campus	
	Ealing Median (IQR)	Berkshire Median (IQR)
1999	22.7 (19.9 to 29.9)	22.8 (20.4 to 29.4)
2000	27.0 (21.2 to 33.8)	25.9 (20.7 to 34.9)
2001	27.8 (21.2 to 34.6)	24.9 (20.5 to 31.5)

Gender

The Faculty continues to recruit predominantly female students to the Pre-Registration Nursing Programme. The number of male students recruited within each nursing group remains more or less constant at around 21% of the total with more male students recruited into the Mental Health Branch of each intake. Whittock and Leonard (2003), in a study of the experiences of male student nurse at Kingston University in Surrey, noted that 50% of the males enrolling on the 2000 and 2001 cohorts (10% and 14% respectively) were from overseas and ethnic minorities.

Research amongst students at Buckingham Chilterns University College and TVU commented that the findings of 78.3% female, 18.5% male (3.2% did not indicate) was fairly typical of the gender divisions within UK nursing courses (Brodie et al, 2004).

Of interest, however, is that Buchan and Seccombe (2005) report that NMAS statistics show men now account for only one in 10 (11%) of accepted applications, compared with nearly 15% in 1999.

Part Three: Methodology and Analysis

Methodology

Introduction

The DATING project was conceived with the aim of the development of a system to monitor the impact of key diversity variables on student progression and transition into practice. As part of this process routinely collected information on students was supplemented with additional data collected by Thames Valley University. This was in support of its commitment to understanding the impact of diversity variables within its student population, and to identify the pathway of students following completion of their studies. This has particular relevance to the NHS Workforce Development Confederations (WDCs) who fund the students undertaking nursing and midwifery courses.

Thames Valley University systematically collects information on a number of key variables that relate to the diversity of students accepted onto its courses. These include age, gender, academic qualifications, ethnic origin, and country of birth, and for those born outside of the UK, date of entry into the UK.

To determine student progress through the University system, final outcomes of their studies were determined. Three categories were considered:

- Students who successfully completed their course of study
- Students who withdrew from their course before completion
- Students who did not complete their course of study due to not meeting the required standards of the programme

Information relating to the diversity profile of the cohort at the start of the course was used to identify factors that were associated with successful

completion of the course, and factors that related to not meeting the required standards of the programme or withdrawal from the course before completion.

In addition to these outcomes of study, information was also collected on the students' first destination following successful completion of their course. This allowed for a determination of the numbers of students that went into employment within the local NHS Trusts, and the factors that were associated with the decision to become a member of NHS staff and those that decided against such employment.

The information was held in a number of different university systems, or was held as hard copy. A key part of the project was to aggregate the information, and where possible to prospectively collect the data as a routine part of the university data collection process.

The following chapter gives details of how the data were collected and aggregated, and the analysis of results to determine the impact of diversity factors on student outcomes of study and placement within the local NHS Trusts.

Identification of a Minimum Data Set

Following extensive discussion the Project Board designed a minimum data set that allowed for information to be generated on a number of areas that would (i) assist in achieving the objectives of the project and (ii) be of interest to the NHS Workforce Development Confederations (now within Strategic Health Authorities). It comprised 21 fields as set out in Table 3.1.

Table 3.1: The Minimum Dataset

No.	Field	Comments
1	Database ID Number	This is a number prefixed by a letter, the letter distinguishing whether the student is Ealing or Berkshire based
2	Gender	
3	Date of Birth	
4	Date of Cohort Intake	
5	Branch	Specifies whether student is studying for Adult, Learning Disability, Child, or Mental Health Nursing. From the October 2001 onwards intakes the following levels will also be included: Diploma, Advanced Diploma and BSc.
6	Group	This is their teaching group.
7	Seconded (e.g. By NHS Trust)	Yes or No
8	Area Recruited From	Either local, UK, EU or other
9	Visa Required	Visa details from the student's passport or student services.
10	Ethnic Origin	Using either 1991 or 2001 census categories
11	Highest Qualification	Highest qualification on entry
12	Country of Birth	Country they were born in.
13	Home Country	Basically country of residence
14	Nationality	
15	Post Code Applied From	Student's address at time of application
16	Student Wastage/Attrition	Student withdrawal, not meeting the required standards of the programme, etc.
17	Assessments	Results for each clinical and theory module (1-10) and detailing whether they pass, do not meet required standard of programme and number of retakes.
18	Absence (Number of Days)	
19	Absence (Bradford Factor)	Used by some public bodies e.g. NHS Trusts. Is used to show the difference between people who take a lot of odd days compared to those who are off for a long period (more serious illness). Is worked out by squaring the number of occasions and then multiplying by the number of days.
20	First Destination	This is a record of where the student first goes after completing training.
21	NMAS / Direct	Whether the student came via NMAS (a university clearing house for nursing and midwifery applicants) or a direct application

Data Management

A key to this project was ensuring that all information was collated into a single database to enable analysis. The information held on different systems was merged with hard copy information and entered onto the system in order for it to be analysed using an appropriate database/statistical package. This exercise identified that, whilst much of the required data were collected electronically, some was missing or only manually recorded. Important outcomes for the Faculty of Health and Human Sciences (FHHS) information system included:

1. Collection and inputting of missing data. This especially applied to Ethnic Origin, Country of Birth, Home Country, Nationality and Visa details. Systems have been introduced to enable more regular production of reports examining gaps in data and monthly verification reports in order to maintain the quality of the data set.
2. Entering of all first destination data into the database with recognition that these data had been incomplete for earlier years. Whilst this is currently manually input from forms as before, it is now also stored against the student on the ARC system (that stores nursing and midwifery student records and held within the FHHS). It is available for analysis and has led to a number of quality check reports. For example, a report is pulled off examining all the fields required for the NMC near the start of the course, so all of these fields are completed at this stage. Also pre-registration recruitment will be done via UNIT-e, the new university student record system, for the March 2006 onwards intakes.
3. All prospective data are now inputted electronically from April 2004 and a system is currently being designed for students to enter their first destination data online as part of their completion process.
4. Review of the categories concerning reasons for discontinuation. These are now being finalised for integrating into the fields in the ARC student database in order to improve the quality of the data.

5. Recognition that whilst certain information is shared amongst some group members, there is a general under utilisation of data within the Faculty. A project is currently being undertaken, both within the Faculty and across the university, for current data (including the DATING Project) to be presented at the Curriculum groups to look at issues such as attrition and progression.
6. Improved reports examining student absence details utilising an interactive web-based system. Students can now access the internal Placement on the Web (POW) where they can find out what hours they have and have not done, in order to complete prior to finishing the course.

Participants

The initial sample size was 2077 students. It was noted that not all students followed the intended schedule of their course. In order to restrict the analysis to a homogenous group, all students who were recorded as having commenced their studies before or after the start date for each intake were excluded. Since alternative start dates tended to be one or more semesters before or after the main cohort start date, the criteria applied was to exclude students with a personal start date more than 30 days before or 30 days after the expected start date of their intake. Start date was unavailable for 29 students and a further 240 students fell outside these limits and were excluded as their experience of the course may well have been atypical. This left a total of 1808 cases available for analysis. Examination of histograms plotting the relative start dates of students did not indicate any pattern to the excluded cases across the six intakes.

The median age of the students included in these analyses was 25.1 (range 17.6 to 58.8).

Variables

Continuous variables (age, number of days absence due to sickness, Bradford score) were categorised using approximate quartiles in order to allow the identification of trends without assuming linear effects.

Eighty-five different countries of birth were recorded and this was collapsed down to five categories (scheme presented in Appendix A). Students born in the UK, Eire and Zimbabwe represented the majority (70%) while other countries were classified according to the level of English language use in their country of origin (Central Intelligence Agency, 2005), which was taken as a proxy indicator of likely fluency in English. Students from countries where English is a commonly used language among the literate population were contrasted with those from countries where English is not required for either spoken or written communication.

Ethnic origin was recorded as one of twenty-four categories based on the 1991 and 2001 census categories (Office for National Statistics, 2003). These were collapsed to five categories indicating students who were White (with the exception of Irish); Irish; Black; Asian (Chinese, Indian or Pakistani); and those of mixed race (scheme presented in Appendix B).

Visa status was obtained for the majority of students from the university student database. Additional manual searches of paper-based student records were undertaken for students where data were missing and a visa requirement appeared likely (overseas students). Students who were listed as asylum seekers, as having indefinite or temporary leave to stay, and those who had applied for a visa were coded as requiring a visa while those with no entry, listed as having a UK or EEC passport or as not requiring a visa for other reasons were recorded as not requiring a visa.

Route of application, i.e. via the Nursing and Midwifery Admissions Service (NMAS) or direct, was determined according to the existence of an NMAS application number.

Highest qualification was collapsed from the eight categories recorded in the university student records database (Nursery Nurse, GCSE, NVQ, GNVQ, BTEC, Access Course, A Levels, Degree) to five categories (Other [including Nursery Nurse and GCSE], NVQ/GNVQ/BTEC, Access Course, A-Levels, Degree).

Statistical Analyses

Analyses were conducted to predict three educational outcomes (successful completion, not meeting the required standard of the programme, and withdrawal from study for other reasons) and two employment outcomes (employed locally in the NHS or not). Local NHS Trusts were defined as those based within the catchment areas of the two SHA contract areas, i.e. Berkshire and West London.

Outcomes were modelled as binomial variables. For the three-level educational outcome, successful completion was contrasted with non-completion for any reason; and in a separate analysis for non-completers alone, not achieving the required standard of the programme was contrasted with withdrawal for other reasons. Chi-square tests were used for crude bivariate tests of candidate predictors. Multivariate models were constructed using binary logistic regression. Categorical variables with more than two levels were modelled using indicator variables and the significance of individual levels of each predictor was tested using Wald tests. Logistic regression models were compared using analysis of deviance.

An initial analysis examined the variability in success rates among different cohorts of students defined by campus, branch and intake. Logistic regression was used to examine the main effects of campus, branch and intake. Following this, cohort was modelled as a random effect to produce an overall estimate of success. Outcomes in individual cohorts were compared with this overall estimate using a forest plot to identify anomalous cohorts.

Further analyses investigated student specific factors that predicted the outcomes of interest while controlling for cohort as a random effect. Predictors that were significant in crude tests were individually introduced following a manual stepwise procedure. Predictors that were not significant in crude tests were then added to the model to test for emergent relationships.

All analyses were conducted using Stata version 7 (Stata Corp., Texas)

Results

Successful Completion at the Cohort Level

Data were gathered across two campuses of the university (Ealing and Berkshire), from four branches of nursing (Adult, Child, Learning Disability and Mental Health), and from students commencing in six successive semesters covering three years (1999 to 2001). Numbers of students in each cohort are presented in Table 3.2.

Table 3.2: Number of Students in each Cohort

Intake	----- Ealing -----				----- Berkshire -----			
	Adult	Child	Learning Disability	Mental Health	Adult	Child	Learning Disability	Mental Health
April 1999	133	21	-	59	65	8	-	-
October 1999	138	13	-	44	59	11	8	24
April 2000	99	6	-	39	75	8	-	16
October 2000	161	20	-	62	64	13	8	24
April 2001	115	9	-	37	69	14	5	15
October 2001	151	14	6	62	97	11	5	20
Total = 1808	797	83	6	303	429	65	26	99

The percentage of students successfully completing was calculated for each cohort and is presented in table 3.3.

Table 3.3: Pass Rate in each Cohort⁹

Intake	----- Ealing -----				----- Berkshire -----			
	Adult	Child	Learning Disability	Mental Health	Adult	Child	Learning Disability	Mental Health
April 1999	80%	57%	-	81%	77%	75%	-	-
October 1999	82%	31%	-	68%	66%	55%	63%	88%
April 2000	81%	67%	-	79%	63%	50%	-	88%
October 2000	86%	75%	-	76%	73%	85%	38%	83%
April 2001	94%	100%	-	86%	77%	64%	100%	87%
October 2001	81%	86%	83%	90%	75%	54%	100%	95%

⁹ At the time of data collection some students had outstanding paperwork and assignments that stopped their completion. This is particularly relevant for October 2001 cohort but also applied to April 2001 cohort, therefore a higher completion rate than given above will apply.

A logistic regression model was used to examine the main effects of campus, branch and intake on successful completion of the course. This model provided a significant fit to the data ($\chi^2(9) = 53.7, p < .001$) explaining 2.9% (adjusted $r^2 = .029$) of the variability in success. Compared to the baseline of the April 1999 intake to the Adult Diploma in Ealing, this model indicated simple effects whereby students on the Berkshire campus had significant lower odds of success as did students on the Child branch, while students in the April 2001 intake had significantly higher odds of success than those in April 1999.

A further model was constructed with campus, branch and intake fully interacting. This provided a significant improvement in fit ($\chi^2(27) = 57.6, p < .001$) and explained a further 2.7% (adjusted $r^2 = .056$) of the variability in outcomes. Within this model, a three-way interaction indicated that the Berkshire October 2001 Child Diploma cohort had significantly lower odds of success than expected, while the previously observed main effects for the Berkshire campus and Child branch of nursing were no longer significant. The main effect of improved odds of success for the April 2001 intake remained significant.

Overall, it was concluded that there was no statistical evidence of broad differences between campuses and branches of nursing, or between intakes with the exception of anomalously good rates of success among the April 2001 intake. Consequently it was decided that cohort effects were best modelled using a single cohort variable with each intake to each branch at each campus forming a separate level.

Attention now turned to the identification of anomalous cohorts with cohort modelled as a random effect. The log-odds of success in each cohort and a maximum likelihood standard error for each of these values was calculated and these statistics were used to compare outcomes in each cohort with a pooled overall estimated success rate. Three of the forty cohorts (Ealing April 2001 Child Nursing, Berkshire April 2001 Learning Disability, and Berkshire October 2001 Learning Disability) achieved 100% success rates and could not be incorporated in this analysis for mathematical reasons. However in all three

cases the numbers of students were small (respectively 9, 5 and 5) and lack of statistical power would have precluded the identification of these cohorts as significantly anomalous.

The method followed was analogous to a random effects meta-analysis with cohorts taken as separate units of analysis. Results indicated the average success rate was 76.8% (95%CI 72.9% to 80.3%). Results from this analysis are presented as a forest plot in figure 3.A where it can be seen that the confidence intervals around the estimated success rates for seven of the thirty-seven cohorts did not overlap with the overall best estimate of success.

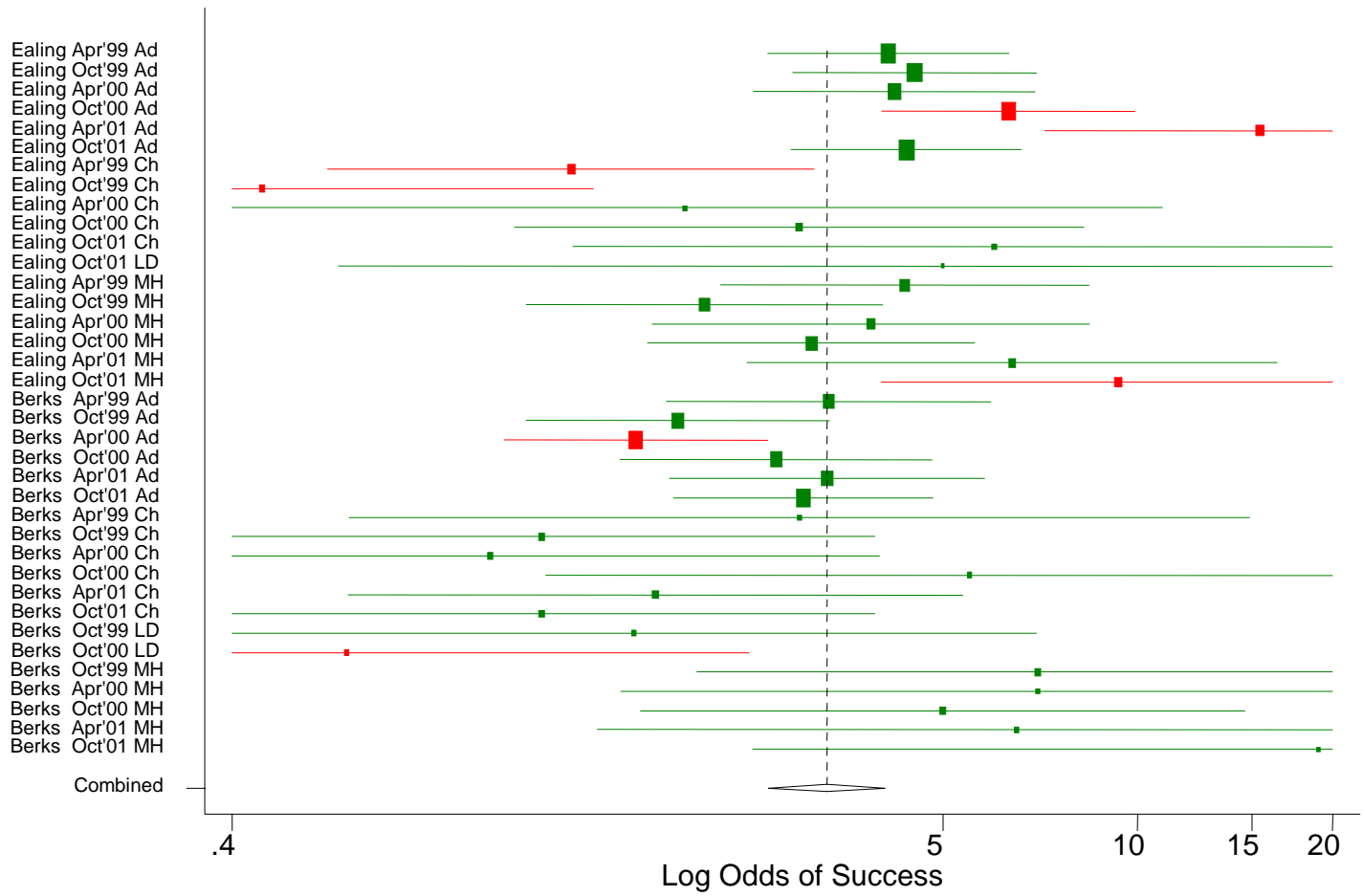
Four of these cohorts had success rates that were lower than expected:

- Ealing April 1999 Child Nursing (21 students, 57% pass)
- Ealing October 1999 Child Nursing (13 students, 31% pass)
- Berkshire April 2000 Adult Nursing (75 students, 63% pass)
- Berkshire October 2000 Learning Disability (8 students, 38% pass).

Three cohorts had success rates that were higher than the pooled estimate:

- Ealing October 2000 Adult Nursing (161 students, 86% pass)
- Ealing April 2001 Adult Nursing (115 students, 94% pass)
- Ealing October 2001 Mental Health Nursing (62 students, 90% pass).

Figure 3.A: Forest Plot Comparing Cohort Success Rates



Ad = Adult, Ch = Child, MH = Mental Health, LD = Learning Disability.
 The position of each shaded square indicates the success rate in that cohort and the area of each square is proportional to the number of students.
 Horizontal tails indicate 95% confidence intervals. Anomalous cohorts are highlighted in red.

Successful Completion

Table 3.4 summarises the characteristics of students considered in this analysis.

Table 3.4: Description of Student Level Variables

Variable	Description	Missing	Summary Statistics		
			Level	Freq.	%age ¹
Gender	Nominal with 2 levels	None	Female	1444	80%
			Male	364	20%
Age	Approximate quartile split	None	Under 21	524	29%
			21 to < 26	437	24%
			26 to < 33	409	23%
			33 and over	438	24%
Country of Birth	Nominal with 5 levels	23 cases	UK	499	28%
			Eire	356	20%
			Zimbabwe	396	22%
			Other English speaking	362	20%
			Other non-English speaking	172	10%
Ethnic Group	Nominal with 5 levels	18 cases	White	455	25%
			Irish	380	21%
			Black	829	46%
			Asian	60	3%
			Other	66	4%
Highest Qualifications	Nominal with 5 levels	None	Other/Nursery Nurse/GCSEs	908	50%
			NVQ/GNVQ/BTEC	278	15%
			Access	430	24%
			A-Levels	124	7%
			Degree	68	4%
VISA Required	Nominal with 2 levels	13 cases	No	1113	62%
			Yes	682	38%
Application Route	Nominal with 2 levels	71 cases	NMAS	476	27%
			Direct application	1261	73%
Days Sickness	Approximate quartile split	None	None to 2.5	477	26%
			3 to 10	514	28%
			11 to 22	435	24%
			23 or more	382	21%
Bradford Score	Approximate quartile split	117 cases	0 to 150	435	26%
			151 to 1300	441	26%
			1301 to 8800	435	25%
			8801 or more	380	22%

1) Percentages are calculated for the non-missing data only.

Bivariate Analysis

Students were classified according to whether they successfully completed their course or whether they did not complete for whatever reason. Of the 1808 students being examined, 377 (20.9%) did not successfully complete their course of studies. Chi-square tests were used to examine the crude associations between candidate student level predictors and a binary variable coded to indicate successful completion of the course. Results of these tests are presented in table 3.5 below.

Table 3.5: Bivariate Tests of Candidate Predictors of Success

Predictor		Did not meet required standard or Withdrew		Successfully Completed		χ^2 (df)	p
		Freq.	%age ₁	Freq.	%age ₁		
		377	21%	1431	79%		
Gender	Female	290	20%	1154	80%	2.57(1)	.109
	Male	87	24%	277	76%		
Age	Under 21	126	24%	398	76%	11.24(3)	.011
	21 to < 26	103	24%	334	76%		
	26 to < 33	74	18%	335	82%		
	33 and over	74	17%	364	83%		
Country of Birth	UK	153	31%	346	69%	65.31(4)	< .001
	Eire	61	17%	295	83%		
	Zimbabwe	61	15%	335	85%		
	Other English speaking	43	12%	319	88%		
	Other non-English speaking	51	30%	121	70%		
Ethnic Group	White	136	30%	319	70%	35.06(4)	< .001
	Irish	67	18%	313	82%		
	Black	138	17%	691	83%		
	Asian	15	25%	45	75%		
	Other	10	15%	56	85%		
Highest Qualifications	Other/Nursery Nurse/GCSEs	182	20%	726	80%	13.66(4)	.008
	NVQ/GNVQ/BTEC	71	26%	207	74%		
	Access	76	18%	354	82%		
	A-Levels	25	20%	99	80%		
	Degree	23	34%	45	66%		
VISA Required	No	260	23%	853	77%	12.94(1)	<.001
	Yes	111	16%	571	84%		
Application Route	Direct application	252	20%	1009	80%	0.74(1)	.391
	NMAS	104	22%	372	78%		
Days Sickness	None to 2.5	114	24%	363	76%	5.22(3)	.157
	3 to 10	94	18%	420	82%		
	11 to 22	86	20%	349	80%		
	23 or more	83	22%	299	78%		
Bradford Score	0 to 150	81	19%	354	81%	3.57(3)	.311
	151 to 1300	91	21%	350	79%		
	1301 to 8800	89	20%	346	80%		
	8801 or more	91	24%	289	76%		

1) Percentages are calculated within each level of each categorical variable. All tests were two-tailed.

Significant predictors of success were age at course start date ($\chi^2(3) = 11.24, p = .011$), country of birth ($\chi^2(4) = 65.31, p < .001$), ethnic group ($\chi^2(4) = 35.06, p < .001$), highest qualifications on entry ($\chi^2(4) = 13.66, p = .008$), and whether the student had obtained or was required to obtain a visa ($\chi^2(1) = 12.94, p < .001$).

Multivariate Analysis

In order to maintain a consistent sample size across models being compared, cases with missing data on any of the significant predictor variables were eliminated. A total of 53 cases were lost, 23 due to missing data for country of birth, a further 17 for missing data on ethnicity and 13 for missing visa information. This left 1755 cases for analysis. Bivariate tests were rerun and a similar pattern of effects was found to those reported above.

The baseline model prior to the introduction of student level predictors was a component of variance logistic regression model predicting successful outcome, with cohort effects controlled as a random intercept.

Initial attention focussed on country of birth. Analysis of deviance indicated this model provided a significant improvement in fit ($\chi^2(4) = 53.6, p < .001$) with students from Eire (OR = 1.97, 95%CI 1.37 to 2.83, $p < .001$), Zimbabwe (OR = 2.56, 95%CI 1.79 to 3.66, $p < .001$) and other English speaking countries (OR = 3.22, 95%CI 2.14 to 4.86, $p < .001$) all obtaining better pass rates than students from the UK. Students from other non-English speaking countries were not significantly different to UK students (OR = 1.05, 95%CI 0.70 to 1.58, $p = .819$).

Attention next turned to ethnic origin. Logistic regression to predict success on the basis of ethnic origin alone indicated this was a significant predictor ($\chi^2(4) = 26.1, p < .001$) with Irish, Black and other (not Asian) students having better odds of success than White students. Asian students did not significantly differ from White students. However it should be noted that this was the smallest group ($N=57$) providing the least power to detect a significant difference.

It was noted that a high level of overlap exists between the ethnic origin and country of birth variables. Cross tabulation indicated 77% of students born in the UK were classified as White, 95% of student born in Eire were of Irish ethnic

origin and 97% of students born in Zimbabwe were classified as Black. Since country of birth and ethnicity were likely to be collinear, logistic regression models were constructed to test their incremental predictive values. Adding country of birth to a model containing only ethnicity improved the fit considerably ($\chi^2(4) = 31.4, p < .001$) while adding ethnicity to a country of birth model failed to provide a significant improvement either as a main effect ($\chi^2(4) = 3.94, p = .414$) or with full interaction ($\chi^2(14) = 8.13, p = .883$). Consequently ethnic origin was dropped from the model as it failed to improve upon the predictive capacity of a model specifying country of birth.

A similar analysis was conducted to examine the effect of obtaining a visa. Consistent with bivariate tests, adding visa alone significantly improved the baseline model ($\chi^2(1) = 11.6, p < .001$) with possession of a visa predicting improved odds of success (OR = 1.59, 95%CI 1.21 to 2.08, $p = .001$). However, adding visa to a model controlling for country of origin failed to provide an improved fit ($\chi^2(1) = 0.06, p = .806$) and the odds ratio for visa in this model reduced to close to unity.

Visa status is clearly dependent on country of origin. Only one student born in the UK or Eire was listed as requiring or possessing a visa while 91% of students born in Zimbabwe and 61% of all other students possessed or required a visa. Consequently it appears that visa was a significant predictor due to confounding with country of origin: students who require a visa have better odds of success than those without a visa, and it is overseas students (who generally do better than UK students) who are likely to require a visa.

Consistent with bivariate tests, a logistic regression model incorporating categorised age alone provided a significant fit to the data ($\chi^2(3) = 9.37, p = .025$). Adding categorised age into a model containing country of birth also provided a significant improvement ($\chi^2(3) = 11.12, p = .011$) with no substantial changes to the existing results for country of birth. Compared to the youngest age band (less than 21), students in the 21-25 age band were not significantly different while those in the 26-32 years age band (OR = 1.54, 95%CI 1.05 to 2.26, $p = .029$) and those of age 33 or more (OR = 1.84, 95%CI 1.25 to 2.72, $p = .002$) were significantly and increasingly more likely to successfully complete their course.

The crude effect of prior education was confirmed using a simple logistic regression model ($\chi^2(4) = 12.5, p = .015$), however incorporating education into a model containing country of birth and age failed to provide an improvement ($\chi^2(4) = 8.87, p = .065$). Examination of coefficients for this model indicated that all categories of education produced very similar success rates with the exception of students who were already qualified to degree level. A dichotomous re-parameterised version of the education variable was constructed to distinguish between students who were educated to degree level and those who applied on another basis. Incorporation of this new education variable into a model containing country of origin and age showed a significant improvement in fit ($\chi^2(1) = 8.47, p = .004$) with students with degrees having significantly poorer odds of success (OR = 0.41, 95%CI 0.23 to 0.73, $p = .003$).

Having incorporated all predictors that were significant in bivariate tests, other candidate predictors were individually added to the model to test for effects that may have been unmasked by controlling for country of birth, age and qualifications on enrolment to the course. Where necessary, sample sizes were reduced for individual analyses to take account of missing data on the variable under consideration. The addition of NMAS status ($\chi^2(1) = 0.05, N = 1684, p = .820$), categorised days of sickness absence ($\chi^2(3) = 4.55, p = .208$), and categorised Bradford score ($\chi^2(3) = 3.08, N = 1652, p = .380$) all failed to improve the model overall or to substantially influence the significance or magnitude of the predictors already established within the model.

Although not significant in bivariate tests, the addition of gender produced a marginally significant improvement to the model with no loss of participants due to missing data ($\chi^2(1) = 3.82, p = .051$) where male students had significantly poorer odds of success than female students (OR = 0.73, 95%CI 0.54 to 0.99, $p = .049$). Incorporation of gender did not substantially affect other coefficients already present in the model.

Results for this final model are presented in table 3.6 where the comparison group is young (age < 21 years) female students born in the UK who did not already possess a degree.

Table 3.6: Multivariate Predictors of Success

Predictors	Odds Ratio (95% CI)	Wald Z	P
Born UK, < 21 years, female	1.00		
Born in Eire	2.43 (1.64 to 3.61)	4.41	< .001
Born in Zimbabwe	2.66 (1.84 to 3.83)	5.24	< .001
Born in other English speaking	2.77 (1.81 to 4.23)	4.71	< .001
Born in other non-English speaking	1.08 (0.71 to 1.65)	0.37	.714
Degree	0.43 (0.24 to 0.78)	2.81	.005
Age range 21 to <26	1.20 (0.85 to 1.69)	1.03	.302
Age range 26 to <33	1.65 (1.12 to 2.44)	2.53	.012
Age 33+	1.97 (1.32 to 2.92)	3.36	.001
Male	0.73 (0.54 to 1.00)	1.97	.049

Random modelling of outcome at the cohort level accounted for around 7% of the variability in success rates ($\rho = .067$, 95%CI .027 to .158) while a similar logistic model excluding the random effect of cohort indicated the student level variables accounted for around 5% (adjusted $r^2 = .051$) of the variability in outcomes.

Residuals for this model (without the cohort random effect) were calculated and found to closely follow a normal distribution. Examination of residuals plotted against each predictor, whether retained or excluded from the model, provided no evidence that important relationships had been missed.

Not meeting the required standard of the programme (as opposed to Withdrawal) among Non-Completing Students

Having identified predictors of success, further analyses were conducted to distinguish between students who did not achieve the required standard and those who had withdrawn for other reasons.

Bivariate Analysis

Of the 377 (22%) students who did not successfully complete, 146 (39%) did not meet the required standard while the remaining 231 (61%) withdrew from their studies for other reasons. Chi-square tests were used to examine the crude associations between candidate student level predictors and a binary variable coded to differentiate between those not meeting the required standard and withdrawal for other reasons. Results of these tests are presented in table 3.7 below.

Table 3.7: Bivariate Predictors of Not meeting required standard of programme for non-Completing Students

Predictor		Withdrew		Not meeting required standard		$\chi^2(df)$	<i>p</i>
		Freq.	%age ₁	Freq.	%age ₁		
		231	61%	146	39%		
Gender	Female	183	63%	107	37%	1.77(1)	.183
	Male	48	55%	39	45%		
Age	Under 21	77	61%	49	39%	0.94(3)	.816
	21 to < 26	65	63%	38	37%		
	26 to < 33	42	57%	32	43%		
	33 and over	47	64%	27	36%		
Country of Birth	UK	106	70%	47	31%	16.37(4)	.003
	Eire	34	56%	27	44%		
	Zimbabwe	35	58%	26	43%		
	Other English speaking	16	37%	27	63%		
	Other non-English speaking	34	67%	17	33%		
Ethnic Group	White	101	74%	35	26%	17.03(4)	.002
	Irish	36	54%	31	46%		
	Black	73	53%	65	47%		
	Asian	10	67%	5	33%		
	Other	8	80%	2	20%		
Highest Qualifications	Other /Nursery Nurse/GCSEs	110	60%	72	40%	12.20(4)	.016
	NVQ/GNVQ/BTEC	46	65%	25	35%		
	Access	37	49%	39	51%		
	A-Levels	19	76%	6	24%		
	Degree	19	83%	4	17%		
VISA Required	No	171	66%	89	34%	7.69(1)	.006
	Yes	56	50%	55	50%		
Application Route	Direct application	145	58%	107	43%	2.94(1)	.087
	NMAS	70	67%	34	33%		
Days Sickness	None to 2.5	77	68%	37	32%	12.86(3)	.005
	3 to 10	66	70%	28	30%		
	11 to 22	49	57%	37	43%		
	23 or more	39	47%	44	53%		
Bradford Score	0 to 150	63	78%	18	22%	24.12(3)	< .001
	151 to 1300	59	65%	32	35%		
	1301 to 8800	47	53%	42	47%		
	8801 or more	39	43%	52	57%		

1) Percentages are calculated within each level of each categorical variable. All tests were two-tailed.

Significant predictors of not meeting the required standard rather than withdrawal were country of birth ($\chi^2(4) = 16.37, p = .003$), ethnic group ($\chi^2(4) = 17.93, p = .002$), highest qualification ($\chi^2(4) = 12.20, p = .016$), visa required ($\chi^2(1) = 7.69, p = .006$), categorised days sickness ($\chi^2(3) = 12.86, p = .005$) and categorised Bradford score ($\chi^2(3) = 24.12, p < .001$).

Multivariate Analysis

Cases with missing data on any of the significant predictor variables were eliminated. A total of 48 cases were lost, 8 for missing country of birth, a further 11 due to missing data on ethnicity, 6 for missing visa information and 23 for missing Bradford scores. This left 329 cases for analysis. Bivariate tests were rerun and a similar pattern of effects was found to those reported above with the exception of highest qualification ($\chi^2(4) = 7.43, p = .115$) and categorised number of days of absence due to sickness ($\chi^2(4) = 7.78, p = .051$) both of which were no longer significant. Missing data analyses were conducted for both of these variables.

For highest qualification, missing data occurred at similar rates across all levels of qualification and irrespective of why the students did not complete. However when these variables were interacted, missing data were found to occur at a significantly higher rate among Access students who left due to not meeting the required standard. It should be noted that very small numbers of students were involved in this analysis so no firm conclusions can be drawn. However this provides a statistical explanation for the otherwise anomalous loss of the highest qualification variable as a predictor of not meeting the required standard.

Missing data analysis with respect to number of days of sickness absence indicated missing demographic data were significantly more common among students with few (<3) days of absence due to sickness ($\chi^2(3) = 52.3, p < .001$). Examination of the subgroup of students with missing data indicated low numbers of sickness days was also significantly related to withdrawal from study ($\chi^2(3) = 12.2, p = .007$). It may be the case that a number of students who provided sparse demographic data registered few or no days of absence as they withdrew early in their studies, however testing of this possible relationship was beyond the scope of the present study.

The baseline model prior to the introduction of student level predictors was a component of variance logistic regression predicting those not meeting the required standard (as opposed to withdrawal for other reasons), controlling for cohort as a random intercept.

Initial attention focussed on country of birth. Analysis of deviance indicated this predictor provided a significant improvement in fit ($\chi^2(4) = 9.95, p < .041$) with overseas students from English using countries (except Zimbabwe) significantly more likely to have not met the required standard rather than to have withdrawn (OR = 3.24, 95%CI 1.43 to 7.32, $p = .005$). Students from Eire and overseas countries where English is not natively spoken were not significantly different to students born in the UK. Students from Zimbabwe were also not significantly different, however it should be noted that this was a marginal result (OR = 1.89, 95%CI 0.96 to 3.69, $p = .064$).

Attention next turned to ethnic origin. A model predicting those not meeting the required standard on the basis of ethnic origin indicated this was a significant predictor ($\chi^2(4) = 11.8, p = .019$) with Irish and Black students more likely to exit for reasons of not meeting the required standard rather than withdrawing, than White (non-Irish) students. Students of Asian and other ethnic origins were not significantly different to White students. It has previously been noted that a high level of overlap exists between the ethnic origin and country of birth variables. Since country of birth and ethnicity were likely to be collinear, logistic regression models were constructed to test their incremental predictive values. Adding country of birth to a model containing only ethnicity failed to improve the fit ($\chi^2(4) = 3.68, p = .451$) and adding ethnicity to a country of birth model also failed to provide a significant improvement either as a main effect ($\chi^2(4) = 5.52, p = .238$) or with full interaction ($\chi^2(10) = 17.8, p = .059$). This indicated that, for this outcome measure, ethnicity and country of birth were confounded to such an extent that neither variable provided additional statistical information above the other. Since both could not be included due to collinearity, country of birth was retained and ethnicity dropped to maintain consistency with the analysis of factors predicting successful completion presented above.

A similar analysis was conducted to examine the effect of requiring a visa. Consistent with bivariate tests, visa status significantly improved the baseline model ($\chi^2(1) = 5.94, p = .015$) with possession of a visa predicting greater probability of not meeting the required standard rather than withdrawal (OR = 1.88, 95%CI 1.13 to 3.13, $p = .015$). However, adding visa to a model controlling

for country of origin failed to provide an improved fit ($\chi^2(1) = 1.86, p = .173$). Consequently visa was dropped as a predictor as its effect appeared to be incorporated within the effect of country of origin.

A simple model testing categorised Bradford score provided a significant fit to the data ($\chi^2(3) = 21.6, p < .001$) and this variable also significantly improved the model containing country of birth ($\chi^2(3) = 20.8, p < .001$). This model indicated a trend towards increasing odds of not meeting the required standard with increasing Bradford score. Compared to the lowest quartile of Bradford scores (0-150)¹⁰, students in the second lowest quartile of Bradford scores (151-1300) were marginally but not significantly more likely to not meet the required standard than withdraw (OR = 1.86, 95%CI 0.89 to 3.91, $p = .010$). Students in the third quartile (1301-8800) were significantly more likely to not meet the required standard rather than withdraw (OR = 3.49, 95%CI 1.67 to 7.31, $p = .001$) while students in the highest quartile (8800+) had the greatest increase in odds of not meeting the required standard rather than withdrawal (OR = 4.53, 95%CI 2.17 to 9.47, $p < .001$).

Having incorporated all predictors that were significant in bivariate tests, other candidate predictors were individually added to the model to test for effects that may have been unmasked by controlling for country and Bradford score. Where necessary, sample sizes were reduced for individual analyses to take account of missing data on the variable under consideration. The incorporation of gender ($\chi^2(1) = 0.90, p = .342$), categorised age ($\chi^2(3) = 2.51, p = .474$), categorised prior level of education ($\chi^2(4) = 9.12, p = .058$) and NMAS status ($\chi^2(1) = 2.35, N = 313, p = .125$) all failed to improve the model overall or to substantially influence the significance or the magnitude of effects due to visa status, country of birth or Bradford score.

Results for this final model are presented in table 3.8 where the comparison group is students born in the UK who fell in the lowest quarter of Bradford scores.

¹⁰ Some students within the 0-150 Bradford score would have withdrawn within the first few months of the course owing to changing career path for various reasons and would not had a chance to accrue much absence or to have not met required standard at this stage.

Table 3.8: Multivariate Predictors of Not Meeting the Required Standard of the Programme for Non-Completing Students

Predictors	Odds Ratio (95% CI)	Wald Z	P
Born UK, Bradford score 150 or less	1.00		
Born in Eire	1.22 (0.61 to 2.45)	0.57	.568
Born in Zimbabwe	1.93 (0.97 to 3.84)	1.88	.060
Born in other English speaking	3.09 (1.35 to 7.09)	2.67	.008
Born in other non-English speaking	1.26 (0.57 to 2.76)	0.57	.571
Bradford score 151 to 1300	1.86 (0.89 to 3.91)	1.65	.100
Bradford score 1301 to 8800	3.49 (1.67 to 7.31)	3.32	.001
Bradford score 8801 or more	4.53 (2.17 to 9.47)	4.02	< .001

From this model it is clear that overseas students born in English speaking countries other than Eire and Zimbabwe were significantly more likely to not meet the required standard than withdraw from their studies for other reasons. It should, however, be noted that results for students from Zimbabwe were marginal in this respect. Students from Eire and from non-English using overseas countries were not significantly different to UK born students.

Students with higher Bradford scores were also more likely to not meet the required standard than withdraw for other reasons. Although only the third and fourth quartiles were significant in this respect, a trend can be observed where increasing Bradford score was associated with increased odds of non-completion due to not meeting the required standard rather than withdrawal.

Random modelling of outcome at the cohort level accounted for around 3% of the variability in success rates ($\rho = .035$, 95%CI .003 to .310) while a similar logistic model excluding the random effect of cohort indicated the country of birth and Bradford score accounted for around 7% (adjusted $r^2 = .076$) of the variability in reason for non-completion.

Residuals for this model (without the cohort random effect) were calculated and found to closely follow a normal distribution. Examination of residuals plotted against each predictor, whether retained or excluded from the model, provided no evidence that important relationships had been missed.

Destinations at the Student Level

Employment data were only collected from the 1431 students who had successfully completed their course of studies. Data were missing for 293 (20%) of these leaving 1138 (80%) for whom destination data were available. Of the students for whom data were available, 852 (75%) were employed, 251 (22%) were unemployed, 15 (1%) had gone on to further study and 20 (2%) were not seeking employment for other reasons.

Of those employed, no further details of employment were available for 5 students. Of the 847 (99.4%) for whom the employer was known, 738 (87%) were working in local NHS trusts, 91 (11%) were employed in other UK NHS trusts, 8 (<1%) were employed in private nursing, 9 (1%) were employed in nursing outside the UK, and 1 (<1%) was employed in an area other than nursing.

Missing Data Analysis

Due to the large amount of missing data and the possibility of confounding, initial analyses focussed on the prediction of missing destination data among students who had completed and passed. Results of these tests are summarised below in table 3.9.

Table 3.9: Bivariate Predictors of Missing Destination Data

Predictor		Destination Provided		Destination Missing		$\chi^2(df)$	<i>p</i>
		Freq.	%age ₁	Freq.	%age ₁		
		848	75%	290	25%		
Gender	Female	689	74%	243	26%	0.942(1)	.332
	Male	159	77%	47	23%		
Age	Under 21	247	80%	63	20%	11.23(3)	.011
	21 to < 26	200	78%	58	22%		
	26 to < 33	190	69%	85	31%		
	33 and over	211	72%	84	28%		
Country of Birth	UK	248	85%	44	15%	34.53(4)	< .001
	Eire	192	78%	55	22%		
	Zimbabwe	159	67%	80	33%		
	Other English speaking	172	67%	86	33%		
	Other non-English speaking	75	76%	24	24%		
Ethnic Group	White	222	84%	41	16%	27.67(4)	< .001
	Irish	203	78%	56	22%		
	Black	365	68%	169	32%		
	Asian	26	72%	10	28%		
	Other	28	67%	14	33%		
Highest Qualifications	Other/Nursery Nurse/GCSEs	419	75%	138	25%	26.11(4)	< .001
	NVQ/GNVQ/BTEC	149	97%	23	13%		
	Access	202	68%	94	32%		
	A-Levels	47	63%	28	37%		
	Degree	31	82%	7	18%		
VISA Required	No	576	82%	130	18%	47.74(1)	< .001
	Yes	269	63%	157	37%		
Application Route	Direct application	623	76%	195	24%	5.58(1)	.018
	NMAS	204	69%	91	31%		

1) Percentages are calculated within each level of each categorical variable. All tests were two-tailed.

Significant differences in missing destination data were present for categorised age ($\chi^2(3) = 11.23$, $p = .011$), birthplace ($\chi^2(4) = 33.53$, $p < .001$), ethnic origin ($\chi^2(4) = 27.67$, $p < .001$), educational level ($\chi^2(4) = 26.11$, $p < .001$), visa status ($\chi^2(1) = 47.74$, $p < .001$) and application via NMAS ($\chi^2(1) = 5.58$, $p = .018$).

As expected, the introduction of country of birth produced a significant improvement in fit over the empty model ($\chi^2(1) = 30.79$, $p < .001$). Compared to UK born students, students born in all other countries were more likely to have not provided destination data. Individual odds ratios for missing data according to country of birth were Eire (OR = 1.83, 95%CI 1.11 to 3.03, $p = .018$), Zimbabwe (OR = 2.68, 95%CI 1.66 to 4.33, $p < .001$), English speaking overseas countries (OR = 3.33, 95%CI 2.04 to 5.43, $p < .001$) and non-English speaking overseas countries (OR = 2.38, 95%CI 1.26 to 4.50, $p = .008$).

The addition of ethnic origin to this model failed to improve fit ($\chi^2(4) = 8.28, p = .082$). The addition of categorised age also failed to produce a significant improvement either as a main effect ($\chi^2(3) = 5.91, p = .116$) or when interacted with country of birth ($\chi^2(15) = 11.14, p = .743$).

The addition of education level produced a significant improvement in fit when entered as a main effect ($\chi^2(4) = 10.80, p = .029$) with no further improvement when interacted ($\chi^2(16) = 15.65, p = .478$). However, within the main effect model no individual level of education was significant as an individual predictor.

Adding visa status to the country of birth model produced a significant improvement in fit ($\chi^2(1) = 13.97, p < .001$). Within this model, students who required a visa were more likely to have not supplied destination data (OR = 2.03, 95%CI 1.17 to 3.54, $p = .012$) and the addition of this predictor also reduced the odds of missing data for students born in Zimbabwe and born in other non-English speaking overseas countries below significance.

Finally, route of application (NMAS or not) was added to the model predicting missing data on the basis of country of birth and visa status. This produced a further improvement in model fit ($\chi^2(1) = 15.97, p < .001$), however, the individual regression coefficient for application route was not significant in a Wald test (Wald $z = 0.89, p = .371$) and inspection of existing predictors indicated the introduction of this variable has reduced the effect of visa status, suggesting a degree of confounding between these variables.

The result above clearly indicated missing destination data were not missing at random but was systematically related to country of birth and visa status. In the final model, compared to the baseline group of students born in the UK with no visa requirement, students born in Eire (OR = 1.78, 95%CI 1.08 to 2.92, $p = .024$), students born in other overseas English speaking countries (OR = 1.97, 95%CI 1.06 to 3.66, $p = .031$) and students who required a VISA (OR = 2.03, 95%CI 1.17 to 3.54, $p = .012$) were less likely to have provided destination data.

Bivariate Analysis

The next analyses focussed only on students for whom destination was available. Student level variables were used to predict subsequent employment locally in the NHS. Results of these are presented in table 3.10 below.

Table 3.10: Bivariate Predictors of Employment in the NHS

Predictor		Employed locally in NHS		Not employed locally in NHS		$\chi^2(df)$	<i>p</i>
		Freq.	%age ₁	Freq.	%age ₁		
		739	65%	399	35%		
Gender	Female	604	65%	328	35%	0.039(1)	.843
	Male	135	66%	71	34%		
Age	Under 21	223	72%	87	28%	10.20(3)	.017
	21 to < 26	160	62%	98	38%		
	26 to < 33	166	60%	109	40%		
	33 and over	190	64%	105	36%		
Country of Birth	UK	216	74%	76	26%	21.80(4)	< .001
	Eire	163	66%	84	34%		
	Zimbabwe	132	55%	107	45%		
	Other English speaking	160	62%	98	38%		
	Other non-English speaking	67	68%	32	32%		
Ethnic Group	White	195	74%	68	26%	15.51(4)	.004
	Irish	170	66%	89	34%		
	Black	321	60%	213	40%		
	Asian	22	61%	14	39%		
	Other	27	64%	15	36%		
Highest Qualifications	Other/Nursery Nurse/GCSEs	363	65%	194	35%	23.03(4)	< .001
	NVQ/GNVQ/BTEC	133	77%	39	23%		
	Access	177	60%	119	40%		
	A-Levels	38	51%	37	49%		
	Degree	28	74%	10	26%		
VISA Required	No	502	71%	204	29%	30.56(1)	< .001
	Yes	234	55%	192	45%		
Application Route	Direct application	540	66%	278	34%	2.06(1)	.151
	NMAS	181	61%	114	39%		

1) Percentages are calculated within each level of each categorical variable. All tests were two-tailed.

Significant predictors of employment locally in the NHS were categorised by age ($\chi^2(3) = 10.20$, $p = .017$), country of birth ($\chi^2(4) = 21.80$, $p < .001$), ethnic group ($\chi^2(4) = 15.51$, $p = .004$), highest qualification prior to enrolment ($\chi^2(4) = 23.03$, $p < .001$) and visa required or obtained ($\chi^2(1) = 30.56$, $p < .001$).

Multivariate Analysis

Cases with missing data on any of the significant predictor variables were eliminated. A total of 13 cases were lost, 3 due to missing data on country of birth, 4 for missing ethnic origin and an additional 6 for missing visa information. This left 1125 cases for analysis. Bivariate tests were rerun and a similar pattern of effects was found to those reported above.

The baseline model prior to the introduction of student level predictors was a component of variance logistic regression predicting employment locally in the NHS as opposed to any other final destination status or employer if employed.

Once again, initial attention focussed on country of birth. Analysis of deviance indicated this model provided a significant improvement in fit ($\chi^2(4) = 19.0, p < .010$) with students born in Zimbabwe (OR = 0.42, 95%CI 0.28 to 0.63, $p < .001$) and students born overseas in English speaking countries except Eire (OR = 0.53, 95%CI 0.35 to 0.81, $p = .003$) significantly less likely to be working locally in the NHS than UK born students. Students from Eire and non-English speaking overseas countries other than Zimbabwe were not significantly different to students born in the UK. Consistent with results from other analyses above, the addition of ethnic origin to this model failed to provide a significant improvement in model fit ($\chi^2(4) = 5.33, p = .255$).

The incorporation of visa status into the model containing country of birth failed to produce a significant improvement in fit ($\chi^2(1) = 3.23, p = .072$). Examination of this model indicated that visa status was highly confounded with the significant country of birth predictors identified above.

The addition of categorised age into a model containing country of birth produced a significant improvement ($\chi^2(3) = 12.71, p = .005$) with students in all age categories above the baseline category of less than 21 years, similarly and significantly less likely to be working locally in the NHS. Individual results were as follows: age 21-25 years (OR = 0.51, 95%CI 0.33 to 0.77, $p = .001$), age 26-32 years (OR = 0.50, 95%CI 0.32 to 0.78, $p = .002$), and age 33 years or more (OR = 0.57, 95%CI 0.36 to 0.90, $p = .017$). It was also noted that the addition of this

variable had increased what had previously been a marginally non-significant effect of being born in Eire to significance.

The further addition of educational level to a model containing country of birth and categorised age failed to improve model fit ($\chi^2(4) = 6.26, p = .181$).

Having incorporated all predictors that were significant in bivariate tests, other candidate predictors were individually added to the model to test for effects that may have been unmasked by controlling for country and age. Where necessary, sample sizes were reduced for individual analyses to take account of missing data on the variable under consideration. The incorporation of gender ($\chi^2(1) = 0.24, p = .623$) and application route ($\chi^2(1) = 1.16, N = 1100, p = .282$) failed to improve the model overall or to substantially influence the significance or magnitude of country of birth or age.

Results for this final model are presented in table 3.11 where the comparison group is young (age < 21 years) students born in the UK.

Table 3.11: Multivariate Predictors of Employment Locally in the NHS

Predictors	Odds Ratio (95% CI)	Wald Z	P
Born UK, age < 21	1.00		
Born in Eire	0.50 (0.31 to 0.80)	2.92	.004
Born in Zimbabwe	0.43 (0.28 to 0.65)	4.01	< .001
Born in other English speaking	0.59 (0.38 to 0.90)	2.45	.014
Born in other non-English speaking	0.64 (0.37 to 1.11)	1.60	.109
Age 21 to 25 years	0.51 (0.33 to 0.77)	3.20	.001
Age 26 to 32 years	0.50 (0.32 to 0.78)	3.04	.002
Age 33 years or more	0.57 (0.36 to 0.90)	2.38	.017

From this model it is clear that students born in Eire, Zimbabwe and other English speaking countries were significantly less likely to be working locally in the NHS than students born in the UK. Students born in other non-English speaking countries did not significantly differ from students born in the UK. However, it should be noted that this was the smallest country of origin category and the point estimate for this group was similar to that obtained from students born overseas in English speaking countries.

Furthermore, students in all age ranges aged 21 and above were significantly less likely to be working in a local NHS trust than those below 21 years of age on enrolment.

Random modelling of outcome at the cohort level accounted for around 8% of the variability in success rates ($\rho = .790$, 95%CI .640 to .975) while a similar logistic model excluding the random effect of cohort indicated the country of birth and categorised age accounted for around 2% (adjusted $r^2 = .0228$) of the variability in employment locally in the NHS.

Residuals for this model (without the cohort random effect) were calculated and found to closely follow a normal distribution. Examination of residuals plotted against each predictor, whether retained or excluded from the model, provided no evidence that important relationships had been missed.

Employment locally in the NHS across all enrolled students

Having conducted the above analyses, it was noted that for students born outside of the UK, the observed higher success rates might cancel with the lower rates of employment locally in the NHS found among successful students. Consequently a further analysis was conducted to obtain an overall estimate of employment locally in the NHS among all initially enrolled students, irrespective of course outcome and missing destination data.

A components of variance logistic regression predicting employment locally in the NHS on the basis of country of origin provided a significant fit to the data ($\chi^2(4) = 40.40$, $p < .001$). Compared to students born in the UK, the proportion of enrolled students who would ultimately work locally in the NHS was significantly lower for students born in Zimbabwe (OR = 0.68, 95%CI 0.50 to 0.92, $p = .012$) and marginally lower for students born in other non-English speaking countries (OR = 0.71, 95%CI 0.48 to 1.05, $p = .084$). Rates of employment locally in the NHS among enrolled students from Eire and from other English speaking countries were not significantly different to the rates observed for UK born students.

It should be noted that this final analysis assumes all students who did not successfully complete did not achieve employment locally in the NHS (this must

be assumed as no destination data are available for these students). It also assumes that the 20% of successfully completing students who did not provide destination data were also not employed locally within the NHS.

Part Four: Discussion and Recommendations

The DATING project developed a minimum data set in order to analyse, against a set of specified diversity variables, the progression and first destination outcomes of 1808 students enrolled on pre-registration nursing programmes at Thames Valley University between 1999 and 2001.

Summary of Results and Discussion

Initial analyses investigated a possible hierarchical structure within the data by testing for differences in rates of successful completion of the course across four branches of nursing, six semesterised intakes, and two campuses. Results indicated none of these variables exerted a general main effect. An overall estimate of successful completion was developed and examination of the forty individual cohorts (students on a certain branch of nursing from a certain intake at a certain campus) identified seven cohorts that were anomalous: four cohorts that had success rates lower than expected and three with higher success rates than expected. As a result, cohort level success rates were controlled in the further analyses described below.

The outcomes examined using student level predictors were as follows:

- Successful completion of the course (as opposed to not completing for any reason).
- Among non-completing students, not achieving the required standard as opposed to withdrawal from studies for any other reason.
- Among completing students, first destination as employed locally in the NHS. First destination data were available for only 80% of completing students so this incorporated an analysis of missing first destination data.
- Overall proportion of enrolled students who ultimately achieved employment locally in the NHS.

Results are presented below for all four of these outcomes organised around the predictor variables examined.

Gender

Male students had poorer odds of successfully completing the course. No gender differences were observed in reasons for non-completion or for later employment locally in the NHS. A study in Israel (Ehrenfeld et al, 1997) also identified male students as a significant variable for attrition. Kevern et al (1999) found that female students over the age of 23, who had entered on a DC test pass, Access qualification or BTEC, achieved higher scores in CFP than male students with similar qualifications. Gender was not identified as a predictor of achievement in Branch assessments.

Age

Older students (in the upper two quarters of age) were more likely to successfully complete the course than the youngest students (in the lowest quarter of age) and odds of successfully completing the course appeared to show a consistent linear increase with age. Age did not predict reasons for non-completion. These results confirm previous findings in a study of CFP outcomes by Houltram (1996) and pre-registration diploma students by Kevern et al (1999).

The higher level of programme completion by mature students supports the anecdotal evidence suggesting that teaching staff perceive mature students as having higher levels of motivation, perseverance and commitment (than those of the youngest cohort). This perception is informed by a notion that mature students commencing a nurse training programme are more likely to be making an informed and committed career choice than their younger peers. This is confirmed in comments obtained in five focus group within one university (Kevern and Webb, 2004:300), such as 'We had to put about 110% into everything that we do'; that they had 'more to lose' and that it was 'their last chance'.

Worthy of further investigation is our finding that older students (all students except those in the lowest quarter of ages) were less likely to be employed locally in the NHS following successful completion of the course.

Prior Education

Students at all qualification levels did not differ in terms of successful completion with the exception of students already qualified to degree level, who were less likely to successfully complete the course. Initial analyses indicated that these degree level students were more likely to withdraw from the course than students at any other level of qualification. However the small number of students concerned precluded the establishment of this as a significant result.

Initial analyses appeared to suggest that students entering their course with A-levels were less likely to be employed locally in the NHS than those with other qualifications. However this was a relatively small group of students and the effect did not emerge in multivariate testing where it may have been absorbed with the effects of age, given the probability that students taking the traditional entry route to University would generally be in the lowest quarter of ages.

The data pertaining to the impact of educational qualifications on entry seem at first sight counter intuitive. The notion that academic competence within a programme correlates more or less directly with the level of education achievement on entry, has served as something of a commonsense assumption within much of the educational field. Though the data are anecdotal, deliberations regarding the academic pre-requisites for student recruitment have often given voice to a view that higher levels of student achievement within the nursing programme requires a raising of the academic requirements for entry onto the programme. The data are clearly not supportive of such a view, and suggest the value and utility of a widening participation agenda. This is particularly in relation to attracting mature students in proportionally large numbers to the wider access to nursing programmes.

It is also possible that the harmonisation of completion rates across educational qualification cohorts may be an effect of the 'value-added', within the context of the programme itself, to students accessing the programme with lower levels of educational achievement. Key skills assessment and support, the Learning Skills Development Scheme, the role of personal tutors, and a broader set of causally significant aspects of a quality learning environment may serve to add value to those commencing with lower levels of educational qualification on entry,

producing this harmonisation of completion rates. Kevern et al (1999) found that mature women students were more likely to be using tutorial services, that they had lower attrition rates and performed well academically.

Perhaps most interestingly, the one qualification cohort for whom there appears to be a strong correlation with completion rates is the cohort entering the programme with an undergraduate degree. Though the small numbers make reliable claims impossible, four potential explanations for this most anomalous finding spring to mind. Firstly, the nursing programme, grounded primarily upon vocationally driven curricula, may be experienced by graduates as academically unchallenging and/or insufficiently stimulating. In a review of the literature, Kevern and Webb (1999:786) stated that 'the general conclusion drawn from a rather eclectic group of studies on education and retention is that more academically able students would be less fulfilled on a training programme that lacked academic rigour, and that motivation and general aptitude for the job may be more important in determining success'.

Secondly, the realities of the practice dimensions of the role may prove to be counter to a graduate's expectations or aspirations. Thirdly, given the well-documented positive effect of a degree level qualification on employment opportunities, students with degrees may leave to take up alternative employment at some point during the course. Finally, it may be that the cost incurred in securing a degree is exacerbated by the financial consequences of studying to be a nurse, and in conjunction with the previous factor, students are leaving in pursuit of a higher income. In an evaluation of Project 2000 in Northern Ireland, McEvoy (1995) found a high attrition rate amongst students with good academic qualifications, mainly due to personal reasons.

Country of Birth

Students born in the UK were taken as the baseline group for comparison purposes.

Students born in Eire were more likely to successfully complete the course than students born in the UK. Successful completers were less likely to have provided destination data and where this was provided, were less likely to be employed

locally in the NHS than UK born students. In practice, improved odds of success cancelled out with lower local NHS employment among successfully completing students such that overall, enrolled students born in Eire were no different to UK born students in terms of the proportion who eventually worked locally in the NHS. Reasons for non-completion (not meeting the required standard of the programme or withdrawal) were not different to UK born students.

Students born in Zimbabwe were more likely to successfully complete the course than students born in the UK. Successful completers were less likely to have provided destination data (this effect was shared with the requirement for a visa that exists for most Zimbabwean students) and where destination was provided they were less likely to be employed locally in the NHS than UK born students. Non-completion was marginally more likely to be due to not meeting the required standard of the programme (as opposed to withdrawal for any other reason) than UK born students. Overall, a lower proportion of enrolled students born in Zimbabwe appeared to obtain employment locally in the NHS than students born in the UK.

Students born overseas in English speaking countries (other than Zimbabwe and Eire) were more likely to successfully complete the course than students born in the UK. Successful students were less likely to have provided destination data and where it was provided, were less likely to be employed locally in the NHS than UK born students. In practice, improved odds of success cancelled out with lower local NHS employment among successfully completing students such that overall these students were no different to UK born students in terms of the proportion who eventually worked locally in the NHS. Among these students, non-completion was more likely to be due to not meeting the required standard (as opposed to withdrawal for any other reason) than UK students.

Students born overseas in non-English speaking countries were not distinguishable from UK born students in terms of odds of successfully completing the course, reasons for non-completion, or probability of obtaining employment locally in the NHS if they successfully completed. However those who required a visa were less likely to have provided destination data than UK born students. Overall a lower proportion of enrolled students born in other non-

English speaking countries appear to have obtained employment locally in the NHS than students born in the UK.

It is of interest to compare the above results with the plans of student nurses in the study by Scholes et al (2004) of the 16 UK *Making a Difference* curriculum demonstration sites. Seventy-two per cent of the respondents who said that they planned to work in nursing indicated that they intended to work in their commissioning or home trust. Twelve per cent said that they would not, while 16 per cent were unsure. The authors noted that, less predictably, 57 per cent of those who had come from abroad to study said that they planned to stay with their home trust, indicating that many students are unlikely to return home in the short term after qualification. This seems to contrast with our own findings; however, a higher proportion of overseas students did not provide first destination data. Across the UK, Finlayson et al (2002b) have calculated that 4% of newly qualified students return to their home country.

The nurse education programmes at TVU, reflecting a trend found within other similar establishments, have until recently received very low levels of applications from British minority ethnic communities. In contrast, during the period of this research project, the Faculty received very high levels of applications from overseas students (particularly from Eire and Zimbabwe). Therefore, as an operational category, country of birth was more significant than ethnicity. Country of birth may be expected to become a comparatively less important variable, vis-à-vis ethnicity as a result of changes in criteria for NHS bursaries. As a consequence, colleges are now taking heed of the calls to recruit more local residents to their pre-registration nursing and midwifery courses (Audit Commission, 2002; Mullen 2003).

Eire has historically served as a substantial source of labour within the NHS, most notably in the form of nurse trainees. During the period of the research, the Eire constituency within all intakes was always large. The higher levels of programme completion amongst such students are notable as anecdotal evidence had suggested that some staff perceived that Irish students had high Bradford absence scores. This was as a result of their need and ability to travel back to Eire through the course of the academic year, with implications for their

performance and ultimate success on the programme. The parity between students from Eire and white British students, in terms of those not meeting the required standard, suggests either an absence of additional learning or non-learning related needs or the availability of support mechanisms for enabling these needs (perhaps associated with the experience of being a migrant student) to be satisfied. Whilst the proportion of students from Eire entering into local NHS employment was lower than that of the British cohort, their higher level of completion means that they offered an equivalent return on NHS investment in nurse training. This is an important point to make as public-political debate around the question of overseas students has given voice to claims that investment by the British tax-payer in overseas students is misplaced, constitutes a form of subsidy to a foreign nation and incurs a consequent loss of investment opportunity in the UK. The data does not seem to support such a view, although the absence of comprehensive data in respect of first destination limits our ability to measure and therefore fully understand this important variable. As recommended by Andrews et al (2003), developing systems to provide such data would be helpful.

The size of the Zimbabwean student cohort was also large during the period covered by the project, and likewise contributed to the quality and character of the learning environment. The higher completion level of the Zimbabwean students also provides a counter-weight to the anecdotal evidence suggesting that staff perceive the challenges, particularly of a cultural and academic nature, faced by these students as resulting in a higher probability of not completing. The marginally higher levels of non-completion due to not meeting the required standard may appear suggestive of academic problems but it is impossible to draw any firm conclusions in this respect without more detailed data. It may be that these higher levels of not meeting the required standard are being produced by non-academic variables associated with the migrant experience. Though the data was suggestive of a lower proportion of Zimbabwean students entering employment within the local NHS, and therefore a lower return on the investment cost of their training, the incomplete nature of this data prohibits firm conclusions. For all non-British cohorts, it may be the case that intention and/or opportunity

are resulting in a proportion of these students returning to their country of origin, or other countries, following completion of the programme.

It also demonstrates the importance of systematically tracking outcomes of newly qualified nurses, using both quantitative and qualitative methodologies that incorporate diversity factors. This would provide comparative evidence about whether overseas and BME nurses experience any additional barriers in seeking the first employment of their choice.

Data pertaining to the performance of students from non-English speaking countries was both surprising and encouraging. It should be noted, however, that this was the smallest country of birth group. Given that higher rates of completion are indicated for this cohort and that there are no systematic differences between this cohort and the UK-born cohort in terms of reasons for non-completion, assumptions about the primary role of language in determining educational achievements would seem to be challenged. This seems to be confirmed by the fact that this cohort enjoyed lower levels of non-completion due to not meeting the required standard than those of the Eire cohort, who mostly speak English as a first language. It may be that the Faculty's use of pre-commencement language assessment and its comprehensive provision of post-commencement language support have been supportive in this respect. It may also be the case that a process of self-selection is operating such that students who commence a programme have already acquired a high level of competence in the English language. Our findings are in contrast to a Canadian study where English was the second language (ESL) for about 25% of students and where significantly more ESL students did not achieve required standards of the programme in their first year of studies (Jalili-Grenier and Chase, 1997).

An ongoing point of discussion within the research team pertaining to the above data was the potential role played by 'commitment' in explaining the higher completion rates of non-British students. It was suggested that, in terms of opportunity cost, non-British students may be paying a higher cost (in terms of the experience of dislocation, separation from significant others, financial hardship etc) for the opportunity to undertake their training. In such a context, a self-selection mechanism may have been operating such that only those

overseas students with sufficient motivation to incur such a cost were commencing the programme. In addition, the comparative opportunity cost for such students (compared to British students) would be at its greatest in the case not completing, where overseas students would be unable to realise their already greater level of investment in the programme, and where visa regulations may incur the additional cost of requiring the student to return to their country of birth. This hypothesis remains tentative in the absence of a more systematic understanding of the concept of commitment and further data analysis.

Ethnic Origin

Ethnic origin was found to be largely confounded with country of birth and was eliminated from all multivariate analyses during model building, as it provided no additional information over and above country of birth. Results from bivariate tests generally mirrored results from the expected country of birth for each ethnic group. Compared to white (non-Irish) students (85% born in the UK), increased rates of success and probability of not meeting the required standard among the non-completers were found for Irish students (91% born in Eire), black students (94% born in Zimbabwe or 'other' countries) and students from other ethnic groups (73% born in 'other' countries).

It has been extremely difficult to compare the findings concerning country of birth and ethnic origin with others in the UK. This has been due to the apparent dearth of literature relating to student nurse attrition and these particular diversity variables. A major constraint for the study commissioned by the South East London WDC (Mason, 2004: 4) was that 'Considerable data is collected but it is not in a readily useable form and hence provides limited information'. As a result, conclusions concerning attrition on pre-registration nursing and midwifery programmes could only be reached about the age of students and course type.

Visa Requirement

In bivariate tests, students who required a visa had better odds of successful completion than those who did not require a visa. Among non-completing students, those with a visa requirement were more likely to have not met the

required standard (as opposed to withdrawn) than those who did not require a visa. However in multivariate analyses, visa status was found to be confounded with country of birth such that visa requirement was eliminated by the model building procedure as it provided no additional predictive power above country of birth.

Visa status emerged in multivariate analyses as a predictor of not providing destination data however this was also confounded with country of origin and results on this have already been discussed above.

Application Route

No significant differences were found between students who applied via NMAS and those who applied directly on successful completion of the course, reasons for non-completion, or likelihood of employment locally in the NHS.

Days of Sickness Absence

Days of absence due to sickness did not significantly predict successful completion of the course.

Among non-completers, missing data analysis suggested students with a low number of days of absence due to sickness appeared to be more likely to have withdrawn than to have not met the required standard of the programme. However this result may be a product of a reduced opportunity to register sickness absences due to early withdrawal on the part of these students assuming those who withdrew, on average, left the course earlier than those who remained and subsequently to not meet the required standard.

Bradford Score

Bradford score did not significantly predict successful completion of the course.

Among non-completers, students with high Bradford scores (the top two quarters) were more likely to have not met the required standard, rather than withdrawn for other reasons, than those with lower (the bottom quarter) Bradford scores. Overall there appeared to be a trend towards increasing levels of non-completion

due to not meeting the required standard, (as opposed to withdrawal for other reasons), as Bradford score increased. As with days of sickness discussed above, this effect may be due to decreased opportunity to be absent among students who withdraw from the course, compared to those who did not meet the required standard.

First Destination after Qualifying

Information about first destination was available for 1138 (80%) of students and 852 (75%) were employed. Of the 847 (99.4%) for whom the employer was known, 738 (87%) were working in local NHS Trusts, 91 (11%) were employed in other UK NHS Trusts, 8 (<1%) were employed in private nursing, 9 (1%) were employed in nursing outside the UK, and 1 (<1%) was employed in an area other than nursing.

The NW London NHS Workforce Confederation funded First Destination study reported that data indicated 'that the percentage of students who take up their first registered post within their trusts can be as low as 45%' (Andrews et al, 2005: page 346). The research, conducted in the spring term of 2002 with students from Buckinghamshire Chilterns University College and Thames Valley University, identified 21 important factors that influenced the decision concerning their first destination NHS Trust. The top ten were:

- Feeling valued
- Quality of patient care
- Clinical opportunity
- Team atmosphere
- Attitude towards students
- Post-registration educational opportunities
- Ease of travel
- Career prospects
- Location
- Organisational reputation

Robinson and Murrells (1998) explored the experiences of registered mental health nurses in respect to exercising choice or experiencing constraints in obtaining their first post after qualification. They identified that of the 95% who

wished to obtain a job as an NHS psychiatric nurse, 73% had been successful in achieving their first choice of post. The two main reasons for not achieving their ambitions were scarcity of jobs (66% of respondents) or lack of success in getting a particular job (16%). Unfortunately, no reference is made to the gender, age, country of origin or ethnic group of the successful or unsuccessful nurses.

Baillie et al (2003) reported that recruitment to local Trusts rose from 22% to 82% after the implementation of a new strategy. The latter incorporated a range of initiatives that forged much closer links between the Trusts and the final year students.

Cox et al (2003) identified a substantial unmet demand for career guidance amongst students on Child Health Branch Diploma programmes in England between July 1997 and August 1998. They note that whilst students may have an expectation that guidance should be provided for them, recent years have seen more emphasis on students being more self-directed.

Of concern are the findings of a survey of 100 colleges of nursing and midwifery (67% response rate) by Seccombe et al (1995). It revealed that there was no standard system for collecting information about the status of newly qualified nurses and that one-third collected no information at all.

In respect to TVU, there are plans to have an automated system to ensure 100% capture of data. This will require students to electronically submit First Destination details at the same time as the information required for registering with the Nursing and Midwifery Council. A specification has been developed and it is hoped that the system will be implemented in the near future.

Conclusion

The DATING Project has enabled the creation of a minimum data set to analyse the outcomes of nearly 2,000 student nurses enrolled on TVU courses between 1999 and 2001. Incorporating a range of diversity variables has created a broader picture of factors that may impact on attrition and, once qualified, first destination into nursing practice. A literature review has demonstrated that factors such as age, gender and qualifications on entry have been explored in

other studies concerning non-completion of nursing studies and first destination of those who qualified. In contrast, there is a dearth of publications that have investigated outcomes in respect to country of origin and ethnicity.

The latter have been explored within the DATING project and the findings are therefore an important contribution to the subject of student nurse attrition and progression, as well as transition into nursing practice. The NHS/HEIs national pre-registration contract minimum data set, set to commence in March 2006, will include a field on ethnic background (Thomas, 2005). In a few years time it will be possible to compare the findings of the DATING Project at Thames Valley University with those in other HEIs within the UK.

Recommendations

1. The Faculty of Health and Human Sciences at Thames Valley University should produce regular information on student attrition and first destination outcomes aimed at academic staff and other interested stakeholders, in addition to the data that is already provided for the NHS Workforce Development Confederations. It is recognised that a national minimum data set is being finalised between the NHS and Higher Education Institutes (HEIs) for introduction in 2006 and that proposed fields include ethnic background and disability.
2. The Faculty should undertake a more detailed analysis of assessment data pertaining to academic performance in various modules, as this was not possible due to time constraints.
3. A series of dissemination events on the findings of the DATING Project should be organised for all relevant stakeholders. This should include utilising the data as part of a Faculty staff development programme to stimulate reflection and discussion around the findings and their implications for underpinning assumptions, recruitment, selection, programme management and current provisions.
4. The Faculty should carry out a more systematic exploration of the factors impacting upon (a) younger students, (b) students commencing the

programme with a degree, (c) why students choose to leave the programme and (d) achieving choice of first destination following qualification.

5. Following the removal of the NHS bursary entitlement to applicants from overseas who do not meet the 3 year residency criteria, it is recommended that efforts are maximised to increase recruitment from a diversity of local communities.
6. Outcomes of selection to pre-registration nursing and midwifery programmes and first destination of qualified nurses and midwives should also be routinely tracked by all HEIs, using the same diversity variables. This will enable the whole pathway of would-be applicants to be monitored and assist HEIs and NHS Trusts comply with their duties under the Race Relations (Amendment) Act 2000 (The Stationery Office, 2001) and other relevant legislation.

References

- Andrews, G.J., Andrews, J.P, Brodie D.A, Rixon, L.J and Thomas, B.G. (2003). *First Destination Studies: an investigation of the factors influencing the locational career choices of nurses*. London: North West London NHS Workforce Development Confederation.
- Andrews, G.J., Brodie D.A., Andrews, J.P., Wong, J. and Thomas, B.G. (2005). Improving first-destination recruitment: nursing students' perceptions of three initiatives in London, England. *Journal of Nursing Management*, **13**, 345-355.
- Audit Commission (2001). *Hidden Talents*. London: HMSO.
- Audit Commission (2002). *Recruitment and Retention: A public Service Workforce for the Twenty First Century*. London: Audit Commission.
- Aspinall, P. J. (2001). Operationalising the collection of ethnicity data in studies of the sociology of health and illness. *Sociology of Health and Illness*, **23**(6), 829-62.
- Baillie, L., Allen, R., Coogan, F., Radley, R and Turnbull, R. (2003). The recruitment of newly qualified nurses to their local hospital: can improvements be made? *Journal of Nursing Management*, **11**, 35-43.
- Beck, M.C. (1980). Decreasing the risk of high risk students. *Community and Junior College Journal*, **52**(1), 4-6.
- Bernard, A. (2005). A Bright Future for All – a feature on the CANDLES Project. *Multicultural Nursing*, **1**(2), 12-14.
- Bradby, H. (1995). Ethnicity: not a black and white issue. A research note. *Sociology of Health and Illness*, **17**(3), 405-17.
- Bradby, H. (2003). Describing Ethnicity in Health Research, *Ethnicity and Health*, **8**(1), 5-13.
- Brah, A. (1996) *Cartographies of Diaspora: Contesting Identities*. London: Routledge.
- Briggs Report (1972) *Report of the Committee on Nursing*. (Cmnd. 5115) London: HMSO.
- Brodie D., Andrews, G.J., Andrews, T.G., Wong, J. and Rixon, L. (2004). Perceptions of nursing: confirmation, change and the student experience. *International Journal of Nursing Studies*, **41**(7), 721-733.
- Buchan, J and Seccombe, I. (2004). *Fragile future? A review of the UK nursing labour market in 2003*. London: Royal College of Nursing.
- Buchan, J and Seccombe, I. (2005). *Past trends, future imperfect? A review of the UK nursing labour market in 2004-2005*. London: Royal College of Nursing.

Central Intelligence Agency (2005). *Field Listings – Languages*. Retrieved from the World Wide Web:

<http://www.cia.gov/cia/publications/factbook/fields/2098.html> 21/6/2005

Coakley, A. (1997). Nurse education: attrition rates in the UK. *Nursing Standard*, **11**(48), 45-47.

Cottell, C (2004, 18th September). Candles light career path for young Asians. *Guardian* [Jobs and Money Section], 27.

Cox, S.J., Robinson, S. and Murrells, T. (2003). Planning a career as a children's nurse: the availability of career guidance during the nurse diploma course. *Journal of Child Health Care*. **7**(4), 258-276.

Deary, I.J., Watson, R. and Hogston, R. (2003). A longitudinal study of burnout and attrition in nursing students. *Journal of Advances Nursing Studies*, **43**(1), 71-81.

Department of Health (1999). *Making a difference to Nursing and Midwifery pre-registration nurse education*. HSC 1999/219. London. HMSO.

Department of Health (2000). *Improving Working Lives Standard. NHS employers committed to improving the working lives of people who work in the NHS*. London: Department of Health.

Department of Health (2002) *Human Resources in the NHS Plan. More Staff Working Differently*. Retrieved from the World Wide Web: www.doh.gov.uk/hrinthenhsplan.pdf

Department of Health (2005). *Widening Participation in Learning Strategy Unit, Briefing Note 1: Everyone counts*. London: Department of Health.

Department of Health/NHS Health and Social Care Information Centre/NHS Employers (2005). *A Practical Guide to Ethnic Monitoring in the NHS and Social Care*. London: Department of Health.

Ehrenfeld, M., Rotenberg, A., Sharon, R. and Bergman, R. (1997). Reasons for student nurse attrition on nursing courses: a study. *Nursing Standard*, **11**(23), 34-38.

Fenton, S. (1999). *Ethnicity, Racism, Class and Culture*. Basingstoke, Macmillan.

Finlayson, B; Dixon, J; Meadows, S and Blair, G. (2002a). Mind the gap: the policy response to the NHS nursing shortage. *British Medical Journal*, **325**, 541-544.

Finlayson, B; Dixon, J; Meadows, S and Blair, G. (2002b). Mind the gap: the extent of the NHS nursing shortage. *British Medical Journal*, **325**, 538-541.

Glossop, C. (2001). Student nurse attrition from pre-registration courses: investigating methodological issues. *Nurse Education Today*, **21**, 170-180.

- Pearce, L. (2004). Tribute to a visionary. *Nursing Standard*, **19**(4), 16-17.
- Renshaw, P (1995). "Excellence in teaching and learning" in Bob Lingard and Farai Rizvi, (Eds.) *External environmental scan*. Brisbane: Graduate School of Education, University of Queensland.
- Robinson, S. and Murrells, T. (1998). Getting started: choice and constraint in obtaining a post after qualifying as a registered mental nurse. *Journal of Nursing Management*, **6**(3), 137-146.
- Scholes, J., Freeman, M., Gray, M., Wallis, M., Robinson, D., Matthews-Smith, G. and Miller, C. (2004). *Evaluation of Nurse Education Partnership* London: Department of Health.
- Seccombe, I., Jackson, C. and Patch, A. (1995). *Nursing the Next Generation*. Brighton: The Institute of Employment Studies.
- Thames Valley University (2003) *Race Equality Action Plan*. Retrieved from the World Wide Web:
http://intranet.tvu.ac.uk/key_info/equality_and_diversity/equality_and_diversity_home.asp
- The Stationery Office. (2001) The Race Relations (Amendment) Act 2000 (Commencement) Order 2001: Statutory instruments 2001 566 (C. 24). London: The Stationery Office
- Thomas, G., Crooke, L. and Curtis, P. (2002). Pre-registration education: learning communities. *Nursing Standard*, **16**(38), 38-40.
- Thomas, G. (2005). Personal communication with Dr Gail Thomas, Dean of Nursing and Midwifery, Thames Valley University.
- United Kingdom Central Council (1986). *Project 2000: A New Preparation for Practice*. London: UKCC .
- United Kingdom Central Council (1987) *Project 2000 – the Final Proposals*. Project Paper 9, London: UKCC.
- United Kingdom Central Council (1999). *Commission for Nursing and Midwifery Education. Fitness for Practice*. London: UKCC.
- United Kingdom Central Council (2001). *Requirements for Pre-registration nursing programmes*. London. UKCC.
- Watson, R; Norman, I.J; Draper, J; Jowett, S; Wilson-Barnett, J; Normand, C and Halliday D. (2005). NHS cadet schemes: do they widen access to professional healthcare education? *Journal of Advanced Nursing* **49**(3), 276-282.
- Whittock, M. and Leonard, L. (2003). Stepping outside the stereotype. A pilot study of the motivations and experiences of males in the nursing profession. *Journal of Nursing Management*, **11**, 242-249.

Appendix A: Categories of Country of Birth

Country of birth (as indicated by students at enrolment) was collapsed into five categories as follows:

Categorised Country	Member Countries			
UK	England Wales	Britain	Northern Eire	Scotland
Eire	Eire			
Zimbabwe	Zimbabwe	Rhodesia	South Rhodesia	
Other (English using)	Australia Cameroon Gambia India Liberia Philippines Tanzania West Indies	Barbados Canada Ghana Israel New Zealand Rwanda Thailand Zambia	Bangladesh Cyprus Guyana Jamaica Nigeria Sierra Leone Trinidad/Tobago	Botswana Dominica Hong Kong Kenya Pakistan South Africa U.S.A.
Other (Non-English using)	Afghanistan Asia Caribbean Eastern Europe Germany Japan Malawi Morocco Norway Senegal Sri-Lanka West Germany	Africa Belgium China Ethiopia Greece Korea Malaysia Mozambique Portugal Seychelles Turkey	Americas Brazil Congo Europe Iran Lagos Mauritius Nepal Romania Somali Republic Uganda	Angola Burundi Czechoslovakia France Ivory Coast Lebanon Mexico Netherlands Saudi Arabia Spain Ukraine

English language use in country of birth was determined by reference to Central Intelligence Agency (2005). Students whose country of origin was ambiguous (e.g. Europe and Caribbean) were classified as from a non-English speaking country.

Appendix B: Categories of Ethnic Origin

Ethnic origin (based on 1991 and 2001 census categories and as indicated by students at enrolment) was collapsed into five categories as follows:

Categorised Ethnic Origin	Member Ethnic Origins	
White (non-Irish)	White White Other Any Other White	White British Other White
Irish	Irish	White Irish
Black	Black African Black Other	Black Caribbean
Asian	Asian Other Chinese Other Asian	Bangladeshi Indian Pakistani
Other	Any Other Any Other Mixed Group Other Group White and Black African	Any Other Group Other Other Mixed Group White and Black Caribbean