The first-year experience: a review of literature for the Higher Education Academy

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The first-year experience: executive summary

I. Introduction

The first-year experience in higher education has been the topic of research and comment in English-language academic publications in the UK and worldwide for more than forty years. The expansion of higher education has led to an increased requirement to support the diverse student population, a possible reason for an increasing concern with the first-year experience.

This literature review aims to consider the research literature and institutional 'grey material' exploring the undergraduate and postgraduate first-year experience and to identify key emerging issues to inform university policy makers, practitioners, researchers and other interested parties.

In this review 'first year' refers to the first-year of study of an undergraduate or postgraduate student in a higher education institution. Almost all the published literature refers to students in their first year of undergraduate study. The available published literature was extensive, around 750 publications were reviewed and there are 545 different citations in the final report. Additionally over 200 institutional grey items were reviewed in an additional close-up study of the first-year material generated by four UK institutions.

II. Methodological approach to the review

For purposes of this review published literature has been defined as anything with an ISBN or ISSN number. Grey literature is that which is in the public domain but does not have an ISBN or ISSN or which has limited distribution.

The review contains two types of literature. First, published literature identified as a result of an extensive search going back twenty years, augmented by significant material prior to 1986 and supplemented by 'accidental' grey literature. Second, a systematic exploration of institutional grey literature produced in-house in a sample of four institutions.

III. Overview of the published research

The range of enquiries into the first-year experience is wide but there are recurrent themes.

1. Performance and retention, including predicting success, assessing performance and withdrawal and retention.
2. Factors impacting on performance and persistence, including institutional, personal and external factors
3. Support for the first-year, including induction, adjustment and skill support.
4. Learning and teaching, including new techniques for first-year groups and first-year learning behaviour.

The majority of the reported research on the first-year experience is based on single institutions studies, often with small samples of students, not uncommonly from a single programme of study. Often, existing data relating to a student cohort, such as registry data, grades and to a lesser extent satisfaction ratings are used to identify

significant factors that impact on the first-year experience, in particular decisions whether to persist or withdraw.

Performance and retention

There have been many attempts to predict the success of students in their first year (and beyond). Most of the research tries to identify a simple determining factor of first-year performance.

The literature suggests that secondary school grades and special tests do not closely relate to first-year performance in general. Prior knowledge or expertise in a subject and grades achieved in the early part of the first year are indicators of success but only in combination with other variables. Results of previous assessments at all stages are the best predictor of subsequent results.

Published research evaluating performance suggests that first-year students tend to overrate their knowledge and abilities. Such evaluative studies are designed to identify gaps as a basis for implementing interventions designed to overcome student deficiencies.

Predicting success and evaluating performance overlaps with concerns about retention of students in the first year. The main theory in this area is based on notions of social and academic integration. Students withdraw from the first year if they feel they are not integrated. Models of social and academic integration have been criticised because they tend to reflect a traditional (white middle-class residential) college student experience. Augmentations of the integration model include cultural capital theories. One clear message from the literature is that no model fits all situations.

Factors impacting on performance and persistence

There is a large body of research on the factors that affect first-year performance and persistence in higher education. The research suggests that there is no simple relationship between integration variables and retention. Withdrawal is the result of a complex combination of student characteristics, external pressures and institution-related factors. Students' decisions to leave are often the result of a build-up of factors. In the UK, research seems to suggest that persistence is related to student satisfaction, which is integrally linked with their preparedness for higher education and expectations. Choice of institution and programme of study is often crucial.

Working-class students, it seems, have less peer support to draw on and there is some correlation between class and first-year grades and persistence, especially where family problems intervene for working-class students. Some research suggests that working-class students become integrated and perform better when living in residences in the first year.

There is some suggestion that first generation students make assumptions about higher education, not least the support they will get, which are unmet. Although performing at least as well as younger students, mature students are likely to feel more socially isolated and have financial and family concerns that impact on their first-year performance and persistence. Access to teaching staff and feedback on progress are important motivators for first-year mature students. Males tend to have

lower persistence rates than females. Older men are more likely to withdraw for course-, finance- or work-related reasons, whereas older women withdraw for family reasons. Although there are differences in ethnic group performance and persistence, this is not an issue of race *per se*. Within ethnic groups there are differences in male and female success.

Another area of research was to see whether providing support services for students improved first-year performance and persistence. The research suggests that those students who participate in support activities benefit, although it does depend on student characteristics. However, students who most need the support are not always those who make use of it.

Research suggests that finance is not as big a factor in student persistence as is often presumed. It is rarely the only reason for withdrawal. Many students undertake paid work but there is little evidence to suggest that moderate amounts of part-time working adversely affect first-year performance. Furthermore, the impact of paid work during term time is not always negative.

Another area of research has been the impact of student residence. Living on campus is presumed to be an important factor in social integration but there is ambiguous evidence about whether living in residences actually enhances grades. The beneficial effects of residential living seem to be dependent on the context and may be more beneficial in small institutions or where students not only live in residential settings but also study together.

Stress and health of first-years students is also an area explored for its impact on performance and persistence. The limited evidence suggests better health leads to better academic performance and persistence in higher education. There is some evidence that health tends to deteriorate over the first year. The main causes of stress appear to be study factors rather than external factors.

Support for the first-year

There is a sizeable literature on support services for first-year students, much of which outlines good practice and the need for appropriate and integrated interventions.

Induction is important and published material suggests that induction processes should avoid information overload and unnecessary bureaucratic procedures. There seems to be a strong case for a gradual process of induction.

Learning skills development is best contextualised and embedded in the curriculum rather than being supported by stand alone courses or workshops.

Research suggests that students need help in adapting to university life and becoming autonomous learners and that feeling positive and having a friendship group greatly aids social and emotional adjustment to higher education. It is also noted that students shift emphasis from one source of support to another as they progress through the year. Students adjust quicker if they learn the institutional ‘discourse’ and feel they fit in. Integration, through supportive interaction with teachers, greatly enhances adjustment, as does access to learning resources and facilities. Some research has explored how different types of student adapt. Males and females adjust differently. Mature students often find adjustment difficult,

especially when they are a tiny minority. Adjustment is a particular problem for students from local authority care.

External influences, such as family and friendship groups (outside university) can impact significantly on adjustment in the first year. The difference between those who think about leaving but persist and those who leave appear to be motivational factors such as goal orientation and self-efficacy.

Learning and teaching

Research suggests that the first year is a time of considerable cognitive growth and appears to be important in developing learning behaviour. However, rigid prior conceptions about the subject area or approaches to learning can inhibit learning. Research shows that students find conceptual development difficult and staff need to assess whether their teaching styles enable students' conceptual development.

Males and females appear to develop different learning behaviours although there is little correlation between learning behaviour and student achievement in the first year. First-year students tend to adopt surface learning or instru-mental approaches. This does not seem to impact greatly on first-year results.

Research suggests that students may accept the principle of autonomous learning but need help in becoming autonomous learners. There is a movement, particularly in the US, promoting the advantages and effectiveness of first-year learning communities.

Research shows that students prefer student-centred, active learning rather than lectures. Problem-based learning, practical projects and team working seem to be effective provided the student is well prepared.

Research on assessment shows a preference by students for coursework assessment, although this is not the case in all settings. Peer assessment appears to be beneficial and, if carefully planned, on-line assessment can be a useful learning aid. However, it is important that students and staff have a shared understanding of the language of assessment.

IV. Conclusions of the review of the published literature

There is no first-year experience; there is a multiplicity of first-year experiences. The research suggests that two things are special about the first-year experience. The first is the process of transition and adjustment and its concomitant high incidence of withdrawal, about which there is much research and advice. The second is the mass experience of being a first-year as opposed to the differentiated experience of later years: as not being seen as individuals, as being taught or instructed rather than as having one's learning facilitated, as being perceived as a (potential) problem. There is much less research on this second aspect.

Modelling and theorising is mainly around the issue of retention. This is dominated, particularly in the US, by social and academic integration theory. In the UK, there is more emphasis on preparedness for higher education, expectation and satisfaction with the quality of the experience.

The key factors in ensuring progression appear to be: personal goal setting and motivation; family and friends; paid work and financial situation; peer support; institutional habitus; cultural capital; prior information and choices; expectations; satisfaction; teaching and learning process and engagement with teachers; assessment and discussion of progress.

It is not easy to identify determining factors for the first-year experience because of the idiosyncratic way students engaged with it. The search for determining factors has, though, suggested good practice. The focus tends to be on first-year students' deficiencies and how to provide for them rather than on exploring their individual learning needs and building on their strengths. Perhaps the key to improving success and persistence is not to focus just on the first-year experience but to improve the student experience generally.

V. Institutional grey literature

The research team reviewed grey literature in four institutions to see if institutional concerns and approaches related to published literature. The institutions generate and collect information on an annual basis that, at least incidentally, is about the first-year cohort. This information is for internal use only. The close-up study showed that connections did not seem to be routinely made between the different types of information to illuminate the first-year experience.

None of the institutions had grey literature specific to first-year postgraduates. The impression gained was that the institutions did not perceive the postgraduate first-year experience to require specific attention.

Statistical data

All four institutions produced statistical data about the composition of the first-year undergraduate cohort on an annual basis. The information was only available in-house, although summary data was provided in institutional annual reports available on institutional websites. Although there is full information for first-year undergraduates, university publications, such as annual quality reviews, usually presented data by subject area rather than by year of study.

Information given to first-year students

First-year students receive a large amount of information at induction. Welcome packs indicate the areas considered to be of importance to first-year students and include information on: university processes; fees; university facilities and support services; accommodation; useful contacts; sports and recreation; personal safety, drugs, alcohol, health; and the locality.

First-year students also receive information about the programme and individual modules, which covered: aims; learning outcomes; learning, teaching and assessment; assignment guidance and resources.

Evaluations of modules and courses

All the institutions have systems for evaluating modules in all years of study. Institutions had differing views on the confidentiality of module feedback, with some seeing it as for the individual module leader and others collating information across modules. Module evaluations fed into annual quality reviews of courses but these tended not to report by year of study, although issues arising for a particular year may have been highlighted.

Reports on the usage of facilities or services for students

Institutions produced reports on student support services, although only the reports on the counselling services were commonly published on the institutions' web sites. In most cases, information was collected by year of study but it was not reported in that way, unless a service was for first-years only.

Institutional surveys on the student experience

At the time of the review, two institutions carried out annual institutional surveys that included first-year students and analysed them, *inter alia*, by year of study. Both surveys feed into quality processes. The surveys seem to be the only mechanism in any of the institutions through which information about a range of aspects relating to the first-year experience are pulled together and reported, although only as one aspect of a broader review of the student experience in general.

One-off studies

Staff in institutions conduct one-off studies on an *ad hoc* basis, usually in response to a personal interest and some of which are subsequently published. This provides an insight into the reason for the plethora of small studies in the published literature and suggests that caution might be required in assuming that the findings from such studies are generally applicable to other contexts.

VI. Conclusion of the review of the institutional grey literature

The review of grey literature in four different institutions revealed a high degree of commonality between those institutions in the information they collect and provide about the first-year experience, and in their processes and provision. Generally, it was difficult to pull together information about the first-year experience and this suggested that it has not been seen as important to explore the first-year as such.

Information given to first-year students suggested that institutions perceive the following realms as important: the institution; the course; the environs; the individual. The published literature addresses some but not all of these factors, or gives differing amounts of attention to them. For example, the published literature on the first year places little emphasis on the locality, personal safety, health issues or alcohol and drug abuse. Institutions do not generally seem to monitor or explore many of the areas covered in induction information. The exception is where there is a student satisfaction survey.

Interviews within the four institutions indicated an increasing concern with the first-year experience around two main issues. Widening access to courses means that students may not be familiar with or prepared for traditional university learning, teaching and assessment methods. The financial situation facing students is affecting study modes and impacting on workloads. However, little grey literature was identified in the institutions that dealt with these issues. Although the interviews suggested that postgraduates also have transition issues, there is little identifiable grey literature on the postgraduate first-year.

VII. Implications for policy, practice and research

The first-year experience is not a homogeneous experience but a multiplicity of experiences contingent on type of institution and student characteristics. The published studies have tried to identify key factors that relate, for example, to retention but it is clear that the first-year experience is complex. Furthermore, the first-year experience evolves and changes both temporally and culturally. Issues facing students when they first arrive are not the same as issues half way through the first year or towards the end: expectations and satisfaction with the experience change. The culture shock of induction becomes replaced by issues of assimilation and absorption of values. Some students become integrated academically and socially and others experience an accumulation of issues and problems.

An in-depth exploration of grey material in four higher education institutions revealed a concern with the immediate move into higher education: uncovering, as it did, the large amount of information given to students at induction.

The legitimate question can be raised: is there a first-year experience, however diverse, or should it be seen as part of a long process of cultural, social and intellectual assimilation? The published evidence seems to suggest that to de-contextualise the first year from the entire student experience deflects from a need to ensure a positive learning experience suited to the evolutionary stage of the student. The institutional grey literature suggests that institutions often do not focus on the first-year experience separately from the experience of other years.

The review raises several implications for researchers. Most of the research is small-scale, usually institutionally-based studies with limited focus (reflecting the funding and status of education research). The result has been an accumulation of piecemeal studies. There is a need for a more systematic attempt to explore and theorise the totality of the first-year experience. This does not just mean larger samples in more than one institution but attempts to synthesise the literature and address substantive issues. What is needed are more studies that explore why, for example, particular practices are effective in integrating students and holistic research that reflects the complexity of the student experience.

There is, therefore, an onus on those who publish research to seek studies that answer substantive questions. What is needed is the encouragement of approaches that go beyond simple answers to safe but insubstantial questions and that adopt approaches other than empiricist reductionism.

A clear implication from the research, then, is that institutions should do more with the data they collect that relates to the first year of study.

However, institutions should treat the first year experience as more than about induction and retention. There is a latent view that retention, keeping students once they are in higher education, is beneficial. This is exacerbated by governments and quality agencies that take retention rates as performance indicators and regard withdrawal from programmes as indicative of poor quality provision, despite the fact that those withdrawing may later return to the same course. The research has shown that integration is a complex business depending on the type of institution and the characteristics and circumstances of the student.

This review does suggest some important areas that institutions might usefully address: providing accurate information to applicants; greater collaboration with schools and colleges; more flexibility in provision to allow for individual difference; more focussed inductions.

The key to success is to work with students, building on their strengths, rather than do things to students on the basis of a deficit model that emphasises inadequacies. This requires an approach that sees the first-year experience as holistic and evolving and that attempts to match changing student expectations with their experience. It is important to take first-year student perspectives seriously and evaluate the students' satisfaction with their total experience.

In essence, the policy implication of the review requires an approach that sees the first year as an important part of the long process of cultural, social and academic assimilation into the world of higher education.

The full report and bibliography are available from the Higher Education Academy, see **www.heacademy.ac.uk/4880.htm**

1. Introduction

1.1 Background to the review

The first-year experience in higher education has been the topic of research and comment in English-language academic journals and, to a lesser extent, books for more than forty years.

It has been a topic of concern not just in the UK but worldwide, with similar issues being explored in research across the world. Indeed, there is, for example, an American journal entitled the *Journal of The First-Year Experience and Students In Transition* (ISBN-1053-203X) published twice a year by the National Resource Center for The First-Year Year Experience and Students in Transition, University of South Carolina.

Expansion in UK higher education has meant that universities have become more diverse places than they used to be. In 1945, approximately 3% of the population attended university, rising to 15% in the 1970's. There was a further expansion in the 1980's and 1990's (**Clegg** *et al.*, 2003) and now government policy aims at 50% participation amongst 18–30 year olds (**Blair**, 2001).

The increase in student numbers since the 1960's has resulted in a changed student profile: female participation (53.3% in 2003) is now higher than male participation (46.7%) (**UCAS**, 2005) and ethnic minority participation has increased substantially and the proportion of ethnic minority students is greater than the proportion of ethnic minorities in the working population. The ethnic minority higher education participation rate (the likelihood of entering higher education by the age of 30) is 56%, substantially higher than the 38% for the white population (**Conner** *et al*., 2004). However, they are not evenly distributed across different universities or courses, with new and urban-based universities have the highest proportion and most being on vocational courses (**Race for Opportunity and Hobsons**, 2004). Students from manual social classes still remain underrepresented (**Bowers–Brown**, 2004). There are also many mature students in higher education and they have different expectations, social and family contexts and issues of engagement with higher education from students more recently from school. Similarly, students with a disability may have different expectations and concerns relating to the first-year experience.

The expansion of higher education has led to an increased requirement to support the diverse student population in a way that makes for widening success. It is, perhaps, this that has led to the increasing concern with the first-year experience, given that most withdrawal occurs during the first year of study. Non-traditional students in the UK are less likely to complete their studies than traditional students (**Archer** *et al*., 2003). As things stand in the UK, there are also possible financial penalties for institutions linked to student retention, which reflects the situation in other countries. Retention and related issues comprise the main research area relating to the first-year experience.

1.1.1 The first year

What does 'first-year' mean? For the sake of this review it refers to the first-year of study of a student in an institution at either undergraduate level or postgraduate level. In the British context, it refers to first year study within a university rather than within a college of further education. The vast majority of the literature refers to students in their first year of undergraduate study. Some literature addresses issues related to transfer into a higher education institution (four-year institution in the United States) from further education or community college; the transferees' first year in the institution may not be their first-year of undergraduate study. The review only found eight research publications on the first-year experience of postgraduate students and most of these were more than a decade old (**Welsh**, 1979; **Wright and Lodwick**, 1989; **Holt** *et al.*, 1990; **Randels** *et al*., 1992; **Hockey**, 1994; **Challis** *et al*., 1998; **Rolfe** *et al*., 1998; **Dreher and Ryan**, 2000).

The situation relating to the first-year is made more complicated by the differences between full-time and part-time study. In the latter, the first-level study may go on beyond the first year. Similarly, in some higher education institutions it can be difficult to identify first-year undergraduates if there are modular systems with students taking modules at different levels in one year and the university records student information by the level of study rather than the year of study. In some cases first-year undergraduates may not only be doing modules at different levels but also may move between part-time and full-time modes. This review covers all students who are seen by their institutions as being in their first year.

1.2 Aims and objectives

The aims of the literature review were to:

- review the research literature exploring the first-year experience (undergraduate and postgraduate);
- identify other sources of information ('grey literature') that inform the understanding of the first-year experience;
- identify methods used to explore the first-year experience and the assumptions underpinning them;
- identify key issues affecting the first-year experience;
- inform university managers, course planners, teaching staff, educational developers, student services and other support staff, researchers, students and Student Unions, schools and further education.

The scale of this project proved to be large. Around 750 items were collected for the database of published material and of accessible grey literature (see 2.1 below). Additionally over 200 institutional grey items were reviewed relating to both the first-year undergraduate and postgraduate experience.

The review's objectives were to:

- identify the methodologies and methods used to evaluate and research the student first-year experience and the values and assumptions underpinning them;
- identify and model the areas impacting on students' first-year experiences, both those that are common across types of institution and those that are more institutionally specific;

- identify and model key issues within those areas and the impact created by those issues;
- explore the areas and issues from the standpoint of students and other stakeholders (e.g., University staff, employers, family);
- examine the variability in the first-year experience by ethnicity, age, gender, disability and socio-economic grouping;
- explore international perspectives to illuminate the UK first-year experience.

2. Methodological approach to the review

2.1 Published and grey literature

For purposes of this review published literature has been defined as anything with an ISBN or ISSN number. Grey literature is that which is in the public domain but without an ISBN or ISSN number or with limited distribution, such as within an institution, organisation or network. Another view of grey literature, which is not adopted in this review, sees it as non-specialist or non-academic, for example, newspaper reports about an academic issue. In this review's definition, newspaper articles would not be grey literature.

The review contains three types of literature. First, published literature identified as a result of an extensive search (outlined below). Second, 'accidental' grey literature, that is material that the review team came across that augmented or supplemented the published literature, much of this was available on internet sites. Third, a systematic exploration of grey literature produced in-house within a sample of higher education institutions, referred to in the review as the institutional grey literature.

2.2 Pre-work

An initial review of the area, using the *Higher Education Abstracts* database indicated that the first-year experience was a multi-faceted area that had a history going back at least to the 1960s. To help establish a focus for the literature review and the institutional grey literature two focus groups were held to explore the issues regarded as pertinent by staff and by students.

A focus group with second-year computing students identified areas they felt had been important in their first-year. The other focus group was with members of staff with academic or support roles. Although the student and staff groups represent very small samples, the views expressed were mutually reinforcing and reflected the findings of prior work by the researchers (**Drew** 2001; **Centre for Research and Evaluation**, 2006). The views gathered guided the researchers in identifying topics to investigate, particularly for the grey literature. Table 1 summarises items raised in the focus groups against topics subsequently identified by the literature review.

Table 1: Items identified in the focus groups, against institutional grey literature and published literature topics.

Domain	*Topic*	*Sub-topic*	*Institutional literature topics*	*Published literature topics*
1 The course	1.1 Course content.	1.1.1 Skills development	Course/module info./evaluations.	*Re skills* - Learning & teaching
	1.2 Teach-ing/learning methods.	1.2.1 Autonomy	Course/module info./evaluations. Student experience surveys	Learning & teaching Social or academic integration

	1.3 Assess-ment.		Welcome/induction information Statistical data - progression Course & module info/evaluations. Student experience surveys	Assessment Assessing performance
	1.4 Support	1.4.1 From tutors; from peers. 1.4.2 Peer group composition	Welcome/induction info. Stats. data — student profile Course/module info./evals. Student Services reports Student experience surveys One-off studies	Adjustment Skills develop./other support Supporting first-years Social/academic integration Impact—support programmes. on retention/persistence
	1.5 Induction.		Welcome/induction info. Course & induction evaluations. Student experience surveys One-off studies	Induction
	1.6 Course organisat-ion	1.6.1 Timetable.	Course/module info./evaluations. Student experience surveys	
	1.7 Comm-unication	1.7.1 Clear expectations	Welcome/induction info. Course/module info./evaluations. Student experience surveys	Induction
	1.8 Prior learning experience			
	1.9 On the wrong course		Statistical data - withdrawal Course evaluations. One-off studies	Factors impacting on performance/persistence
2 The University	2.1 Learning support	2.1.1 Library/ computing.	Welcome/induction info. Course/module info./evaluations. Student experience surveys	Institutional experience, academic achievement & external factors
	2.2 Facilities	2.2.1 Students Union, sports, catering	Welcome/induction info.	Institutional experience etc

	2.3 Univ. (not living) accomm.		Welcome/induction info. Student experience surveys	Induction Institutional experience etc
	2.4 Univer-sity costs			
3 The student context	3.1 Finance		Welcome/induction info. Statistical info. - fee status Student experience surveys	Impact — paid work & financial sit. on performance & persistence
	3.2 Indep-endence			Adjustment
	3.3 Socialise		Welcome/induction info. Student experience surveys	Adjustment Induction
	3.4 Environs		Welcome/induction info. Student experience surveys	Induction
	3.5 Living accommod-ation		Welcome/induction info. Student Services reports Student experience surveys	Accommodation/residential learning communities
	3.6 Safety (personal)		Welcome/induction information	
	3.7 Health	3.7.1Drugs/ alcohol	Welcome/induction information Student experience surveys	Health and stress
	3.8 Personal issues		Student Services reports	

Some topics identified in the review of institutional grey literature and published literature do not fit specifically against items mentioned in the focus groups, but rather underpin those items (for example items about the course and coping with it). These topics are the statistical data about student characteristics within the institutional grey literature, and within the published literature the topics on the impact of student characteristics on performance and persistence and on withdrawal and retention.

There is a large published literature on predicting performance but the focus groups did not identify this as an issue. For some items raised in the focus groups there was no institutional grey or published literature. Table 1 does not indicate the amount of literature about particular items and the reader might consider this when reviewing the remaining sections of this report. For example, with the exception of institutional

student experience surveys there seems to be little focus on the organisational aspects of courses.

2.3 Methods for identifying published literature

Initially, the intention had been to go back 40 years to 1966 but as the volume of material was so large, a cut-off point of 1986 was introduced, with indicative or key publications identified prior to that date.

The aim was to have an exhaustive search of all published literature on the research subject, available in English, dating back twenty years. However, this generated far too much material to be manageable in the time frame. Instead, a comprehensive rather than exhaustive approach was adopted; that is, seeking out as wide a range of material as possible, from a variety of sources, but not chasing material that was hard to track down or that seemed, from the title, to be rather more tangential to the review topic. The comprehensive approach still generated a very large number of items.

The published literature was identified in several ways.

1. A systematic search of the *Higher Education Abstracts* database from 1960–2000. From a detailed review of one year, it became clear that titles of articles or keywords did not necessarily identify all the articles that addressed the first-year experience. Therefore, the database of abstracts was searched for the words 'first' and 'fresh'. These enabled all abstracts, from 1986, that dealt with first-year (or 'freshman' year) issues to be identified. Pre-1986 items that seemed particularly expansive or were referred to be other papers were explored.
2. A variety of internet searches were undertaken using appropriate keywords in combination. These generated a variety of material ranging from small-scale reported studies (otherwise unpublished) through institutional websites dealing with first-year issues to journals, monograph series and bibliographies about the first-year experience or aspects of it, notably retention and induction.
3. Journal sites on the internet were searched where possible.
4. The British Library on-line catalogue was also searched.
5. Snowballing was used to follow-up references in articles, particularly review articles, usually via internet searches, including tracking of authors to see if they had produced any other published or grey literature.
6. Requests were made to colleagues within the host University to identify 'starting-points'. This led, for example to the identification of a relevant PhD and paper with extensive bibliographies that were explored.
7. A further search was then carried out using the British Educational Research Association (BERA Education-Line) database, with a particular focus on items published after 2000.

Information about the identified material was input into a FileMaker Pro database (see Table 2 for fields), this system was chosen for its flexibility (particularly the structuring of input and output pages). The database enabled the reviewers to record references located, provide brief overviews of content and to track references to the material in the report.

Table 2: Database fields (* fields available on the published database, other fields were for the review team's own research and monitoring purposes)

Database category	*Explanation*
Full ref*	Full bibliographic reference in standardised form
No	Reference number on Higher Education Abstracts, British Library or other number.
Title	Title of the book, article, report or web page
Author	Author or authors of the publication, surname first.
Source	Place of publication and publisher for books and reports ; Journal , volume and page number for articles; name of web site, etc.
Year*	Year of publication
Country*	Country or countries to which the reported research refers, which may be different from the country of origin of the researcher or the place of publication.
ISBN*	ISBN number if available
ISSN*	ISSN number where relevant and available
BL Shelfmark*	British Library shelf-mark for items located on British Library catalogue
Website*	Website address where the material in full or in part can be located
Accessed*	Date on which website accessed by review team
Abstract*	Abstract where available, or publisher commentary or critical review, or sections from papers, books or reports as appropriate.
Topic	Initial sort topic. These were: A: Assessing first-year performance, predictors/factors (general unless (subject) stated); B: Additional support courses for first-years/prior experience; C: Wellbeing/ cultural adaptation/integration/migration of first-years; D: First-year student's views of their experience and expectations/careers (general); E: First-year student's views of their specific learning experience; F: Teaching techniques for first-years (in specific subjects); G: Postgraduate first-year; H: General; Not relevant
Subcategories*	An array of subcategories for the initial sort topic areas (see database for details)
Private or public	Whether the material is public or private and thus excluded from a public access database
Scope*	The scope of the research, where known or where appropriate: Single class; Programme; Multi-programme; Sub institutional (but unclear); Institution; Multi-institution; Regional; National; International; Unclear
Method*	Research method used by researchers, where known or where appropriate: Theoretical; Anecdotal; Qualitative data; Quantitative data; Mixed data; Documentary; Historical; Discourse analysis; Unclear; Not research
Data*	Whether existing or new data

Subject area*	Discipline subject area the research encompasses
Notes	Comments mainly for the use of the review team, often as to why a publication had not been included in the review
Original input	Research team member who initially entered the item on the database.
Last modification by	Last research team member to modify the data item
Modification date	Date at which the entry was last modified
Report	In which of the final report results sections the item is included

2.4 Methods of obtaining institutional grey literature

For the institutional grey literature review, the researchers explored the first-year experience in their own institution and sought collaboration from three other institutions that were within the same geographical region (for ease of access) and where the researchers had an existing contact. The four institutions were complementary as they varied in size and type. Sheffield Hallam University, where the researchers are based, is an ex-polytechnic with 28,000 students. The University of Leeds is a traditional civic university with 33,000 students. The University of Bradford is a 1960s technological university with 10,000 students. York St John College, recently granted 'taught degree awarding powers', is now a university college and has 5,500 students.

The method used to collect the grey material was to interview appropriate staff in each institution to identify the material available and to then obtain copies. For the researchers' own institution, contacts were made on the basis of existing knowledge of individuals and processes. Contacts included staff with roles in quality, course leadership, student records, research and student services. In each of the collaborating institutions a main contact person was identified and was provided with a check-list of the areas to be explored. This checklist derived from the review pre-work focus groups (Table 1). From this, the contact person identified materials that might be relevant and also other individuals for the researcher to consult during visits. The external web sites of each institution were also reviewed.

The items of grey literature collected from the four higher education institutions were sorted into themes that emerged from the findings. Through this method six main categories emerged.

1. Statistical data on the composition of the student body and on retention and progression.
2. Information given to first-year students.
3. Evaluations of modules and courses.
4. Reports on the usage of facilities/services for students.
5. Institutional surveys on the student experience.
6. One-off studies.

Within each category, items were reviewed and examples were identified that showed the type of information covered by that category. Because of the sensitive nature of the information, the analysis related to the type of information rather than to the actual content. Where the participating higher education institutions had

information about the first-year experience, it often could not 'stand alone' but needed to be set within a context. For example, documentation relating to the evaluation of first-year modules needs to be set within the differing quality processes of the institutions.

The institutional grey literature cited in section 9 includes substantial items and very small items, such as one-page fliers. Where small items are included in packs of material, the pack is referenced, rather than the individual item. The following sections also refer to material that is not publicly available, and in this case it is not referenced. The convention adopted, therefore is that:

- where no reference is provided an item is not publicly available;
- where an item is publicly available and 'stands alone' it is referenced;
- where an item is part of a pack, the pack is referenced.

It is estimated that approximately 200 items were reviewed, some very small (for example, fliers). Of the items reviewed, 21 are referenced and included in the database and of these some include packs that contained many small items.

2.5 Justification of methods adopted

The review team was of the view that the importance and scope of the research topic required an exhaustive approach to identifying research on the subject. As indicated above (section 2.3), for the published literature research this was cut back to a comprehensive search over a twenty-year period with indicative publications earlier than 1986.

For the institutional grey literature time constraints clearly required a sampling approach and it was decided to undertake an intense investigation in four different types of institution to identify, as far as possible, what literature was produced relating to the first-year experience. The institutions involved in the grey literature review were limited in number and geographical location because of the time frame and resource base for the research. They were, however, carefully selected to cover a range of types of institution.

The two strands of the review were complementary. The intention was to see the extent to which published literature and institutional grey literature reflected similar concerns. To what extent are the interests of those researching the first-year experience different from institutional interests? Further, how far do both seem to relate to the issues identified by staff and students in the pre-work for the review? These issues are discussed in the conclusions to the review.

The methods used to collect information within the two strands had to be appropriate for the context. The published literature strand consisted of desk research, using a range of sources to identify items, inputting the items into the research team's database and reviewing papers and abstracts. For the institutional grey literature, early consultation with representatives of the four institutions established that it would be quite difficult to identify material. To reduce the burden on the institutions one of the research team visited them, consulted key staff and collected material from them at the time. This was subsequently augmented by the key staff sending further information. As there was no one central source for the institutional literature, collection of material involved a complex mix of consultations, gathering items and

then reviewing them. There were also issues relating to confidentiality that, by definition, did not apply to published material.

2.6 Reflections on the methodology

In retrospect, the scale of the task of reviewing the literature on the first-year experience might suggest a limited approach in future or, more appropriately a clearer focus and more precise initial specification. However, given the interdependence of topic areas this might be difficult to pin down. The advantage of the approach taken is that it has produced a wide-ranging review that identifies and pulls together the strands of this very large topic, whereas most of the published studies identified about the first-year experience have a particular focus and review only a particular section of the literature. The overview provided by this study should be invaluable to researchers and practitioners.

The focus groups as part of the pre-work for the research were intended to aid selection of sub-topics. These proved very useful for the review of institutional grey literature as it gave the institutional contacts some starting points, given that they did not naturally have a 'first-year' category within which they collected information. They were less useful for the review of published literature.

The study revealed that there were large numbers of publications relating to the area. The approach adopted was a mixture of systematic and serendipitous. A future approach might start with a systematic seeking out of existing reviews of the area and use these as a starting point to identify the material. Adopting such an approach might have short-circuited the search process.

The database was invaluable, despite the time required to set it up. It enabled tracking as well as recording of details of the content of items.

The sample of higher education institutions chosen for the review of grey literature proved to be very useful. Not only did they range in size and type of institution but also in type of student. For example, one had a very large proportion of students from particular ethnic groups and also very local students, and another had a large proportion of mature students. Some had larger populations of overseas students than others. The sample also indicated how differences in organisational structure mean that it is more or less difficult to gather the information sought.

One difficulty was identifying appropriate individuals to consult, given differing roles in different institutions. Those consulted, inevitably were able to provide information that was limited to their own area. For all four higher education institutions it was difficult to pull together information about the first-year experience and there was no one source for that information. The fullest information was gathered for Sheffield Hallam because it is the researchers' home institution and they have extensive knowledge of structures, processes and individuals.

The difficulties of identifying a central source of information about the first-year experience in each institution means that the literature identified may not be comprehensive and its nature may be determined by the roles of the individuals the researcher was able to consult. There are also overlaps with the published literature, for example some one-off studies within the institutions have led to published work. Limitations of time and resource afforded by the project also meant that it was possible to explore only four higher education institutions. However, those higher education institutions were carefully chosen to provide a range of types of institution. Discussions within them suggested that information is more likely to be considered by subject area, course or school, department or faculty than by year of study.

Despite the wide variation in types of institution the institutional grey literature pertaining to the first-year experience was similar, which suggests that the findings may be more widely applicable. Within the resource parameters of the project (time and funding unavailable) the consultation of the four higher education institutions seemed to be a successful strategy.

3. Overview of the published research

The range of enquiries into the first-year experience is wide but there are recurrent themes, notably:

1. Performance and retention, including predicting success, assessing performance and withdrawal and retention. (Section 4).
2. Factors impacting on performance and persistence, including institutional, personal and external factors (Section 5).
3. Support for the first-year, including induction, adjustment and skill support. (Section 6).
4. Learning and teaching, including new techniques for first-year groups and first-year learning behaviour. (Section 7).

These areas have widely differing amounts of published material and the publications also overlap areas (Diagram 1 provides a schematic overview). There is a lot of research on retention in the first year, although a small amount of that research relates to other years of study as well. Retention publications also include discussions of models of retention as well as practices to reduce withdrawal. There is a lot of work on factors affecting first-year success and persistence, which is cross cut by specific studies on measuring performance, predicting success and induction and adjustment. Research on factors overlaps with retention research and, to some extent, with research and publications on student support and learning and teaching. Both of these areas also relate to non-first-year students as well, indeed the majority of research on learning and teaching is generic and not specific to the first-year experience. Similarly, there is published material on skills development that is germane to the first-year experience, although a lot of it is not first-year specific.

In this review, the focus is on material that is first-year specific and where references are made to publications that go beyond the first-year experience, this is made clear.

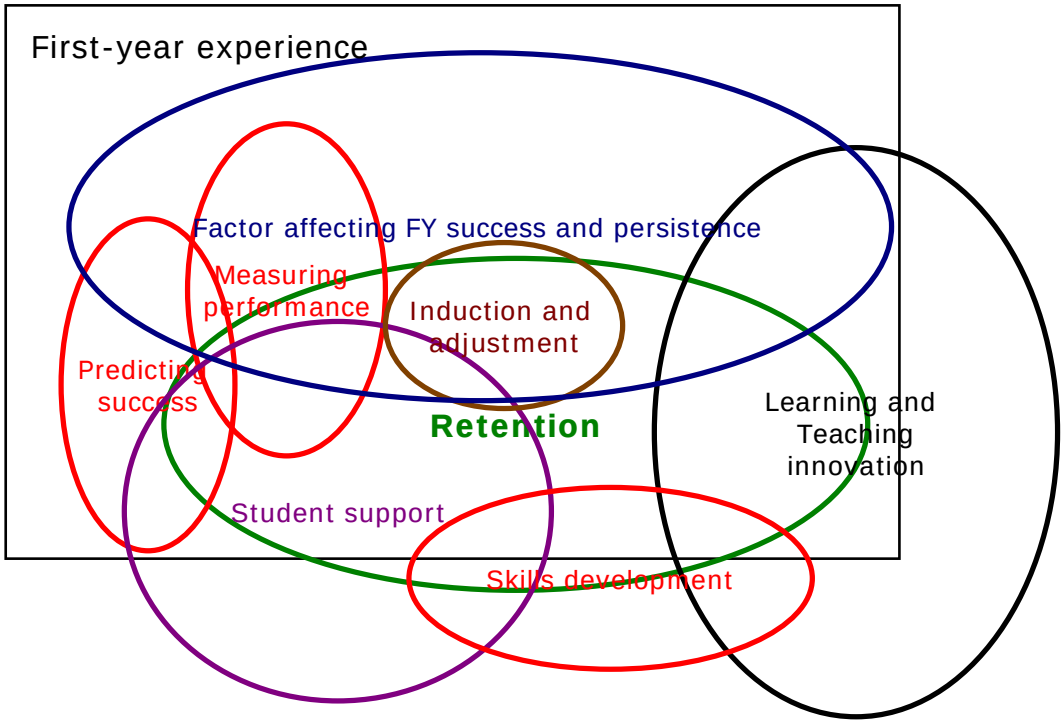


Figure 1: Areas of research on the first-year experience
The square represents the first-year domain. The ellipses represent different research areas related to the first year, showing the overlaps and those that also cross over into other years. The diagram is schematic and indicative; the ellipses do not represent the scale of the research areas and their juxtaposition is not an accurate reflection of the extent of overlap.

There is also a difference between research that explores aspects of the first-year experience and research that uses a first-year cohort as a convenient sample. Again, this review will focus on the former with passing reference to the latter.

There is a large amount of data collected on the student experience at the institutional level but relatively little of it reported with a view to explicitly exploring the first-year experience. More often than not, the views of first-year students are represented, if at all, when the institutional cohort data is broken down by year of study. Conversely, one might construct a first-year experience by aggregating first-year module feedback. Increasingly, institutions are making some or all of the data derived from feedback from students publicly available and some analysis is represented as academic articles and included in monographs or books on the first-year experience. The review of institutional grey literature (detailed in section 9) elaborates this tendency.

3.1 Methods used by researchers

The majority of reported research on the first-year experience is based on single institutions studies, often with small samples of students, not uncommonly from a single programme of study. Often, existing data relating to a student cohort, such as registry data, grades and to a lesser extent satisfaction ratings are used as a means of identifying significant factors that impact on the first-year experience, in particular decisions whether to persist or withdraw.

Where new data is collected, there has been a tendency to use questionnaire techniques or other self-completion instruments to elicit student views, reactions and attitudes or to test their abilities. Again the main purpose is to identify factors, although many small-scale quantitative studies permit only limited analysis. Recently, more use has been made of qualitative techniques but these trend to be descriptive attempts to get more detail rather than indicative of a phenomenological or critical approach to deconstructing the first-year experience. There are, for example, very few dialectical, structuralist, phenomenographic or hermeneutic studies of the first-year experience.

The research review sets out, under four broad headings, the range of research to be found within specific sub-areas, the details and conclusions of selected pieces of research followed by a summary of the key points to emerge within each section. Cross-references are included where appropriate.

The following paragraphs provide an overview to aid the reader in dealing with the large array of material in sections 4–7, below.

3.2. Overview of Section 4: performance and retention, including predicting success, assessing performance and retention

There have been many attempts to predict the success of students in their first year (and beyond). Most of these attempt to identify a simple determining factor as a pointer to first-year performance (grades on assessed work): these include, secondary school performance, performance on special tests (pre-entry or at the start of the first year), prior knowledge or expertise and performance on assessed work early in the first year. In addition, research has attempted to see whether learning behaviour correlates to first-year performance.

The literature suggests that secondary school grades and special tests do not closely relate to first-year performance in general but may do in specific contexts. Prior knowledge or expertise in a subject and grades achieved in the early part of the first year are indicators of success but only in combination with other variables. Results of previous assessments at all stages are the best predictor of subsequent results. There is little evidence that any specific learning behaviours correlate to first-year grades. Research suggests that, overall, predicting first-year outcomes is complex and it is necessary to take into account an array of variables.

Alongside published research on predicting success is a body of research evaluating performance of first-year students. This suggests that first-year students tend to overrate their knowledge and abilities. Such evaluative studies are designed to identify gaps in student knowledge and abilities, often as a basis for implementing interventions designed to overcome perceived deficiencies. The research has shown that the undergraduate ability in reading and writing is not always at the level expected by teachers.

Predicting success and evaluating performance overlaps with concerns about retention of students in the first year. This is a very large area of research and researchers have spent considerable energies attempting to provide models that encapsulate theories about withdrawal and persistence. The main theory in this area is one based on notions of integration. Students withdraw from the first year if they feel they are not integrated. Integration takes two forms, social and academic. Although, to some extent interdependent, social integration relates to the development of peer groups and academic integration to engaging with the academic subject matter and performing adequately in assessed work.

Models of social and academic integration are a mixture of sociological and psychological ideas. They have been criticised because they tend to reflect a traditional (white middle-class residential) college student experience. Later developments have suggested a variety of different experiences and other theories, such as cultural capital theories, are being developed to augment the integration models. One clear message from the literature is that no model fits all situations.

3.3 Overview of Section 5: factors impacting on performance and persistence, including institutional, personal and external factors

There is a large body of research on the factors that affect performance and persistence in higher education. The first-year is a major focus of such research.

The research suggests though that despite the integration model, which itself was derived inductively from various studies, that there is no simple relationship between integration variables and retention. Withdrawal is the result of a complex combination of student characteristics, external pressures and institution-related factors. Students' decisions to leave are often the result of a build-up of (often small) factors. In the UK, research seems to suggest that persistence is related to student satisfaction, which is integrally linked with their preparedness for higher education and expectations. Choice of institution and programme of study is often crucial and bad choices are, it seems, a function of poor information and external pressures (for example, pressure from parents to study a particular subject). Younger students are more prone to make inappropriate choices than older ones.

Overall, social and academic factors both play a role in withdrawal decisions and neither, in general, is evidently more important than the other. However, it seems that poor first-year academic performance alone will not result in withdrawal (unless the institution deems the student has failed and can no longer continue). On the other hand, it is possible that an array of non-academic factors may result in withdrawal, even where the student is academically sound.

Many non-traditional students survive higher education despite considerable problems that arise from external factors as well as cultural and adjustment problem they often feel isolated, especially in institutions where they are in a small minority. Working-class students, it seems, have less peer support to draw on and there is some correlation between class and first-year grades and persistence, especially where family problems intervene for working-class students. Some research suggests that where working-class students become integrated they perform better: this process is enhanced by students living in residences and performing well in assessed work in the first year.

There is some suggestion that first-generation students make presumptions about higher education, not least the support they will get, which are unmet. Although performing at least as well as younger students, mature students are likely to feel more socially isolated and have financial and family concerns that impact on their first-year performance and persistence. Access to teaching staff and feedback on progress is an important motivator for first-year mature students.

Overall, males tend to have lower persistence rates than females. Older men are more likely to withdraw for course-related, finance- or work-related reasons, whereas older women withdraw for family reasons. Although there are differences in ethnic group performance and persistence, this is not an issue of race *per se*. Within ethnic groups there are differences in male and female success.

Another area of research was to see whether providing support services for students improved first-year performance and persistence. The research suggests that,

overall, those students who participate in support activities benefit by achieving better grades and becoming more socially integrated. However, students who most need the support are not always those who make use of it. Furthermore, the impact of the support does also depend on student characteristics.

Finance is often presumed to be a big factor in student persistence. While it has been a factor, some research suggests it is not a major factor and rarely the only reason for withdrawal. It might seem that finance is a problem for students who have no money to fund their higher education. However, some research has suggested that financial disadvantage is perceived in relative terms: compared to peers, previous income or expected lifestyle. Also, financial security does not appear to enhance a student's performance.

Many students undertake paid work and this can affect their engagement in the course and play a part in persistence decisions. There is little evidence to suggest that moderate amounts of part-time working adversely affect performance. Furthermore, the impact of paid work during term time is not always negative.

Another area of research has been the impact of student residence on first-year persistence and success. Living on campus is presumed to be an important factor in social integration but there is ambiguous evidence about whether living in residences actually enhances grades. Some research shows students living at home perform better in the first year. The beneficial effects of residential living seem to be dependent on the context and may be more beneficial in small institutions or where students not only live in residential settings but also study together.

Stress and health of first-years students is also an area explored for its impact on performance and persistence. The limited evidence suggests better health leads to better academic performance and persistence in higher education. The rather limited research suggests that health tends to deteriorate over the course of the first year. Males and females seem to differ in their health and stress levels during the first year. The main causes of stress appear to be study factors rather than external factors.

3.4 Overview of Section 6: support for the first-year, including induction, adjustment and skill support

There is a sizeable literature on support services for first-year students. Much of this literature outlines good practice and the need for appropriate interventions, some of it includes small-scale evaluations and a tiny amount attempts to evaluate the effectiveness of support on a rather larger scale.

One of the issues for commentators is the *ad hoc* introduction of support services for first-year students and there is an argument for systematic and holistic introduction of effective practices. For some, this requires a change of culture in institutions towards one that takes a student-focused approach. Much of the support for first-year students is predicated on a deficiency model: students need support to fill gaps in their abilities.

Reporting and monitoring of retention is an established activity in US institutions and websites report data and sometimes analyse it and show how the institution has responded.

Induction is important in helping students get off to a good start and published material suggests that induction processes should avoid information overload and unnecessary bureaucratic procedures. There seems to be a strong case for a gradual process of induction, at least a week-long programme tied into the subject matter of the course, not a stand-alone, non-subject specific programme. Such a programme appears to be best if it includes informal contact with staff. The first lecture is also part of the induction process from the student point of view and care needs to be taken in its preparation.

Research implies a need to be clear, in induction processes, what the purposes are and to ensure that students can clearly distinguish course material from information on learning support services and the university in general. Students will also need help in adapting to university life and becoming autonomous learners, which do not necessarily come easily.

Research suggests that feeling positive and having a friendship group greatly aids social and emotional adjustment to higher education. It is also noted that students shift emphasis from one source of support to another as they progress through the year: initially it may be parents and latterly peer groups. Also males and females adjust in different ways. Students adjust quicker if they learn the institutional 'discourse' and also feel they fit in. However, this can be helped by minimising mystifying institutional 'discourse'. Integration, through supportive interaction with teachers, greatly enhances adjustment, as does access to learning resources and facilities.

It is often presumed that early adjustment to higher education is reflected in better grades but research evidence does not always support this.

Some research has explored how different types of student adjust. Mature students, for example, often find it difficult to adjust, especially when a tiny minority: interaction with teachers is a particular help to this group. Adjustment for transfer students involves additional problems as they move into a milieu populated by already-adjusted students. Adjustment is a particular problem for students from local authority care, which, in the UK, is compounded by lack of financial resources.

External influences, such as family and friendship groups (outside university) can impact significantly on adjustment in the first year. The difference between those who think about leaving but persist and those who leave appear to be motivational factors such as goal orientation and self-efficacy. The stayers appear to be less influenced by family and friends.

Apart from induction and supporting adjustment, institutions often provide skills development support. This might be about developing generic skills, subject specific skills or self-promotional skills (although the latter tend not to be a focus of attention for first-year students).

The development of skills seems to be most effective if it is embedded in the curriculum rather than taught as stand-alone courses or workshops. Most accounts of skills development courses tend to rehearse the content and process rather than provide an analysis or evaluation of the activity that would provide value to someone in a different context or institutional culture.

3.5 Overview of Section 7: learning and teaching, including new techniques for first-year groups and first-year learning behaviour

Research suggests that the first year is a time of considerable cognitive growth and appears to be important in developing learning behaviour. Having said that, there is some evidence that students from school do not find it easy to drop school-based study habits. Rigid prior conceptions about the subject area or approaches to learning can inhibit learning. Nonetheless, research suggests that a reflective approach can be taught at this stage.

Some research suggests males and females develop different learning behaviours although there is little correlation between learning behaviour and student achievement in the first-year. Furthermore, first-year students tend to adopt surface learning or instrumental approaches. This does not seem to impact greatly on first-year results, perhaps because of the cramming and relatively superficial nature of first year assessment. Although developing a strategic or deep approach in the first year may have no evident positive consequences, there appears to be no disadvantage in developing such an approach, which can be useful in later years.

If academics want to promote deep learning then it needs to be reflected in assessed assignments.

Research suggests that students may accept the principle of autonomous learning but need help in becoming autonomous learners. It seems autonomous learning is a function of self-confidence, although a positive attitude and a preparedness to be autonomous learners helps. Young females tend to be less confident than males but are more likely to recognise the need to become autonomous learners. It is suggested in some publications that the development of autonomous and transformative learning requires flexible learning environments.

There is a groundswell, particularly in the US, of publications and institutional websites promoting the advantages and effectiveness of first-year learning communities. Residential versions were mentioned above (section 3.3) as potentially effective (see also section 5.6). The evidence is not so clear for non-residential versions, which have a cohort of students enrolled in more than one programme together. The local context and the characteristics of the student are important factors.

Research shows that, on the pedagogical front, students prefer student-centred, active learning rather than lectures. However they are not keen on student presentations. Problem-based learning seems to work well provided the student is well prepared. This also applies to practical projects especially those that involve interaction with the wider community. Similarly, team working is effective in first-year groups, although student groups do not naturally work as teams. One research study suggested that it is possible to introduce small-group practices into large classes with no increase in resources.

Research shows that students find conceptual development difficult and complex and staff need to assess whether their teaching styles enable students' conceptual development.

There is a lot of research on assessment that shows a preference for coursework assessment, although this is not the case in all settings. Peer assessment appears to be beneficial and, if carefully planned, on-line assessment can be a useful learning aid. However, there is one often-overlooked issue relating to assessment; that is the language of assessment. It is important that students understand the 'discourse of assessment' and that they have a shared understanding with their teachers.

The following sections provide substantive content as follows:

Section 4: Performance and retention

Section 5: Factors impacting on performance and persistence

Section 6: Support for the first-year

Section 7: Learning and teaching.

4. Performance and retention

There is a long tradition of assessing first-year performance and exploring persistence issues. Much of this is designed to identify criteria to aid future recruitment and to flag up areas for academic support. There is a strong tendency in the US, in particular, to seek grade predictors. The evidence from research suggests that there are no straightforward generic predictors that transcend institutional and student types and cultural boundaries.

4.1 Predicting success

Predicting the success of first-year students or attempting to uncover the variables that indicate likely success has been a regular feature of published material. Empirical studies have been undertaken in many countries and have ranged in size from small samples from single courses, through substantial samples (1000) from a single institution to longitudinal multi-institutional studies (using existing data) with samples of more than 10000.

What these studies have in common is a desire to identify the appropriate predictor of student achievement, despite the fact that was never the intended purpose (**Ting and Man**, 2001). The predictors are heavily biased towards school graduation grades, first-year grades or intelligence or aptitude tests undertaken at an early stage during or in advance of joining the first-year. In some cases, demographic and language factors have been used as predictors, as have approaches to learning. For some, the predictive analyses were about identifying entry criteria (for example, **O'Halloran and Russell**, 1980). Rather more useful than attempting to predict outcomes from school grades is to use the information of school achievement to aid the tailoring of first-year courses to fit the student intake (for example, **Cox** 2000).

4.1.1 School or entrance-examination results

There has been a tendency to use school results as predictors of success and employers in some countries still take account of school grades when recruiting graduates. The research suggests that there is a better correlation between school grades and first-year results than between other indicators but that this correlation is not high and varies by type of student and subject area. *There is no evidence that school grades are strongly correlated to final degree classification*. Early work by **Choppin** *et al*. (1973) showed that mean A-level grade was observed to be the best predictor of first-year degree results but there was enormous variation by subject. Mean A-level correlations varied between 0.49 for mechanical engineering to 0.17 for history. This reflected earlier work by **Williams** (1950), who showed A-level results were better predictors of first-year university performance in science subjects than in arts. A result reiterated in the 1960s by **Kelsall** (1963). **Peers and Johnston**'s (1994) meta-analysis showed that A-level grades accounted for just under eight per cent of variation in degree performance on average, that it was a better predictor in universities than polytechnics, especially for science courses, and that A-levels were weakest predictors for social sciences courses. As a result of their work, Peers and Johnston questioned the reliance on A-levels as entrance criteria to universities.

Forty years ago in the UK, **Pilkington and Harrison** (1967) compared the relative value of high-level intelligence tests and of A-level grades as predictors of students' later academic performance. They concluded that: high-level intelligence tests predict

degree classification no better than the conventionally used A-level marks. Grades from school-leaving examinations provide a useful indication of a student's academic quality, and first-year university examination marks are useful for predicting final degree class. However, none of the measures used correlated significantly with degree class attained.

Research in other countries has suggested that high school grades are a predictor of first-year success. **Touron**'s (1987) study of the Licenciate in Medicine in Spain showed that the best predictors for first-year performance was the high school grade-point average in science courses, the global examination and the admission test average. **Ott**'s (1988) American study suggested that academic performance was highly related to high school academic grade-point average. **Birch and Miller** (2006) showed that students' success during their first year at university is largely influenced by their university entrance score. Personal characteristics and secondary school characteristics also impact on success. However, the factors that influenced grades had a more pronounced impact on the success of low-achieving students than on that of high-achieving students. These results had implications for student selection and also for the way scholarships may be used to attract talented secondary school students. **Allan** *et al*. (1983) explored how first-year performance varied by applicant status, and the relationship between individual Grade 13 (school) subjects and performance in the first year at a Canadian university. They also showed that the link between school and first-year performance was more consistent in some subjects than others.

Rodriguez (1996) constructed a model (using high school grades and rank and college admissions test scores) to predict the academic success of 225 Mexican American and 83 white college students. It was a better predictor for whites. **Young**'s (1989) study, in Nigeria also showed that the key predictor of first-year success was performance in the specialist subject in the university's matriculation examination. **van Overwalle**'s (1989) study in Belgium showed that mid-term performance of first-year students was most strongly related, in descending order of importance, to entrance examination grades, academic self-esteem, expectations, and efficiency of study strategies. He claimed that this corroborated previous studies on determinants of academic attainment.

On the other hand, **Bargate**'s (1999) South African study showed no correlation between the study of mathematics at school matriculation level and the passing of the first year of a technikon accounting programme. This result is consistent with prior research that suggests that success at tertiary level in numerical subjects may be attributed to factors other then secondary school mathematics results. **Duff** (2005) reported a study of 60 first-year undergraduate accounting and business economics students. The strongest predictor of first-year academic performance and progression was prior academic achievement (performance in school examinations). However, he also showed that 'effective learners' (deep approach) had a much higher rate of progression than 'non-effective learners' (surface approach).

Cox (2000) was concerned not so much with predicting success *per se* but in using prior qualification as an aid to devising appropriate learning and teaching approaches. By knowing mathematics A-level scores, one might infer what skills students know about mathematics. For example, any A-level pass grade would imply that the student can use the general quadratic equation but only those above a certain grade would be able to complete the square. The paper described the initial assessment of a range of knowledge and skills that might be desired in first-year entrants to some engineering and mathematics programmes. The results, expressed

as ‘probable preparedness’ were used to predict the strengths and weaknesses in given cohorts of students, which compared well with actual results of tests. The information obtained enabled the design of appropriate teaching, learning and assessment strategies to best meet the needs of the variable backgrounds of students. Although not specifically about school grades as predictors, **Pokorny and Pokorny** (2005) took a similar approach to Cox. They concluded that there were no simple predictors of success or failure on a first-year undergraduate introductory statistics module. However, there was evidence to suggest that any innovations in delivery needed to take account of individual student development and that the presumption that students can rapidly become independent learners upon initial entry to higher education is an unrealistic one.

4.1.2 Aptitude tests

The scholastic aptitude test (SAT) has been widely used in the United States as a predictor of first-year and subsequent success (**Willingham** *et al*. 1990) and a version is used in Sweden (see for example the work at Umeå University (**Stage** 1992)). There have been suggestions that it might be suitable for use in the UK as additional university entrance criterion.

However, the test is not a particularly good predictor and its predictive value in the US has been declining. **Fincher** (1990), in his report for the Educational Testing Service in the United States, showed that, on the basis of national trends, the predictive validity of the SAT declined from 1964 to 1982. Findings relating to the university system of Georgia also demonstrate an appreciable decrease in validity coefficients for the past 6 or 7 years. **Morgan** (1990) analysed the results of 299,794 students enrolling at 198 colleges in 1978, 1981, and 1985. He also showed a decline in the predictive potential of the SAT. The relationship between SAT scores and grade-point averages was stronger for first-years in 1978 than in 1985. The decline in the relationship was largely found in students with SAT scores in the lower two-thirds, for whom much more help in learning has been provided in many colleges in the USA in recent years.

In a couple of studies in the early 1990s, there had been attempts to augment the SAT to make it a better predictor. **Schurr** *et al*. (1990) explored whether classification of schools by percentages of graduates attending college, location, and privately- or publicly-funded added to the predictive value of the scholastic aptitude test. **Bridgeman** (1991) showed that an expository essay for predicting the grade-point average for first-year US undergraduates added nothing to what could be predicted from high school grade-point average, SAT scores, and a multiple-choice test of writing-related skills.

McDonald *et al*. (2001) reviewed, *inter alia*, the predictive value of the SAT. They referred to a College Board Research Report (**Bridgeman** *et al*., 2000) that looked at the ability of the SAT and high school grade-point average to predict first-year grade-point average (FGPA) in over 48,000 students from 23 colleges. Across all colleges studied, the association between the SAT and FGPA was 0.35, which accounts for just over 12% of the variation in first-year performance grades. There were ethnic and gender variations in associations: African American females and Hispanic/Latino females had higher correlations and Hispanic/Latino males had the lowest correlations. High score grade-point averages were most highly correlated with FRPA for white males (r=0.38).

According to **McDonald** *et al*. (2001), other studies have shown less strong

associations. **Baron and Norman'**s (1992) data from a sample of predominantly White students at the University of Pennsylvania had shown a correlation between total SAT score and FGPA of 0.26, which dropped to 0.20 with CGPA after three or four years of study. Studies that looked at minority ethnic students in the United States showed considerable variation in the predictive value of the SAT.

Fuertes *et al*. (1994), for example, found SAT verbal scores to correlate with final-year cumulative grade point average (CGPA) between 0.15 and 0.22 for Asian American students, and math scores to correlate 0.31 to 0.38. For Hispanic students, correlation was higher for verbal scores (ranging from 0.20 to 0.40) but lower for maths (ranging from 0.22 to 0.34). **Lawlor** *et al*. (1997) found that SAT maths correlated poorly with CGPA for both European Americans (0.14) and African Americans (0.12). SAT verbal was better but highly varied: it correlated 0.33 for European Americans and 0.61 for African Americans.

Fleming and Garcia's (1998) review showed that the average predictive validity of the SAT for Whites was seen to be 0.34, accounting for just under 12 per cent of variation in college grades and comparable to the figures from the College Board data (**Bridgeman** *et al*., 2000). The average correlation for Black students was 0.31. However, predictions for Blacks' grades were far more variable than for Whites, with figures ranging from -0.01 to 0.48: from no association to, at best, accounting for 23 per cent of the variance in grades. Fleming and Garcia also showed that the predictive validity of the SAT was higher for Black males in predominantly Black colleges than in predominantly White colleges. Contrary to this, the predictive validity for Black first-year females was higher in predominantly White colleges. They concluded that gender and year of study had most impact on GPA.

All of this suggests that not only is the SAT predictive value declining over time but that the variability by ethnicity and type of college makes it highly unreliable.

Age is another confounding factor. **Moffatt** (1993) found that for people who took the test before they were 30 years old, the correlation of SAT verbal and maths with CGPA was 0.50 and 0.47 respectively. In those who took the test after 30 years of age, correlations dropped dramatically to 0.31 and 0.15, respectively. This tied in with work **Zeidner** (1987) had done on another aptitude test: the psychometric entrance test (PET) used for university admissions in Israel. It showed least validity as predictor of first-year GPA for students aged over 30.

MacDonald *et al*. (2001) concluded that 'evidence has been presented that the SAT may not be a fair reflection of the academic potential of certain groups of test takers, both in terms of the overall scores that are derived from it and in its prediction of college attainment.'

Away from the SAT, in the specialist setting of musical education, **Harrison** (1987) showed that the tonal imagery or the rhythm imagery subtest of the musical aptitude profile (MAP) showed promise as a valid predictor of success of first-year music students.

4.1.3 Prior knowledge

Another predictive factor is the student's prior knowledge and expertise. There are fewer studies that have explored the relationship between prior knowledge and success but they seem to point to marginal benefits of prior knowledge, at least in some subjects.

For example, **Hagedorn** *et al*. (1999) showed that in the field of mathematics, prior expertise helps. They showed that students enrolled in non-remedial mathematics courses in the US enter the institution with many advantages over students enrolled in remedial mathematics. However, background variables also play a major role in determining success in college mathematics.

Meyer and Shanahan (2001) explored how subject-specific prior knowledge, along with conceptions of learning, and learning history impacted on success of economics students in Australia. Results from two universities confirmed the significant effects, on learning outcomes in semester one, of having studied economics at school. The effect was accentuated for those students who had English as a second language and for those who held economic misconceptions.

In another Australian study of medical students **De Clercq** *et al*. (2001) showed that prior experience was likely to lead to better first-year results. In another Australian study **Madigan** (2006) showed that for students on a health course, previous health-related experience, postsecondary educational qualifications, background, student entry type, and gender were all found to be significant predictors of first-year academic performance in selective cohorts. Importantly, a combination of variables produced higher GPAs than did any single variable on a newly-developed and vocationally-oriented pre-hospital care course at a rural Australian university. The conclusion was that previous knowledge and experience in a health setting alongside other variables can aid student selection.

Dreher and Ryan (2000) investigated the relationship between students' prior work experience and subsequent success during the first year in an MBA programme in the US. Using data from a sample of 230 MBA students and controlling for such factors as the type of undergraduate programme attended and undergraduate GPA, prior work experience was found to account for only a small proportion of the variance in first-semester grades and was found to be unrelated to academic performance in the second semester. They concluded that there is little support for the view that previous work experience (as assessed by typical admission procedures) leads to higher levels of academic achievement on MBA programmes.

Thus, prior experience does appear to have some impact on first-year undergraduate success, although the evidence is fairly thin.

4.1.4 First-year performance

Intermediate first year results are much better predictors of final first-year grades and persistence than school or special test results. In addition, first year results provide some indication of future retention. However, first-year results are not highly correlated with final grades or degree classification.

In the UK, for example, **Johnes**' (1990) statistical analysis of a sample of the 1979 entry cohort to a British university indicated that the main factors for non-completion are the student's academic ability (reflected by A-level results), work experience prior to coming to university, school background and the location of the student's home in relation to the university. A vast improvement in the prediction of non-completion can be achieved by using the results of first-year examinations at university rather than A-level results. The main conclusion was that raising the academic requirements for entry into university may not be the most appropriate method for reducing wastage rates. Furthermore, there were striking differences between males and females in the characteristics associated with non-completion.

In the US, **Wilson** (1983) had noted that the criterion most frequently used in studies designed to assess the predictive validity of measures used in college admission has been the freshman-year grade point average (GPA). He argued that it is not self-evident that the first-year GPA provides either a sufficient or a representative sample of a student's academic performance. **Croen** *et al*. (1991) found that American medical students' performances on examinations administered during the third month of the first year were highly predictive of their subsequent performances during the first two years of medical school. **Alzahrani** *et al*. (2005) reinforced this; they noted that on dental programmes that dental hygiene coursework (oral pathology, and oral anatomy and histology) in early stages of the programme can significantly predict graduation and licence-to-practice success. This suggests that educators should look to improving student performance after admission to the programme to improve the likelihood of success. However, they also showed that single variables are not good predictors but clusters of variables can be significant at predicting success. This suggested the need to debate the most appropriate combination of predictors.

Hyers and Joslin (1998) showed, in a study conducted at a small liberal arts college in the United States, that grades earned in a required, interdisciplinary orientation freshman year seminar (see below for more details on US-style first-year seminars) were better predictors of academic achievement and persistence than high school rank or scholastic assessment test scores. First-year seminar grades were found to be a useful substitute for cognitive and non-cognitive variables that correlate with retention but which are difficult to obtain.

4.1.5 Previous assessment results

Not surprisingly, some research has shown that the previous assessment result is the best predictor of subsequent results.

McKenzie and Schweitzer (2001) showed that, in Australia, the preceding academic performance was identified as the most significant predictor of the next assessed performance at university. Integration into university, self-efficacy, and employment responsibilities were also predictive of university grades. **Henderikx** e*t al*. (1985) too showed that in the Netherlands the best predictor for study results is the set of results obtained in the preceding study period.

4.1.6 Late enrolment

Baxter and Hatt (2000) explored whether late entry through clearing in the UK correlated with student performance during the first year of their studies. They suggested that reasons for selection of course, rather than entry through clearing *per se*, had an impact.

4.1.7 Learning behaviour or styles

Several studies using an inventory to assess student learning behaviour have suggested that it can aid prediction of first-year grades.

Watkins' (1986) study of Australian first-year university students showed that learning process subscales (as measured by the approaches to studying inventory) contributed to the prediction of first-year grades beyond the level possible by tertiary entry achievement scores alone.

Matthews' (1991) US study of learning styles, showed that grades of students with social, conceptual, and applied learning styles differed significantly from those of students having the neutral preference on Canfield's 'learning styles inventory'. **Prus** *et al.* (1995) explored a learning and study inventory as a predictor of first-year performance. **Owens** *et al.* (2004) suggested that tutors might be able to use a learning inventory combined with student's reflective writing about their learning approach to make predictions about how a student will perform academically.

Rather more broadly, **Wilkie and Redondo** (1996) investigated the relationship between college first-year students' self-reported attitudes and behaviour and academic success in the first year at college. Although the model devised was good at predicting students who ended the year in good academic standing it was much less precise for predicting lack of success, suggesting success and non-success are not opposite processes.

These studies provide little clear evidence that learning behaviour is a good predictor of first-year performance and persistence.

On a different tack, **Brazier and Conroy** (1996) examined medical students' use of library facilities as a predictive factor. In the first year of an Irish undergraduate course, students who borrowed most also performed best in their end-of-year examinations. However, no such association was found among final-year students.

4.1.8 Personality traits

Finally, some research has also attempted to link personality traits to first-year performance. However, the material is sparse and seems more about measuring personality and trying to relate it to performance in general than any explicit study of the first-year experience.

Nearly forty years ago **Evans** (1969) explored the relationships of three personality scales to grade-point average and verbal ability in first-year college students and suggested that the study did not favour the indiscriminate use of the scales for predicting GPA of first-year students.

Bessa and Tavares (2004), explored if psychosocial and academic variables, during the first-year of higher education in Portugal, could be connected to academic self-regulation and success. However, the paper focused more on the development of an instrument than on substantive results.

Brown and Graff (2004) were concerned with the relevance of personality traits on student performance and used data from 213 first-year undergraduates at a UK business school who had completed a motivation profile questionnaire. Similarly, in their investigation of the role students' personality characteristics, self-perceived communicative competence and learning conceptions play in the acquisition and development of social-communicative competencies, **Bakx** *et al*. (2006) used first-year students as subjects. In both cases it appears that the research is less concerned with the first-year experience and rather more to do with first-years being a convenient group to analyse.

4.1.9 Summary of predicting success

- The predictive power of secondary school grades is variable and seems to depend on specific local circumstances: it correlates with first-year performance rather than final degree outcomes or classification.
- Special tests, popular in the US, may point towards first-year performance, although correlations are poor and highly variable and there are further doubts about their discriminatory power for those below average.
- Prior knowledge or expertise in a subject is an indicator of first-year success but only in combination with other variables.
- First-year performance is indicative of final results but not correlated highly.
- Results of previous assessments at all stages are the best predictor of subsequent results, which is not surprising. The research evidence, though, is limited.
- Learning styles and behaviours may aid predictions but evidence is too thin to suggest that any specific learning behaviours will correlate to assessment marks in the first year.
- Overall, any attempt at prediction needs to take into account an array of variables: there are no simple single-variable correlates.

What is less clear in all this research is the purpose and value of such predictions apart from aiding recruitment decisions? There is little in the studies about what actions flow from the specification of appropriate predictors and why, if the school and aptitude predictors actually worked then little value would seem to be added by the subsequent higher education experience.

The rather more valuable predictive studies that used the outcomes to adjust learning and teaching approaches for specific student cohorts were few in number and relatively recent.

4.2 Assessing performance

Apart from the literature on predicting first-year success there is a related literature on assessing first-year performance, which itself overlaps with the copious research on retention and withdrawal (discussed below, section 4.3). The performance research seems to be primarily about evaluating specific areas of expertise. Such data as there is suggest that there are gaps in student abilities but that these are far from uniform.

Some studies of the first-year experience focused on comparisons between different subgroups of first-year students, students' own appreciation of their level of ability and performance in the first year and the level of student performance within subjects. Science has been a popular area for evaluations of first-year knowledge.

Jackson (1985) raised a broader issue in his study. Although using a first-year student cohort, he used the data to warn against the use of single aggregate indicators of academic achievement, such as grade-point average and degree class. He showed that academic performance is multidimensional, not unitary. The performance data came from a sample of university undergraduates (n=88) enrolled on a first-year course on child and adolescent development. The data comprised scores from: an essay, an analytic report on two research papers, an interpretive report on the observation of a child's behaviour, participation in tutorials. His position was that these provided an array of indicators and that much was lost by aggregating results.

4.2.1 Self-perception of ability or performance

Students' self-perception of abilities and performance tend not to match the results of tests or perspectives of tutors.

Robertson *et al*. (1998) study in an English university compared undergraduates' views of their abilities in written English compared to their actual abilities. The author claimed that such comparison is important because if students are to use support classes, they must have an accurate knowledge of their strengths and weaknesses. As noted above (section 4.1.3), holding misconceptions about economics impacted on the success of economics students (**Meyer and Shanahan**, 2001). Likewise, **Jacobs** (1989) compared students' perceived understandings of simple physics terminology with their actual understandings. A sample of 50 first-year students at a South African university were asked whether they thought that they understood the scientific meaning of 25 selected everyday words which have a specific meaning in physics. A high degree of self-delusion was found, which could represent a significant obstacle in physics instruction. **Cros** *et al*. (1986) investigated preconceptions, of 400 first-year university students taking introductory courses in chemistry in two French universities, of the constituents of matter and the notions of acids and bases. It was found that the constituents of matter were well known by students, but that interactions between these constituents were either totally unknown or were the subject of severe misconceptions. The students' knowledge tended to be qualitative and formal, with a lack of connection to everyday life.

On the other hand, a decade ago as information technology use was growing fast, **Gouveia Oliveira and Galvao Melo** (1989) and **Gouveia Oliveira** *et al*. (1994) found that medical students in Portugal were concerned about their abilities: 14% classified their computer literacy as negligible and 49% as deficient. Only 19% had computer education in secondary school. These results were similar to those observed in more industrialised countries, except that high school education is more deficient. Most (93%) students thought computer literacy important for doctors and wanted more teaching in the use of computers.

Drew (1998) examined students' perceptions of their learning outcomes, identified through group consultations in a UK post-1992 university. These student-generated outcomes were strongly orientated towards personal and professional skills and qualities, and the list generated by students was compared to existing models of 'transferable skills'. The student-generated list was more context-specific and more concerned with values.

4.2.2 Abilities of first-year students

Some studies examined specific intellectual abilities and skills of first-year students. The examples below show the variation in this area of research. Although a few specifics can be drawn out, such as the apparent deterioration in reading ability in the US over time and that older students tend to be better time managers and problem solvers than younger students, the studies are rather idiosyncratic and suggest no obvious trends. Most, though, like **Sutton** (1977), are trying to determine where gaps occur in student knowledge or abilities.

Macdonald-Ross and Scott's (1997) study of Open University students in the UK showed that, in an open-entry undergraduate programme, difficulty is experienced by a significant proportion of students in reading academic texts. Not surprisingly, this

impacts negatively on student success. **Eurich and Kraetsch** (1982) compared reading test scores of first-year students in 1928 and 1978 at an American university. The 1978 freshmen scored significantly lower than their 1928 counterparts on vocabulary, comprehension, and reading rate.

Taylor and Nightingale (1991) analysed the errors found in over 300,000 words of writing in a British history course, by two groups of first-year students in 1974 and 1984. The results of the study indicated that the most statistically significant elements in error-prone writing are those concerned not so much with the formal mechanics of writing but with the constitution of meaning. This suggested that most of the problems of those writers who made many grammatical errors in their writing were problems that did not lend themselves to *'*purely*'* grammatical solutions.

Pascarella *et al*. (1996), showed, on the basis of a sample from 13 US institutions, that first-year students attending college full-time developed a higher level of 'critical thinking' skills than those attending part-time.

MacPherson (2002) investigated problem-solving ability and cognitive maturity in 173 undergraduate students at an Australian institution. Results suggested that the greatest differences in problem-solving ability were related to year of study, and existing academic qualification. Subjects aged 30 years and over were better problem solvers than those aged under 30; subjects who had just completed their secondary schooling performed better than subjects who had recently received a technical college qualification.

Dalton (2001) found that despite the emphasis on field work in pre-degree geography courses in England, new graduates had very uneven experience of field work (ranging from zero to 11 days). Consequently, each student cohort had a very uneven background of field study. Additionally, although students have developed generally positive attitudes to field study, several preferences and prejudices were identified. Many students had clearer recollections of data collection and recording techniques than of the character of the places in which investigations occurred.

Niaz (1985) tested the science reasoning ability of a sample of 709 first-year university students at a Venezuelan university. A high correlation was shown between student course performance and formal reasoning ability in the tests.

Jones *et al*. (1990), controversially, showed that in two subjects (accountancy and physics) in a university in New Zealand streaming arrangements led to greater staff and student satisfaction with the courses, with evidence that students performed better under streamed conditions. It is concluded that streaming may be beneficial in the first year of university study but that pressures for efficiency may act against its implementation.

On the organisational skills front, **Trueman and Hartley** (1996) examined the scores obtained from 293 first-year students of psychology at a UK university on a time-management scale. Female students, in general, reported significantly greater time-management skills than did male students; and older mature students reported significantly better time-management skills than their peers.

Study skills have been another area of analysis. **Weinstein and Gipple** (1974) examined the relationship between study skills and achievement in the first two years of medical school and **Sutherland** (2003a, 2003b) explored the adequacy of the study skills of a cohort of first-year nursing students.

4.2.3 Summary of assessing performance

- Evaluation of first-year students' perception of their knowledge, understanding and abilities suggests an overestimation on their part; such studies can be used to help students identify support needs.
- Assessment and evaluation of abilities of first-year students are diverse and often very specific but often reveal gaps that need addressing, not least in reading and writing at an appropriate level.

4.3 Withdrawal and retention

There is very significant literature on withdrawal and retention of first-year students. This probably represents the biggest area of study related to the first-year experience, and to some extent subsumes research on performance, induction, adjustment, learning approaches and communities, as well as touching on support services and financial issues. The emphasis tends to be on the individual, social, and organisational factors that impact on student retention in higher education. Aspects of this include academic preparedness, the academic experience, institutional and student expectations and commitment, finance and employment, family and other external pressures.

The **Center for the Study of College Student Retention** (2004) in the United States lists approximately 1370 references to publications on retention issues in post-compulsory education from the 1960s to January 2006. Although dominated by American literature it includes contributions from the UK and elsewhere. Of these, 10% (145 publications) are about first-year retention.

4.3.1 Models of retention

Retention is one area of the first-year experience where there has been a sustained attempt to develop theory and this has resulted in various models of student retention.

Tinto is extensively cited as providing the underlying approach for much of the American work in this area and his 'integration' model has currency in other countries (**Braxton and Hirschy**, 2004). (**Tinto** 1993, p. 152) argued that the first year 'represents a strategic leverage point where the investment of scarce resources can yield substantial future benefits in both learning and persistence'. He developed a model of student withdrawal, following on from earlier research and reviews of the literature (**Tinto** 1975). Basically, students have goals and intentions, which are played out in two arenas: the academic and the social. The degree of academic and social integration experienced by the student leads to a reappraisal of goals and intentions and this informs withdrawal or retention decisions. There is a widely-held view that Tinto's model and related research have confirmed the need for institutional leaders and student affairs (services) professionals to ensure that a proper mix of academic and social integration experiences are available to students.

Broadly defined, academic integration includes, but is not limited to, those experiences that students have on a college campus that supports academic development, encourages cognitive development, and enhances a student's academic motivation to pursue academic tasks in a meaningful way. According to **Tinto** (1993), formal and informal academic experiences serve to shape and refine a

student's commitment to his or her prospective, current, and future educational aspirations and to their commitment to their respective educational institutions.

Social integration includes those experiences that help to connect students to the college environment, that aid in their psychosocial development, and that contribute to their overall satisfaction in college. For **Tinto** (1993) formal and informal social experiences may also serve to reinforce students' devotion to an institution, facilitate development of their educational goals and improve their academic performance.

The important idea here is that Tinto's model is concerned with the interactive effects of academic and social experiences on a student's decision to remain at an institution. Tinto's model asserts that students who engage in formal and informal academic and social integration experiences are less likely to leave their institution. Also, individuals reformulate goals and commitments as a result of integrative experiences; positive experiences reinforce commitment.

Tinto's model is multi-faceted and considered three groups of variables.

1. 'Pre-college characteristics', such as, family background, skills and abilities and prior schooling experiences;
2. College experiences, such as students' area of study, academic performance (grade-point average), and the amount and quality of student-faculty interactions. These are seen as indicative of students' level of academic integration in the college environment.
3. Students' out-of-class experiences, such as participation in extracurricular experiences, including paid work, and student-student interactions. These represent students' social integration in college.

Tinto's model addressed the temporal aspects of withdrawal and framed the process as one of the student making individual decisions and personal responses stimulated by a series of institutional actions, reactions, and/or inactions.

Braxton *et al.* (2000) (building on **Braxton** *et al*. 1997) sought to elaborate Tinto's theory of college student withdrawal. They sought to estimate the influence of such forms of active learning as class discussions, examination questions, group work, and higher-order thinking activities on social integration, subsequent institutional commitment, and student departure decisions. A longitudinal study (three surveys: at orientation, in semester one and in semester two) of 718 first-time, full-time, first-year students at a highly selective, private research university indicated that active learning influenced social integration, subsequent institutional commitment, and intent to return. A subsequent edited book, *Reworking the Student Departure Puzzle* (**Braxton**, 2000) focused on the first year and included a reworking of Tinto's 'interactionalist' perspective. Following critiques of the theory, the contributors offered a variety of both theoretical and methodological perspectives on student departure leading to recommendations to institutional administrators. Contributions also included minority student retention, the link between college choice and student persistence, and the effect of the classroom experience on the student's choice. Furthermore, in another text designed to further adjust Tinto's theory, **Braxton and Hirschy** (2004) examined institutional commitment and integrity. They argued that institutional integrity (the congruence of the actions of managers, administrators and teachers to the mission and values of the institution) and communal potential (the student-perceived possibility of an affinity group) are important concepts. They concluded that the greater the level of institutional integrity and commitment to the welfare of the student the more likely the student will achieve social integration and

hence the more likely they are to persist. Similarly the stronger the perception of the communal potential of campus life the more integrated the student is likely to become.

Tinto's theory has faced other critiques and adjustments. **Stage and Anaya** (1996) were of the view that far too much theorising on retention has been inductively derived from causal modelling that focused too heavily on traditional, white young American first-year students in private residential institutions. **Tierney** (1992, 2000) critiqued Tinto's model because it misrepresented the cultural aspects of transition and, despite Tinto proposing a sociological model and being hostile to psychological interpretations, placed far too much emphasis in his approach on withdrawal as an individual matter.

Yorke and Longden (2004) argued that the theorising of retention is too restricted to cope with the many influences on student persistence. Further, academic and social integration, so central to the preponderant approach, have been operationalised in diverse ways, which casts doubt on the accumulation of research findings. They claimed that retention and success are influenced by sociological and psychological considerations, augmented by economic factors. Drawing on and extending a review by **Bean and Eaton** (2000), **Yorke and Longden** (2004) point to an array of psychological theories worth considering, including:

- attitude-behaviour theory: links beliefs attitudes and intentions to behaviour;
- coping-behaviour theory: adjusting to an environment;
- practical intelligence: being able to do things, not just be academically intelligent, to ensure success (**Sternberg**, 1997; **Sternberg and Grigorenko**, 2000)
- self-efficacy: individual's perception that they can achieve a desired goal (**Bandura**, 1997; **Seligman**, 1998);
- attribution theory: the locus of control and the extent to which the individual has control of the situation (**Rotter**, 1966);
- motivation theory: how motivated the individual is to achieve (**Pintrich and Schunk**, 1996);
- emotional intelligence: awareness of self and others, ability to communicate, keep control in stressful situations and relate constructively to others (**Salovey and Mayer**, 1990; **Goleman**, 1996; **Rego and Fernandes**, 2004)).
- adopting learning as opposed to appearance goals: ego-inflating students are less able to cope with failure (**Dweck**, 1999);
- constructivist approaches to learning and teaching (**Biggs**, 2003).

In a sense all of these may be able to explain part of the retention issue but none is sufficient and there is no simple sociological or psychological model of retention. For example, **Chemers** *et al*., 2001, found that academic self-efficacy and optimism had a strong correlation to performance and adjustment and **McKenzie and Schweitzer** (2001) identified it as one of several effective variables. However, self-efficacy alone does not explain retention.

A key element for Yorke and Longden, though, is the quality of the student experience, including the role of pedagogy, which is discussed further below.

An alternative approach focuses on cultural capital and habitus, drawn from the work of **Bourdieu** (1973; **Bourdieu and Passeron**, 1977). Cultural capital is analogous to financial capital and refers to the stock of knowledge, attitudes and attributes to deal with a range of different environments. Those with the cultural capital to be

comfortable in the dominant class can access and maintain power. Converted to the university situation, middle and upper class students will be psychologically prepared for higher education while lower class or 'non-traditional' students have lower reserves of cultural capital and are perceived, or perceived themselves, as social and academic outsiders. **Thomas** (2002b) emphasised the importance of social capital, especially for non-traditional students, and **Thomas and Jones** (2003) suggested that without the social contacts, skills and networks non-traditional students found the transition to higher education more problematic. The structure, norms and values of the institution — habitus — serve to reinforce this (**Atherton and Webster**, 2003). **Berger** (2000) argued that there needed to be more research into the cultural capital aspects of retention. The issue of cultural capital is slowly emerging in retention discussions, for example, **Kinkead** (2003) noted, of Utah State University, that its goal should be to give 'students the political, social and cultural capital they need not only to succeed at the university, but to excel'.

4.3.2 Summary of withdrawal and retention

- Theorising about student retention and withdrawal has been dominated by models of social and academic integration.
- These models are, in practice, a mixture of sociological and psychological ideas.
- The models have been criticised for having been framed around the white, middle-class, private residential college experience.
- Although other theories, sociological and psychological, are being applied to the issue of retention there is a sense that (a) integration remains at the core of theorising and (b) the theories get no closer to solving the 'puzzle'.
- Despite the prominence of Tinto's theory, critics suggest that it needs to be broadened and that the context is crucial: there is no one-size-fits-all model of retention.

5. Factors impacting on performance and persistence

There has been considerable research exploring the factors that impact on withdrawal and to a lesser extent on success. However, the effects of particular positive academic and social integration experiences that deter college student departure have not been identified precisely for all student types across institutional categories. The following explores the interrelationship of institutional experience, academic achievement and external pressures on performance and the extent to which academic or external factors have the greatest bearing on outcomes. The effect of student characteristics is explored and research indicates that these need to be taken into account when examining performance and retention. Student expectations, satisfaction and choice of study programme also have a bearing. Support programmes can also impact on performance as can students' financial situation, accommodation and health. One other aspect is the impact of learning behaviour on performance in the first year but this is considered in section 7, below, on learning and teaching.

5.1 Institutional experience, academic achievement and external factors

Research has shown that there is a multiplicity of factors leading to student persistence and success and that these are not determined by prior student characteristics or dispositions.

5.1.1 Multiplicity of factors

An American study by **Nora** *et al*. (1996) indicated that institutional experiences, academic achievement and environmental pull factors contributed the most to persistence decisions. No pre-college factors (educational aspirations, prior academic achievement, attitudes towards learning and support and encouragement to attend college) were found to improve the overall fit of the models for any of the groups in the study. Furthermore, analyses revealed that differences in the effects of these factors for different ethnic and gender groups were important in explaining persistence decisions (discussed below).

Over thirty later, **Adamson and McAleavy** (2000), in their postal questionnaire study of all non-completing students from colleges across Northern Ireland found that non-completion was not driven by pre-entry deterministic factors but, rather, appears to occur as a result of a complex decision-making process with an array of factors impacting on the student. **Flowers** *et al*. (2001) analysed a large, multi-institutional sample of undergraduates at all levels to estimate the magnitude of the effects of one year in university in the US. They explored whether the effects of college differed in magnitude for students with different pre-college characteristics, or for students in different institutional contexts

Schedvin (1985) explored reasons for wishing to discontinue study given by first-year students at an Australian college of health sciences. External factors such as accident, ill-health, financial or family problems, which are cited as 'acceptable' reasons for leaving, may merely reinforce or even disguise an underlying problem. In-depth interviews with discontinuing first-year students revealed the following problems central to the decision to discontinue: (1) commitment to a prior goal; (2) need for 'time out'; (3) reality-testing a career; (4) specific academic difficulty that

aroused strong latent fear of failure; (5) factors beyond the control of the individual, such as accident, illness, family crisis or lack of money for the continuation of study.

In the UK, retention issues have become a major issue of research and analysis more recently, as funding regimes have changed. Earlier studies in the UK tended to look at factors for academic success rather than withdrawal. For example, **Fontana** *et al*. (1986) investigated the views of a sample of 150 first-year polytechnic undergraduate arts and science students in Wales. They were asked to what they attributed their academic success and the open responses generated 12 attributes of importance; in order, they were: study habits; lecture-content; lecturer; social; interest; motivation; ability; domestic security; peers; luck; financial security; health. Among attributes related to study habits a rank order of seven categories was also established: reading skills; examination technique; time; note-taking skills; organisation of work; revision; place. Knowledge and practice of good study habits is clearly important.

Drew (2001) used focus groups, including groups of first-year undergraduates, to identify student perceptions of what helped them achieve their learning outcomes. She found that success was related to the interaction of four main factors relating to the students and three contextual areas. The four student factors were self-management, motivation and needs, understanding and support needs. The three contextual areas were course organisation, resources and facilities; assessment; learning and teaching activities. For example: course organisation impacted on self-management; personal organisation impacted on motivation; the organisation of the timetable could aid understanding (for example, positioning of seminars in relation to lectures); self-management was affected by (bunched or changing deadlines).

What these studies show, which is effectively reinforced by the various models and by other more focused research (discussed in the following sections) is that withdrawal or success is rarely the result of a single factor. It is much more likely to be the combination of a range of diverse factors, often, as will be shown below, with what appear to be small issues tipping the balance.

Three of the eight studies on the postgraduate first-year dealt with the problems encountered by postgraduate research students in the UK. **Welsh** (1979) explored the problems encountered by first-year graduate research students at a Scottish University. **Wright and Lodwick** (1989) explored factors affecting progress of Ph.D. students at a UK university during the first year, noting patterns of interaction between students and staff. **Hockey** (1994) noted the paucity of studies on Ph.D. education and explored the problems that UK first-year social science Ph.D. students encountered when adapting to their new status and the factors that influenced successful adaptation.

5.1.2 Integration factors

Since Tinto's model gained in prominence, there have been various studies of the social and academic integration approach (**Napoli and Wortman**, 1996; **Pascarella and Terenzini**, 2005; **Sullivan**, 1997). **Pascarella and Terenzini** (1991), for example, pointed to the impact of the college environment on student retention, while **Christie and Dinham's** (1991) study of 25 first-time, full-time first-year students at a US university revealed that post-matriculation experiences external to the institution are important to social integration.

Zea *et al*. (1997) showed that both academic and social integration experiences impacted on student persistence in college. In a study of 512 first-year students, **Beil** *et al.* (1999) found that academic integration and social integration predicted students' institutional commitments, which in turn influenced their persistence in college after three years. However, the literature is not so clear on the relative weights of social and academic integration (discussed further in section 5.2).

In Ireland, Trinity College Dublin conducted two surveys of first year students. The first, by **Harrington** *et al*. (2001) asked about students' educational background, finances, and academic and social college life. They were also asked whether they had ever felt like dropping out of college. Students who had experienced academic difficulties, financial worries, difficulties with settling into college and concerns about career prospects were more likely to have considered withdrawing. The authors claimed the findings confirmed the importance of successful integration and the necessity for a multi-dimensional approach to student attrition. **Baird** (2002) undertook a second study, which examined the reasons students withdrew from the university. The most-cited reason for withdrawal was a lack of commitment to the course, combined with a host of satellite reasons. An important finding was that two-thirds of the former students reported that they were satisfied with their decision to withdraw and most students continued on in third-level education. This suggests that retention must be viewed carefully as withdrawal may sometimes be in the best interest of the student, indicating need for flexibility and support for students in transition. These studies led Trinity College to review the variety and complexity of its support services and to move towards a more co-ordinated approach (**O'Connor** *et al*., undated).

Need and De Jong (2001) examined the effects of local study environments on the achievements in higher education of Dutch undergraduate students. They found that the grade averages, the numbers of courses successfully completed, and the drop-out rates of students were the results of individual factors, that is, differences in the ways in which students selected their institutions and differences in the degree of success of their academic integration into the institutions they chose. The higher education institution attended had only slight impact on success.

A study by **Wilson** (1984) of adjustment to university life in Africa used a two-stage process to identify and explore the extent of transition problems to the University of Zambia. A total of 40 different types of problem were identified, some of which were sufficiently potent, general or persistent, to be a cause for concern to the university authorities. The main problems identified were academic: difficulty of obtaining books because of insufficient copies in the library and bookshop; academic workload; poor matching of students to compulsory courses; and difficulties with techniques of learning and studying at university. However, amongst the most serious problem was the university catering with a menu that lacked variety and poorly-cooked food.

5.1.3 Preparedness and satisfaction

Studies on retention and withdrawal emerged in the UK in the mid-1990s and while identifying a multiplicity of factors have been less driven by the integration model and are more likely to focus on preparedness and satisfaction. While preparedness and satisfaction are not independent of integration, the emphasis is on service provision rather than enculturation.

Preparedness includes being informed, making the right choices, having realistic expectations and being motivated. Satisfaction, in the first year, which is linked to

decisions to stay or withdraw, is affected by the students' preparedness for higher education.

Rickinson and Rutherford's (1995) questionnaire survey examined withdrawal in the first term of undergraduate education at a redbrick British university (with a mainly school-leaver intake). Twenty seven out of 1180 respondents withdrew within the first term. Usually there were multiple reasons: 67% of leavers had 'chosen the wrong course' and 56% were 'disappointed in the course content'. Academic and emotional preparedness for the transition to higher education was important. They explored the effectiveness of counselling intervention with first-year undergraduate students at risk of leaving university in their first term, although a later report on outcomes (**Rickinson**, 1998) noted that no direct correlation can be made between counselling intervention and successful degree completion. In a follow-up study of students who withdrew in their second or third term, **Rickinson and Rutherford** (1996) again showed that preparedness was an important factor and that course difficulties (79%) and living away from home (30%) were principal reasons for withdrawing. More recently, **Wingate and Macaro** (2004) argued that the ability to adapt and succeed, of non-traditional students studying German in an Oxbridge college, was due to a high level of preparedness and to a flexibility of motivational orientation.

In their longitudinal study, **McInnis** *et al*. (2000) reported little change between 1994 and 1999 in the considerable number of Australian students who they described as having an uncertain start at university. Reasons included lack of accurate initial information, poor course choices, failure to get their first choice, or unrealistic expectations of the amount of work and time involved in university study.

Thomas *et al*. (1996) reported a study of withdrawals from courses at a Welsh college of higher education in 1992–93. Three quarters of those who withdrew (77%) were first-year students and most left in the first term. Institutional records gave their reasons for leaving as 'personal' (37%); 'unknown' (30%); 'academic' (15%); 'employment related' (9%); 'financial' (6%); and 'medical' (5%). A survey of the leavers (with a low response rate but permitting multiple reasons) resulted in 60% citing 'personal' reasons; 52% citing 'course related' reasons; and 38% citing 'financial' reasons. Thomas *et al* conclude that there are many and varied reasons for withdrawal and 'it is often a combination of factors which lead students to withdraw from an institution'. They noted that 'personal problems' may sometimes be overcome with the help of guidance and a student counselling service, and that effective pre-entry advice, information and admission procedures could reduce the incidence of dissatisfaction with students' chosen courses or careers.

Yorke's (1999) book *Leaving Early: Undergraduate non-completion in higher education* presented the findings of research from six higher education institutions in north-west England between 1994 and 1996 into the problem of drop-out from courses (the material predates the funding changes in the UK). It drew on a report of a HEFCE-funded project, *Undergraduate non-completion in England* (**Yorke** *et al*., 1997) and subsequent articles (**Yorke**, 1998a, 1998b). The book clarified definitions of non-completion, looked at what influences students to leave early, assessed the implications for the institution's performance and the costs to the public purse. The book, and further elaboration in an article raising quality issues (**Yorke**, 2000), argued that the influences on the non-completion of the 2151 full-time and sandwich students who responded could be reduced to six main factors, including dissatisfaction with the quality of the student experience and institutional provision, inability to cope with the demands of the programme, inappropriate choices,

unhappiness with the social environment as well as financial problems. **Yorke** (2000) found that about two-thirds of those who left higher education in England between 1994 and 1996 did so in their first year. Overall, art, design and performing arts students showed high levels of dissatisfaction with the student experience (a result subsequently reproduced in the National Student Survey of final-year students in the UK, 2005). Students in clinical and pre-clinical subjects (and to a lesser extent those in engineering and technology) reported high levels of inability to cope.

Yorke and Longden's (2004) research-based book brought together their earlier work including **Longden** (2001) as well as reviewing the literature and theory of student retention. It examined research carried out in Australia, South Africa and the United Kingdom. Most importantly, as **Jennings** (2004) in his review stated, the students' voices are clearly heard. **Longden** (2001) had reported the perception of students who had left higher education during their first year and examined the closeness of fit of their comments and experiences to **Tinto**'s (1993) model of student withdrawal. Yorke and Longden suggested that the evidence showed that student departures resulted from a combination of factors that are unique to each student. There were (a) institution-related factors; the student does not feel that the provision has been appropriate and (b) student-related factors including flawed decision making about entering a particular programme of study, failure to cope with the demands of the programme, life-style choices, extraneous events, failure to adjust to a new-found freedom, and the worry of student loan debt. The authors advocated a positive approach in line with their earlier publications, arguing for an enhancement of the student learning experience in general, rather than focusing solely on retention activities. To focus on retention is to risk mistaking the symptom for the cause.

Instead of retention and completion, Yorke and Longden contended that the focus should be on student success through teaching, learning, assessment and institutional support services. As **Jennings** (2004) noted, to focus on student success is to bring the students' interest centre stage and to highlight the need to enhance the quality of the student experience. Yorke and Longden suggested that institutions, the students, and the higher education system between them can enhance the learning experience by doing a range of things, not least focusing resources and attention on the first year. The 44 suggestions revolved around: the improvement of student decision making; the student experience; students' abilities to cope with the demands of academic programmes; the way students cope with events that impact on their lives outside the institution; and student learning culture, programme structures, teaching approaches, use of formative assessment and emphasis on the first-year experience.

The report on working-class students in five Scottish universities by **Musselbrook and Dean** (2003) highlighted the importance of students' formative years and the influence of school in making students feel positive or negative about learning. The authors stated that a poor match between students' expectations of a course and the reality is often the most common reason for withdrawal. Information about what students' can expect in lectures and tutorials and how much time they should devote to independent study also needs to be better communicated before the start of the academic year. Greater access to relevant and informed members of staff would also have helped prepare students and reduce the anxiety levels borne of not knowing what to expect.

Long and Tricker (2004) claimed that relatively little research had been conducted into what first-year undergraduates expect of their course of study at university and

how their early experiences differed from their prior expectations. Action to address differences is important for improving student satisfaction and for increasing retention of students at an early stage in their course. Using an expectation-experience gap approach students on business studies and computer studies courses were surveyed six weeks after starting their course at a UK post-92 university. There was a high level of variation between students in both expectations and experiences and the paper indicated how detrimental differences might be addressed by course planners and delivery teams.

Pancer *et al*. (2000) explored expectations about university and subsequent adjustment in the first year in a longitudinal study of 226 students (158 females and 68 males). They completed a questionnaire in the summer prior to beginning university and another questionnaire in February of their first year. Results indicated that students with more complex expectations about university tended to adjust better to stressful circumstances than did students who had simpler expectations. **Smith and Hopkins** (2005) explored the perceptions of pupils of A-level English courses about English undergraduate degrees, finding a great discrepancy between expectations and practice. For example, the pupils expected English degrees to have much more class contact and tutor support and different assessment practices. Miller compared the views and experiences of first-year medical students in Scotland and in the United States (**Miller and Lloyd** 1991; **Miller** 1994).

A review of literature (**Hall**, 2002) on withdrawal and retention in post-compulsory education, undertaken by the Scottish Council for Research in Education (SCRE) Centre, University of Glasgow, was commissioned by the Scottish Executive Enterprise and Lifelong Learning Department (SEELLD). The aim was to review research to inform future policy development, examine evidence for any link between widening access and increased levels of student dropout and identify steps taken by institutions to minimise 'wastage' in Scotland and elsewhere. The summary relating to higher education noted that:

- reasons for leaving are usually complex and multiple;
- institutional records including reasons for withdrawal may not be adequate;
- peak times for students to withdraw from courses are early in the first term and at the end of the first year of study;
- retention rates, and reasons for leaving, differ according to the subject studied (possibly as a result of demands and teaching styles);
- some factors relate to the individual student (motivation and ability, and other personal characteristics and circumstances);
- some factors relate to the institution (quality of advice, guidance and general quality of provision);
- some factors operate at supra-institutional level (finance and other socio-economic factors);
- younger students are more likely to have made a poor choice of course and to cite programme difficulty, quality of teaching, and their own lack of progress as reasons for leaving;
- mature students are more likely to have to leave because of external circumstances;
- early departure may be more strongly influenced by social integration while later departure may be more concerned with course style and content and the ability of the student to cope with it;

- there is a strong suggestion that counselling, or other specific forms of intervention, can help students who are 'at risk' of withdrawing from their course to stay and complete it.

A quarter of a century ago in Australia, **Boud and De Rome** (1980) reported the proceedings of a conference held to examine the problems of first-year students, with special attention to the phenomenon of discontinuation. The keynotes noted *inter alia* that the transition from school to university is substantially different from what the students had anticipated, and that choice of course, motivation, and the quality of the university experience appeared to be the most important factors influencing decisions to withdraw. Students might be better prepared for the university experience.

More recent work in the UK has returned to the theme of integration alongside satisfaction. The Impact of the Student Learning Experience on Retention (ISLER) project at Middlesex University found that students' reasons for withdrawal from courses included: lack of integration (student lacking integration into student life, often linked with accommodation, peer relationships, homesickness, feelings of lack of support); dissatisfaction with student experience (dissatisfaction with university life, campus facilities, campus life, administrative support or support services); dissatisfaction with academic experience (often linked with detachment from institution and academic failure) (**Parmar**, 2004).

This differs somewhat from the integration approach in the US. For example, **Braxton** *et al*. (1996) had referred to Tinto's postulate that if entering students' expectations are unmet, disenchantment results and this hinders academic and social integration. In turn, integration problems influence subsequent institutional and goal commitments and ultimately student departure. A multi-institutional study of 263 first-time freshmen who entered four-year colleges and universities showed that both academic and social integration were positively influenced by the meeting of expectations for academic and career development. Social integration was positively influenced by expectations for opportunities for personal involvement but negatively affected by expectations for a collegiate atmosphere.

Within institutions, there is considerable feedback from students about their satisfaction with their modules, programmes of study or total experience. Not much of this has been translated into published studies, although increasingly the results of institutional surveys are being published. One approach that has been developed in the UK and adopted in other countries is the student satisfaction approach (**Harvey and Associates**, 1997), which links feedback surveys to action cycles in institutions, as much feedback is collected but often not acted upon. Although reporting of satisfaction at institutional level is now emerging, the tendency has been to include the first-year experience as a subset of the wider reporting and action process, rather than using the data specifically to explore the first-year experience. **Geall** (2000) used a version of the student satisfaction approach, including focus groups prior to the questionnaire design, to explore the expectations and experiences of first-year students at City University, Hong Kong. The electronic survey was designed to collect information from the student perspective to help management plan improvements through identifying areas for potential action. The article focussed on the process of getting feedback and follow-up activity rather than detailed first-year issues.

Rautopuro and Vaisanen (2000) undertook a longitudinal study of almost a thousand students who enrolled at a Finnish university in 1995. The students were re-surveyed in autumn 1996 and in autumn 1998. The questionnaire included four

categories (orientation to studying, emotions, study experiences and atmosphere and satisfaction with information and guidance) as well as an overall satisfaction rating. The overall decline in satisfaction with studies could be explained by the more critical view of final-year students as well as the decrease in financial resources of the university departments, which meant larger student groups and unfavourable teacher-student ratio in instruction. These interpretations were partly confirmed by the students' free comments on the questionnaire. In addition, as students came close to graduation, career issues loomed large and 13% of all the open comments dealt with the wishes to promote vocational relevance of studies. However, the greatest decline in student's feelings about university life occurred during their first year, when the perceived discrepancy between expectations and reality was greatest. The overall decreasing trend, over four years, in positive effects and increasing trend in negative effects, such as stress and powerlessness, implies that action is necessary to maintain the psychological well-being of students.

These studies show that preparedness and quality of the student experience are important elements in retention and success of students.

5.1.3.1 Choice of programme

Part of the preparedness issue is the choice of institution and programme of study, as has been mentioned in the research discussed above (section 5.1.3). **Yorke** (2000) found that school-leavers aged 18–19 were more likely than their older peers to cite the wrong choice of field of study as an influence on their non-completion as well as programme difficulty and the unsuitability (for them) of the teaching. Extra-institutional factors included the quality of advice given by careers services and pressure from parents to go to university. Several respondents pointed to the superficiality of their initial decision, implying the need for a more thoroughgoing self-appraisal of personal goals prior to application. However, institutions came in for some criticism regarding student entry, being accused of misleading promotional material and oral comments that misrepresented what was actually on offer. The lowest incidence of making the wrong choice of study was found in students from social science and from professions and subjects allied to medicine. These findings are of significance for institutional efforts to improve the quality of the student experience.

Musselbrook and Dean's (2003) study of Scottish working-class students indicated that significant numbers felt that they had received insufficient help with choosing subjects at critical stages. Some of them also accused universities of mis-describing courses in their literature or not providing enough information about course content and structure. **Conner** *et al*. (2001) claimed that most of their sample of 4000 felt well informed when making their higher education choices. However, some information gaps were identified, including details of courses, in particular, course structures, information about costs and employment prospects for graduates. Women and young students from non-traditional backgrounds were among those who would have wanted better information.

De Rome and Wieneke (1982) collected data at enrolment on course choice and commitment, including the use of pre-enrolment information and advisory resources, from 1375 first-year students at an Australian university in 1980. The results suggested that the data collected revealed the types of conditions under which students were likely to be at risk, rather than as a means of identifying particular students likely to discontinue. A follow-up survey of 250 students revealed that almost half had not found the content of their courses to be as they expected.

Mpofu (2001) investigated the selection of modules by more than 2000 undergraduate students at a South African university who had enrolled for a commerce degree between 1998 and 2000. The main generalisations were that race, family background, high school resources and, most of all, peer group strongly affected the selection of modules. Groups of graduates from the same high school tended to select similar modules in their first year, but differ in module selection in the second and third levels, suggesting a change in the determinant of module selection. The predominant determinants after a year of studying seem to be peer (or family) group, race and family background. These peer (family) and race effects in part reflect the incidence of poverty and the level of education among adults in the family environment. High-school teachers' understanding and influence of the student's high school years bears a positive but insignificant link to the student's selection of university modules.

Some studies have asked first-year students about their attitudes towards and choice of subject area. While giving some insights to staff working in the area about factors influencing decisions, it is not clear how the results from such studies result in any development in the first-year experience. Examples of studies include **Fuller**'s (1991) exploration of first-year university and polytechnic students' attitudes to degrees and careers in science and technology and the factors influencing whether or not they choose to pursue this area and **Durndell's** (1990) survey of 210 first-year students of business and natural science subjects, about why they chose not to study computing. The results of the latter indicated that, in the late 1980s, computing had a poor image as a future career or subject to study. The greatest perceived problem was that students of both sexes, but particularly females, wished to work with people, not machines. However, females gave relatively slight importance to the prospect of male domination in putting them off computing.

More recently, **Davies and Williams** (2001) explored the decision-making process among samples of potential and new mature entrants to nine case-study higher education institutions in the UK. The research compared the emphasis in public policy on higher education as a private investment with the understandings and interpretations of individuals in the act of applying for entry. Although, at a generalised level, mature learners believed that the private return on investment would be high, at a personal level the concepts of fragility and risk were more pertinent to understanding the complexity of their decision-making process, particularly for those over 25 years of age. Choices were also linked to knowledge and **Underwood** *et al*. (1990) showed, through a multiple-choice questionnaire, that first-year medical students at an English university had an almost total lack of knowledge about the profession into which they had just entered and to which they had made a lifelong commitment. A recent study by **Edvardsson** (2005) found, from interviews with first-year students in four cohorts (1998 to 2002) of a graduate engineering programme, that here had been a change in the students' attitudes to their studies as well as to their future on the labour market. This change was interpreted as an increased uncertainty about the future in general, the meaning of life, and as an increased ambivalence to the relevance of an academic grade as the self-evident admission to a qualified labour market.

Jrasat *et al.* (2005) investigated the level of awareness and attitudes toward the nursing profession of 330 male and female students enrolled at the first-year level of associate nursing at two Ministry of Health (MOH) training institutions in Jordan in November 2003. Only 31% of the respondents had a personal desire to become a nurse and 69% began a nursing career because of other reasons, such as family or economic pressures. There was no correlation between the student's gender, high-

school public certificate average, or socio-economic condition and the decision to become a nurse.

5.1.4 Summary of institutional experience, academic achievement and external factors

- There are no simple determining factors in withdrawal decisions. In the main, withdrawal is the result of a combination of student characteristics, external pressures and institutional-related factors. The difference between continuation and withdrawal is likely to be the accumulation of many, often small, factors.
- Integration is presumed to be at the core of withdrawal and attempts have been made to identify the key aspects of academic and social integration. (The balance between these is explored in the next section).
- In Britain, persistence seems to be more likely the result of student preparedness for higher education and satisfaction, which in the first year is often closely linked to expectations.
- Ill-informed choices can lead to a chain reaction of unmet expectations, dissatisfaction and de-motivation.
- Younger students are more prone to make inappropriate choices than older ones.
- Labour market considerations or other pragmatic decisions sometimes determine choices.
- The quality of the student experience seems to be a significant determining factor in persistence in the UK.

5.2 Social or academic integration

There have been some studies looking at whether social or academic integration is more important in success and retention.

5.2.1 Evidence of the importance of academic factors

Forty years ago, in a book published by New Zealand Council for Educational Research, **Small** (1966) explored the relationship between adjustment and achievement. He concluded, on the basis of his study that failure in the first year is due to a variety of factors, of which the most important single one seems to be an intellectual-academic one. However, this factor is not highly related to first-year performance. The presence or absence of certain personal characteristics seemed also to be associated with performance but the relationships were not close enough to enable useful predictions to be made. Small added that the performance of students in his research is so idiosyncratic that a reduction in the failure rate would not be easily achieved by general procedures. Attempted improvements should, therefore, be based upon the principle of meeting individual needs.

In the United States there is some evidence that students with weak academic backgrounds have lower persistence rates (**Astin**, 1993; **U.S. Department of Education**, 2001) and decisions to stay or leave college correlate more strongly with first-year students' academic performance than with their pre-enrolment characteristics (**Pascarella and Chapman**, 1983). Furthermore, research findings

suggest that there is an association between higher first-term GPA and shorter time to graduation (**Goldman and Gillis**, 1989; **Young**, 1982).

Cuseo's (undated) review of American literature (mostly from the 1980s) also suggested a correlation between performance and retention. He noted, for example, that students who earned good grades during their first term were far more likely to persist to graduation than were first-term students who do not experience initial academic success (**Pantages and Creedan**, 1978). Students were more likely to withdraw from college not only when they received poor or failing grades but also when they perceived a sharp decline in their academic performance relative to grades previously attained (**Getzlaf** *et al*., 1984), Further, academically well-prepared students who expect A's, but receive C's, are at risk of withdrawing (**Widmar**, 1994). Conversely, when first-year students improve their academic performance, their retention rate tends to improve as well (**Roueche** *et al*., 1984). National surveys of students, cited by Cuseo, also revealed that 'fear of academic failure' and obtaining 'help with academic skills' are among the most frequently cited concerns of beginning college students (**Astin** *et al*., 1997)

However, **Stage** (1989) found that students who were academically integrated into the university (as evidenced by higher GPAs) were not more likely to persist in college than were students with lower GPAs.

In Canada, **Grayson** (1994) had shown that, at a large commuter university, contrary to expectations, that social integration/involvement (such as the number of out-of-class contact with faculty) had no impact on the desired outcomes for the science students studied. Students who were satisfied with the quality of instruction and students who felt that topics covered in classes were important to future career success, were more likely than others to score high on a number of desired outcomes. In a large commuter university, classroom contact represents the main link between the institution and the individual. As a result, it is likely that improvements in curriculum and teaching would have large pay-offs for both students and the institution.

5.2.2 Evidence of the importance of non-academic factors

Other research results tend to suggest that non-academic factors have more weight than academic factors in withdrawal decisions. **Bers and Smith** (1991) examined student-level data from one community college in the Midwest and found that academic and social integration played a role in determining which students would persist in or withdraw from higher education. They noted that social integration had a larger effect on persistence outcomes than did academic integration. However, the authors noted that a student's educational objectives (for example, reasons for attending college) and employment status (part time or full time) contributed more to differentiating persisters from non-persisters than did academic integration and social integration experiences.

Mackie (1998, 2001) explored undergraduate student withdrawal behaviour in the business school of a UK post-1992 university through a comparative, qualitative study of the experience of students who had left, and of those who had experienced similar difficulties and doubts but chose to remain. Attention was given to the complex interplay of personal, institutional and contextual or external factors that impacted on decisions to leave or to stay. Both groups of students experienced difficulties of integration within the formal and social aspects of university life, and a problematic context. However, leavers and doubters had different levels of

commitment to the university experience. Homesickness, levels of perceived control over events and alienation were also found to play a role in the decision to withdraw.

Roberts *et al.* (undated) reported similar results in the preliminary outcomes of their study based on the faculty of business and informatics at a UK university. The authors noted that there was considerable literature on the reasons for non-completion of first-year higher education programmes in the UK and suggested that data gleaned largely from institutional sources suggested non-completion was variously related to: lower socio- economic status, entry through clearing or lower entry qualifications, late starting, mature entry, subject taken (particularly mathematics-related subjects), being male, living at home, little prior work experience and poor academic performance in the early stages of the first year. They noted that there is less research on those who successfully complete the first year, despite sometimes wavering in their commitment. Using the 2001 entry cohort they examined responses from leavers, persisters who had doubts and persisters who had no doubts about continuing. The research included a survey of 466 respondents (186 doubters and 280 non-doubters), which showed no marked differences over a range of demographic variables. However, significant differences were found across the whole range of attitude questions, with doubters responding less positively *per se*, than non-doubters. A marked difference in attitudes was noted across the sub set of questions relating to the student experience. Although all students responded more positively on these measures by the start of the second year, doubters responses at this stage still only corresponded with responses from non-doubters at the start of the first year. The authors note that persistence was facilitated largely by within-the-individual factors, goal orientation and its antecedent self-efficacy, and an increased ability to adapt to the new environment over the first year.

Johnston (1997) presented the results of a 1994–95 survey of institutional records at a new Scottish university after an analysis showed around a quarter of first-year students in 1993–94 either withdrew or failed. The survey suggested that non-academic problems are more likely to contribute to a student's failure to progress than academic problems and that the range of non-academic problems was both broad and complex. In addition, staff perceptions of the degree of influence wielded by such problems was not always matched by the recorded incidence in the survey. Course leaders cited academic problems for 37% of the students. Anecdotally, financial difficulties were often cited as a reason for high student drop out rates. Of the student records analysed, 12% had cited finance as a factor in non-progression, which while substantial, is not as high as anecdotal evidence suggested. However, it was notable that although the incidence of illness was almost equal to those with financial problems, the perception amongst course leaders of its impact as a contributory factor was considerably lower. Respondents cited personal reasons in 29% of cases of withdrawal. These were wide ranging and included general unhappiness (14%), domestic problems (10%), psychological/emotional problems (8%), inability to 'fit in' (8%) and immaturity (3%). A relatively small group of students (8%) had left to take-up full-time employment. In addition some students moved courses to another institution. The project has persisted (**Johnston**, 1999) and *inter alia* has resulted in a diagnostic test (**Johnston**, 2000) and a further study of first-year progression (**Johnston**, V. 2001).

Wintre *et al.* (2006) showed that 'leavers' at a Canadian university were far from homogenous and that two-thirds of them did not leave higher education altogether but transferred or took temporary leave. Interview data demonstrated that reasons for leaving were more related to mobility, exploration and career paths, characteristics of emerging adulthood, than to negative university experiences.

In a rare comparative study, **Blais and Pulido** (1992) compared the effects that academic study had on various aspects of the life of adult students enrolled in first- and second-cycle programmes at a university in Canada and in Venezuela. The major differences between the two groups lie in family, social life and leisure.

5.2.3 Summary of social or academic integration

- Social and academic factors both play a role in withdrawal and it would be precipitous to prioritise one over the other in the face of diverse research evidence, that use different data collection techniques.
- It seems that while associations can be drawn between withdrawal and performance in the first year, it is unlikely that poor performance alone (short of institutionally-determined failure) will result in withdrawal.
- Conversely, it is possible that a multiplicity of non-academic factors may result in withdrawal, even where the student is academically sound.

5.3 The impact of student characteristics on performance and persistence

Student socio-economic background, ethnicity, gender, age and other characteristics have been studied to see if they impact on first-year student success and persistence in higher education.

5.3.1 Non-traditional students

Some studies address the impact on performance and retention for non-traditional students in general. Although not specifically about the first-year experience, **Lynch and Bishop-Clark** (1998) noted that the majority of research on non-traditional students had been conducted in environments where they constitute a significant portion of the college population. Such research identified few problems and indicated that non-traditional students' college experiences are positive.

Bowl's (2003) qualitative study of 32 non-traditional students in higher education in the UK showed some evidence that they were likely to feel isolated, especially in a traditional university where they may be in a minority. This reinforced the tendency of non-traditional students to think of university as 'not for them'. Non-traditional students were also prone to financial worries and debt, which also appeared to impact on choice of programme of study. Further, non-traditional students can be put off by large lectures, little formal teaching contact time and inaccessible staff. Bowl argued that breaking down some of the walls between academic staff and students could be very beneficial for non-traditional students.

Christie, *et al*. (2005) in reporting the experiences of non-traditional students at prestigious Scottish universities, noted that students constructed themselves as 'day students'. They lived at home and combined studying with commitments to family or to paid employment. This was a pragmatic response to their financial and material circumstances. The authors argued that this disadvantages the students within the university system both through their limited ability to participate in the wider social aspects of student life and through their exclusion from information networks.

5.3.2 Social class

Archer *et al*.'s (2003) book *Higher Education and Social Class, Issues of Exclusion and Inclusion* although not specifically about the first-year experience raised issues that impact on it. Noting the persistently low participation rates of people from working class groups, the text discussed the reasons for this exclusion, and addressed issues around differential access to information about university, the value of higher education to working class groups, the costs of participating and the propensity to participate. The findings were based on a study that included the views of both working class participants and non-participants in higher education.

Biggs *et al*. (1991) showed that, in Australia, coming from a lower socioeconomic background and having family problems were both associated with either a decreased academic performance or an increased attrition rate in the first year. **Scott** *et a*l.'s (1996) study of 118 mature female students with children in three eastern Australian universities found that those with low socio-economic indicators tended to leave. Reasons for leaving tended to differ with age: younger students tended to leave because of family, financial or child-care reasons, older students were more likely to leave because of practical difficulties or course dissatisfaction.

Liljander (1998), in a study of drop-out and course-switching in Finnish higher education, found that risk of dropping out was inversely related to social class, and that men were at slightly greater risk of dropping out than women.

Musselbrook and Dean (2003) reported a study of 1819 students from classes IIIM-V at five Scottish universities who had accepted a first-year place beginning 2000–1. They showed that a range of factors impacted on students' experiences of university, which were mediated by students' own, often complicated, life stories. Of the sample, only 4% felt that they would 'probably' or 'definitely not' carry on with their studies. Most respondents (85%) indicated that they would select the same university again. The main reason for indicating a preference for another university was that the place of study was too far from home. An environment conducive to mixing and socialising with other students also helped students create an important peer-support network. Those living in student halls and involved in extracurricular activities were the most satisfied with their personal lives and better integrated into university life. Another challenge that institutions faced was helping students develop their time management, analytical, written, and presentation skills. Performing well in essays and examinations is what students reported as most satisfying and poor performance as least satisfying. Appropriate financial information also had positive benefits for working-class first-year students.

5.3.3 First generation

Grayson (1997a) explored whether Canadian first-generation students confronted greater problems than traditional students. In a commuter university in which the majority were first-generation students, 1849 students were surveyed at the end of the first year and survey results were linked to grades. The results showed that traditional students performed slightly better but that for both groups involvement in various university activities contributed to GPA. Traditional students tended to have higher levels of involvement than first-generation students.

First generation students, with little idea of what to expect from higher education, according to the **University of Teesside Retention Team** (2005), were particularly

discouraged by the perceived inaccessibility of tutors and the pressure to become independent learners. Such students tended to presume that they would have the same level of academic support they received in school, college or further education.

Duggan (2004–5) showed that, after controlling for other variables, first-generation students had a statistically significant, but comparatively minor, negative effect on persistence.

5.3.4 Mature students

Simonite's (1988) quantitative study showed that student performance was shown to increase with age and that this relative performance advantage for mature students was established in their first year of study. **Richardson** (1994, 1995) conducted a literature review on the academic performance of mature students, which contained no good evidence that mature students perform any less well than younger students on courses of study in higher education. The review and an empirical study suggested that mature students exhibit more desirable approaches to learning. Furthermore, the subsequent academic performance of the mature students on their degree courses was at least as good as that of the non-mature students. This is a view reflected in **Harris and Brooks**' (1998) questionnaire survey of 209 older students in the US. It showed that many older students adapted to college at least as well as traditional-age students. Hispanics and Anglos showed similar patterns. Surprisingly, though, older students reported fewer barriers towards getting a higher education than did younger students, particularly institutional obstacles, such as poor treatment from professors and dispositional obstacles, such as lack of self-confidence. However, older students did report feeling more guilt about being in higher education.

Most of the studies on mature students' persistence or withdrawal do not focus specifically on the first year. For example, **Ozga and Sukhnandan** (1998), drawing on a report commissioned by the Higher Education Funding Council for England (**Ozga and Sukhnandan**, 1997), reported the results of a small-scale qualitative study of undergraduate non-completion. They suggested that withdrawal for 'conventional' and 'mature' students differ. Factors of central importance for conventional students were lack of preparedness (dependence on inadequate sources of information, no clear orientation towards higher education, and a reactive entry route rather than pro-active choice), compatibility of choice (match between students and their choices especially the extent to which students' choices fulfilled their expectations and also the extent to which students fulfilled the institution's expectations), and time of exit (the time it took a student to recognise, accept, and act on, the fact a poor choice had been made). For mature students, external circumstances often forced them to withdraw.

Lynch and Bishop-Clark (1998) suggested that a lack of age diversity may have an impact on the non-traditional students' experience on traditional campuses, where older students constitute a small percentage of the student population, compared to branch campuses where there is a substantial number of older students, which reflects the general studies on non-traditional students in a traditional setting, mentioned above (Section 5.3.1) (**Bowl**, 2003; **Knox**, 2005). **Bowl** (2003) suggested that some mature students think very strategically about what course to study because their key aim is to earn more money and have a more secure job to support themselves and their families. Further, mature students are more likely to have significant family responsibilities alongside their studies and are, therefore, more

likely to withdraw for family reasons. Mature women, in particular, may experience difficulties because of family responsibilities conflicting with their studies; this adds to an already low self-esteem.

McGivney's (1996) book, among other things, had also pointed to social isolation, not fitting in and financial and family worries of mature students. There were gender differences: men were more likely to cite course-related, finance- or work-related reasons (getting a job; the demands of a current job) for leaving courses before completion, whereas women were more likely to withdraw for reasons such as family commitments and the lack, inadequacy or costs of childcare. Strategies for dealing with the most common causes of withdrawal and for improving retention rates were suggested.

Thomas *et al*. (1996) found that financial problems could be particularly acute for mature students in the UK. According to **Yorke** (1999) mature students are more likely to leave for financial reasons than younger students. However, the **University of Teesside Retention Team** (2005) study did not find finance a major issue for mature students. Indeed, the key issues for mature students in the study were feedback, timetabling and support facilities. The quality and timeliness of feedback is directly related to the mature student's ability to progress and succeed. Feedback helps to guide the student through their course and helps to maintain their self-confidence. Mature students who have been absent from education for a significant period of time often feel insecure about their academic ability. In addition to suffering from lack of confidence, very often mature students have to juggle work, family and study responsibilities, which sometimes leads to problems with timetabling and the need for appropriate provision of childcare facilities. It appeared also that in some cases mature participants perceived university staff as being unaware of their needs and felt that staff did not communicate with them appropriately. Mature participants occasionally expressed the opinion that they wanted staff to treat them in a more adult way. However, although the prospect of higher education may be overwhelmingly daunting for some younger, less confident, non-traditional students, it seems that some older students do not feel this sense of foreboding when encountering their new environment.

5.3.5 Gender

Gender-based analyses are not numerous and tend to be mentioned as a side issue in other studies (**McGivney**, 1996; **Liljander**, 1998, **Bowl**, 2003; **Trueman and Hartley**, 1996). For example, **Nora's** *et al*. (1996) wide-ranging study noted that, for females, the most significant positive effect on college persistence came from mentoring experiences in the form of non-classroom interactions with academic staff.

Porter and Swing (2006) stated that here is general agreement in the literature that males have lower persistence rates than females in the United States and cited **Leppel** (2002) and **Mortenson** (2001). **Leppel** (2002) used national-level data to explore factors influencing college persistence of men and women. Surprisingly, having children has a negative impact on men's persistence but a positive impact on women's persistence. Being Black raises persistence significantly for women but not for men. Age, marriage, and hours worked have a negative impact; and family income, GPA, and being Asian have a positive impact on both men and women's persistence.

Mortenson (2001) did not really address the first-year experience as such but demonstrated that the gender distribution of bachelor's degrees awarded in the

United States showed a redistribution from men to women that has been underway for a very long time; at least 130 years. Around 1980 the proportions of bachelors reflected the population balance of men and women. Since 1980 women have predominated and the redistribution of bachelor's degrees from males to females has been broadly based. This redistribution has occurred in all 50 states, in all racial/ethnic groups of the population, and in both public and private higher education institutions. In all fields traditionally dominated by men, women have made substantial gains over the last 30 years. There appear to be no remaining male reserves in bachelor degree awards, although engineering and computer science seem to be struggling to hold on to their historic male dominance.

5.3.6 Ethnicity

The research evidence about the impact of race or ethnicity on persistence is varied and suggests specific contexts are more important than ethnicity.

Grayson's (1995) Canadian study of about 1000 students, showed that some outcomes of the first-year experience, including self-assessed intellectual development and knowledge, grade-point averages, and intentions to return to the university, vary by racial group. However, race *per se* explains little, if any, of the total variance. Explanations for differences in outcomes are to be found in classroom experiences, contacts with faculty and academic involvement.

Grayson (1998) also noted a lack of research on race and student retention in Canadian universities. Using administrative records and end-of-year surveys carried out in 1993, 1994 and 1995 he examined voluntary and involuntary withdrawal of first-year students of various racial origins enrolled full-time at a large university. (Students who withdraw involuntarily are those who because of low academic standing are debarred from continuing for a second year.) In general, differences in overall retention rates for blacks and students of South Asian, Chinese, 'other' non-European and European origins were small. Moreover, a logistic regression analysis indicated that while racial origin was not a predictor of voluntary withdrawal from university at the end of the first year, it had a slight effect on involuntary withdrawal. This differed from the situation in the US where research had shown that particularly black students and those of Hispanic origin have far lower retention rates than white students and those of Asian origin.

Research has shown mixed findings on the effects of academic and social integration for African American students in the United States. Overall, social integration is a stronger predictor of persistence than academic integration for African American students. **Nora** *et al*. (1996) noted that for minorities, the biggest detrimental effects on dropout behaviour were derived from pull factors in the form of family responsibilities and working off-campus. No significant positive effects from informal and formal interactions with academic staff, close personal relationships with peers and academic experiences during their first year in college were found to negate the large negative influences from the pull factors.

Mallinckrodt (1988) and **Mallinckrodt and Sedlacek** (1987) found that measures of social integration influenced retention rates for African American students. In both studies, it was found that African American students who either perceived greater social support or participated in social activities were more likely to persist in college. However, **Zea** *et al*. (1997) found that for African American students' there was a positive correlation between students' intention to persist at their respective institutions or another postsecondary institution and their degree of academic

integration (as measured by GPA). **Flowers** (2006) explored the impact of attending a two-year (as opposed to a four-year) institution on African American male students' academic and social integration experiences in the first year of college. Descriptive and multivariate analyses of the 1996–1998 'beginning postsecondary students longitudinal study' showed that African American males attending four-year institutions were more likely to report higher levels of academic and social integration in the first year of college. These findings suggested that student affairs/services professionals at two-year institutions should seek to develop appropriate interventions to ensure that African American males are engaged in academic and social integration experiences during their first year of college. **Amelink** (2005) also found that first-generation students who are Asian American are likely to experience academic success whereas first-generation, male African American, Mexican American and non-native English speakers have greater odds of being academically less successful.

Attinasi (1989) reported an analysis of in-depth, open-ended interviews of persisting and non-persisting Mexican American university students, which yielded two conceptual schemes for interpreting their perceptions of college-going experiences. These, respectively, corresponded to pre- and post-matriculation attitudinal and behavioural patterns, and served as the basis for hypotheses about the socio-psychological context of freshman-year persistence decisions. **Burford**'s (2004) book investigated the reasons university students in the South Central United States have to retake first-year English composition. The study sought to discover if cultural difference of teachers and students was significant. Most of the students were Hispanic, and most of the faculty were of Anglo-Saxon/European heritage. The book expresses the views of Mexican American students and their teachers.

The US research reflects the studies of the ethnic variation in the predictive potential of the scholastic aptitude test, discussed above (section 4.1.2). Those studies also showed that ethnicity alone was not a factor but was mediated, *inter alia*, by the context in which the students were studying.

5.3.7 Urban and rural

Thirty years ago, **Dale and Miller** (1972) showed that students from city schools made the best progress in their first year at university; those from schools in large towns of about 16,000 to 60,000 do worst; while those from schools in smaller towns and villages fall between the two. There seem to be no recent research studies of this type relating to the UK.

5.3.8 Summary of the impact of student characteristics on performance and persistence

- Many non-traditional students survive higher education despite considerable problems that arise from external factors as well as cultural and adjustment problems to do with unfulfilled expectations and low levels of satisfaction.
- Non-traditional students often feel isolated, especially in institutions where they are in a small minority. Also, there is a tendency for many non-traditional students to live at home, leading to a self-perception of being day students.
- Working-class students tend to have less access to information and less peer support to draw on than traditional students.

- There is some correlation between class and first-year grades and persistence, especially where family problems intervene for working-class students.
- Where working-class students become more integrated they tend to perform better: living in residences and performing well in assessed work in the first year aids this integration.
- First-generation students are likely to finds that their presumptions about the higher education experience are not met, especially around the availability of teaching staff, which can affect their persistence and performance. It seems that preparedness is important in the UK and perhaps that integration is important in North America.
- Evidence suggests that mature students perform as well as younger students and in some cases have more developed skills, such as problem-solving.
- Mature students are likely to feel more socially isolated, especially in non-age diverse settings, and have financial and family concerns that impact on their first-year performance and persistence. However, despite feeling more guilt about being in higher education, mature students are often more confident of overcoming obstacles than younger students.
- Feedback on progress is an important motivator for first-year mature students as is access to teaching staff.
- Older men are more likely to withdraw for course-related, finance- or work-related reasons, whereas older women withdraw for family reasons.
- Males tend to have lower persistence rates than females.
- Females and older students tend to score higher on specific ability tests than their peers.
- Although there are differences in ethnic group performance and persistence, this is not an issue of race *per se*. Within ethnic groups there are differences in male and female success.
- In North America, it seems the more socially and academically integrated different ethnic groups are the more success they are likely to have.
- Demographics need to be taken into account when exploring first-year performance.

5.4 Impact of support programmes on performance and retention

There are various support programmes designed to enhance the first-year experience, which are explored below (section 6). One might expect an array of studies on the impact on performance (grades) and retention of students who attend additional skills support seminars and other support activities. However, published reports that examine the impact of support activity on grades of first-year students are rare. It may be that this kind of evaluation is widespread within institutions and not reported or that such research is not targeted at the first year.

Sharma *et al*. (1999, 2005) studied the impact of voluntary workshop tutorials in large first-year courses (in an Australian institution). The tutorials were based on informal cooperative groupings with structured worksheets and short hands-on activities. About 80% of the students attended more than two-thirds of the voluntary tutorials. Discounting the students who attended very few tutorials, examination marks improved significantly with increased tutorial attendance. In particular, on

average, students with poor senior high school scores had significantly better examination marks if they worked in the same group for eight or more tutorials than those who do not work in the same groups. There was evidence that the improvement in examination performance was more pronounced in qualitative concept questions, most dramatically for students who had performed poorly in senior high school.

Burns' (1996) study, based on a New Zealand university, explored course-related learning support, designed to assist students under-prepared for first-year mathematics and physical science. It showed that the type of support selected and the time in the academic year when the support was taken up impacted on the benefit gained. **Dalziel and Peat** (1998), **Dalziel** (2000) and **Peat** *et al*. (2001) evaluated a transition workshop offered by an Australian university to incoming first-year science students. Those who attended the workshop were significantly better adjusted on a range of measures, compared to equivalent peers not attending the workshop. A follow-up study developed a linear regression model that workshop attendance was a factor in academic performance along with three other variables; secondary school performance, age and gender.

Smith *et al*. (1992) showed that students in the US who sought and received academic support improved their academic performance and also a greater sense of self-perceived control of academic outcomes. They also developed higher self-expectations for future academic success, (their self-efficacy). Self-efficacy correlates positively with college students' academic performance and persistence (**Chemers** *et al*., 2001; **Cuseo** (undated); **Multon** *et al*., 1991; **Lane and Lane**, 2001); this was particularly true for Hispanic students (**Solberg** *et al*., 1993) and for under-prepared students (**Lent** *et al*., 1987). **Churchill and Iwai**, (1981) showed a strong relationship between utilisation of campus-support services and completion of the programme. **Kulik** *et al's*. (1983) meta-analytic research had shown that academic-support programmes designed for under-prepared students had statistically significant effect on their grades and retention rates particularly if students experienced these programmes during their first year. However, college students under-utilized academic support services (**Friedlander**, 1980; **Walter and Smith**, 1990), particularly those students who were in most need of support (**Knapp and Karabenick**, 1988; **Abrams and Jernigan**, 1984; **Levin and Levin**, 1991).

5.4.1 Summary of the impact of support programmes on performance and retention

- The available published research on impact of support for first-year students indicate that participants benefit from being involved in support activities, not least achieving enhanced grades and becoming more integrated into the institution.
- However, the impact of support programmes is mediated by student characteristics, such as age and gender.
- Those first-year students who most need the support are not always those who make use of it.

5.5 Impact of paid work and financial situation on performance and persistence

As noted above (section 5.1.2), finance has been cited as a factor in withdrawal (**Schedvin**, 1985; **Fontana** *et al*., 1986; **Thomas** *et al*., 1996; **Johnston**, 1997; **Yorke**, 2000; **Harrington** *et al*., 2001; **Hall**, 2002). Other studies look more broadly at financial constraints and their impact on first-year progression. In addition, there are some studies that have explored the impact of paid work on student performance. However, there were far fewer published studies on the impact of part-time, term-time work on first-year students than expected. Most of the term-time work studies do not concentrate on the first year but report on the impact at all levels. The newer studies are from the UK and Australia where there is significant concern about the changed student culture. In the United States, where learning and earning has been a way of life, studies that touch on the impact tend to be subsumed under the umbrella of retention studies.

5.5.1 Finance

In research conducted, in the UK, prior to the replacement of student grants by loans and the introduction of tuition fees, **Ozga and Sukhnandan** (1997) found that financial hardship had an impact on early withdrawal, and students from the two lowest socio-economic groups were more likely to withdraw because of financial difficulties than students from the top two social groups. **Christie and Munro**'s (2003) qualitative study showed that middle-class students take a university education for granted and are cushioned from debt by parental support, while working-class seek to minimise the risk of going to university by living at home and maintaining links with a local labour market.

Woodrow (2000) and **Callender** (2001) noted the regressive nature of student funding for higher education in England, which favours 'traditional' affluent groups, and penalises low-income students. Research by **Dodgson and Bolam** (2002), **Callender and Kemp** (2000) and **Knowles** (2000) highlighted the impact of the changed funding arrangements on the retention of students from lower socio-economic groups, and certain ethnic minority groups.

Christie *et al*. (2001) explored the ways in which the current financial regime for supporting students affected the choices they make while studying for their first degree. It focused particularly on the financial choices students made (or felt forced to make) in relation to work, debt and economising. They argued that the degree of discretion students have was crucially related to the financial support they received from their parents. However, even where parents were generous, most students sought an additional source of income to increase their autonomy in spending decisions. There was a financially vulnerable group of students whose fragile financial position largely resulted from their parents being unable to offer much financial support; this group in particular found their time at university characterised by considerable amounts of paid work and increasing debt.

Research by the Institute for Access Studies (**Thomas**, 2002a) identified three key ways in which financial pressures impacted on students, and further research (in progress) on mature students identified a fourth issue. These are, first, absolute lack of money, debt and fear of debt; second, comparative lack of money, in relation to previous income levels, and peers not attending higher education; third, part-time employment; fourth, transition from benefits to student finance arrangements.

However, despite the poverty, high levels of debt and term-time and vacation employment, these students still valued entering higher education and intended to persist to completion. Thomas argued that finance can be a contributory factor to early withdrawal from higher education but it is not the only reason, or even the main reason. In a recent exit survey of approximately 200 students (unpublished) only 20% of students cited financial issues as a reason for leaving.

In the study by the **University of Teesside Retention Team** (2005), of mainly non-traditional students, participants were asked to discuss and comment on issues relating to funding their studies. Very few participants addressed this issue directly and funding was not a particularly common theme within the data set as a whole. This was surprising given the many references in the literature that identified financial issues as a key factor in student withdrawal (**McGivney**, 1996;**Yorke**, 1999;**Christie**, *et al*., 2001).

Hatt *et al*. (2005) used quantitative and qualitative data from two UK institutions to compare the student experience of those with and without bursary awards. At these two institutions, students with bursaries were more likely to be retained and to perform well during the first year than those without bursaries. The study found that bursaries can ease financial pressures during their transition to higher education and that institution-specific bursaries can affect students' perceptions of an institution and their commitment to succeed. After 2006, those institutions wishing to charge variable fees will be required to provide bursary support for low-income students. The findings from this study suggested that institutions should consider the timing of the bursary payments and the implicit message the bursary sends to applicants.

5.5.2 Paid work

Curtis and Sham (2002) explored whether students' studies were adversely affected by their part-time employment. Although not just about the first-year experience this provides a useful context. A survey of 359 students at an English university indicated that more students were working compared to survey results from one year earlier. There were adverse effects on study in the form of missed lectures, and students' perceptions were that coursework grades were lower than they would have been had they not been working. Nevertheless, students highlighted the benefits of working, which were not only monetary but included the development of skills, greater understanding of the world of business and an increase in confidence, all of which were advantageous to their studies, both at the present time and in the future.

Broadbridge and Swanson (2005) echo this in their review of studies that have investigated the relationship between earning and learning. They noted that the overall focus has been on the negative impact on adjustment to university life, poorer academic performance, social inclusion and psychological well-being. They proposed a psychological transactional approach focusing on both positive and negative outcomes of role interrelationships, which would more accurately inform universities, student bodies and employers of optimal ways of combining study and employment

Curtis and Klapper's (2003) study of the extent to which financial status affected the student experience in England and France provides a useful comparative perspective. They noted, following the introduction of fees, that early indications were that even first-year English students have considerable debts, but appear to adopt the social role of the student as a rational adult choosing to finance themselves through higher education, and perceive that the excess of expenditure over income is not a debt, but an investment in their future. This has considerable implications for

future students' perceptions of the affordability and do-ability of higher education. If, as hypothesized, French students spend more time in class and working on assessed and non-assessed assignments, they may be benefiting more from their educational experience than English students, some of whom spend as much time engaged in low-level work in their part-time jobs as they do in lectures.

Curtis and Klapper suggested that the UK system may be more efficient and more equitable than the French but UK students get less out of the experience. They suggested that it seems that English students were motivated by the qualification itself, whereas French students were motivated by the engagement in getting a good education.

Callender and Kemp (2000) found that part-time employment was a contributory factor in early withdrawal. A US study suggested that students who work off-campus more than 15 hours per week had lower persistence rates (**Choy**, 2002). However, **Wilkie and Jones** (1994) had shown that that working part-time on campus for an average of eight hours per week during the entire first year of college resulted in significantly higher rates of retention and higher academic achievement for traditional-age developmental education students. **University of Teesside Retention Team** (2005) noted that although part-time work has recently become a key feature of students' lives and employment is seen as the norm for most students as one way to manage their financial difficulties, very few students in their study referred to funding or part-time working as an issue. This may have been because students were surveyed in the first semester and had not yet perceived financial issues as impacting significantly on their studies. However, the authors stated that 'it is almost certain that juggling part-time work and study has associated effects on the quality of the student experience'.

McInnis *et al*. (2000) also reported a 9 per cent increase in part-time working among Australian first-year students between 1994 and 1999 as well as a 14 per cent increase in the mean number of hours they worked. Fewer students spent five days per week at university. However, they drew no inferences about the effect of this increase, noting that some paid employment may reflect a desire to gain work experience to enhance future employment prospects.

Not all studies show part-time working to have a detrimental effect on grades. **Watts** (2001) used semi-structured interviews with twelve first-year, full-time 'traditional' business studies undergraduates at a new English university to explore the effects of part-time paid employment on academic performance. Their academic results were also compared with a group of 19 similar students who did not work in part-time employment. No significant difference was found between these two sets of marks. Several key issues regarding the students' experience of working part-time during term-time emerged. Students wanted more compacted timetables so they had more free time to work. Watts argued that, full-time study along with substantive paid work can result in a lack of clear commitment to both. Any limit the university might place on the number of hours deemed appropriate for students to undertake part-time employment during term-time would have little effect. The prevailing student culture is that it is up to the individual to balance the demands of combining academic study with paid employment. If this is the case, the onus is on individual students to achieve this balance and serious consideration must be given to how that might be done.

An Australian study, though, showed that engagement can be affected by part-time work when linked to other responsibilities, or lack of them. **Zimitat** (2003) compared

the first-year experiences at an Australian university of *full-time* students with different work and family responsibilities. The three groups were students not in paid employment (Group 1, n=576), students in full-time paid employment with some family or caring responsibilities (Group 2, n=298), and students in full-time paid employment who are primary income earners and primary carers in their household (Group 3, n=63). There were no differences between the three groups in perceptions of teaching and learning, first semester grades or frequency of use of technologies. However, Group 2 students spend less time on campus than the other groups, find less interest and value in lectures, have more difficulty with motivation to study, spend less time preparing for and attending scheduled teaching activities and are significantly more likely to consider leaving study. Group 3 students reported significantly stronger motivation and higher levels of home access to websites that they considered as essential learning resources.

5.5.3 Summary of the impact of paid work and financial situation on performance and persistence

- Finance has been a factor in early withdrawal particularly for non-traditional students, although some research downplays this link. However, finance is rarely the only reason for withdrawal.
- Financial disadvantage is not always an absolute measure but is also judged relative to peers (within and outside higher education) previous income levels and sources of income.
- Financial security does appear to enhance a student's performance.
- Paid work can impact on involvement, engagement and adjustment in the first year.
- The impact of part-time work is not always negative despite most analysis suggesting it is detrimental.
- Part-time employment is a contributory factor in early withdrawal. Although there is little evidence to suggest that moderate amounts of part-time working significantly adversely affect performance (grades).

5.6 Accommodation and residential learning communities

Where students live has also been studied as a factor in first-year success and retention. Comparisons have been made between on-campus and off-campus students, and a subset of research into the effectiveness of learning communities, which also include an element of communal living.

Back in the 1960S, **Schmid and Reed** (1966) explored the factors that led to the retention of first-year students who lived in residences in the US. In the UK, **Jones** *et al*. (1973) examined the association between residence and measures of average academic achievement and of wastage among first-year Scottish students. There is a tradition of US research and commentary that suggests living on-campus is advantageous because it facilitates social as well as academic integration. However, the evidence is ambiguous and not much of this research is explicitly about the first-year experience.

According to **Astin** (1975, 1977) students who live on campus are significantly more likely to continue and graduate than other students. However, residential students have traditionally been more economically and socially privileged (**Chickering and**

Kuper, 1971) and once initial differences are controlled, resident students' and commuter students' performances are compatible (**Chickering**, 1974).

Pascarella's (1984) multi-institutional study attempted to determine the effects of residential living on four measures of outcomes: educational aspirations, satisfaction with college, rate of progress through college, and intentions to persist or withdraw after two years. Living on campus versus commuting had no significant, direct effects on any of the four measures of outcome. Rather, the influence of residence was at best small, indirect, and mediated through levels of involvement with faculty and peers. He concluded that the positive influence of living on campus was indirect in that living in on-campus student housing had a significant positive, direct effect on the extent of students' interaction with faculty and peers; a view echoed by **Astin** (1993), **Marchese** (1994) and **Schroeder and Mable** (1994). **Bliming**'s (1989) meta-analysis, which examined the influence of college residence halls on academic performance, showed an insignificant advantage to residence students over commuter students. This finding is further supported by findings that residential halls do not improve study habits when compared to commuters (**Schroeder and Mable**, 1994).

In another study, **Pascarella** (1985) showed that living in residence halls had a significant, positive, direct effect on the extent of student interactions with faculty and peers. As can be seen, the results are mixed and inconclusive when examining these outcomes. A decade later **Pascarella** *et a*l. (1994, p. 39) identified six positive benefits of living on campus. Compared to commuters, resident students:

1. Participate in a greater number of extracurricular, social, and cultural events on campus.
2. Interact more frequently with faculty and peers in informal settings.
3. Are significantly more satisfied with college and are more positive about the social and interpersonal environment on their campus.
4. Are more likely to persist and graduate from college.
5. Show significantly greater positive gains in such areas of psychosocial development as autonomy, inner-directedness, intellectual orientation, and self-concept.
6. Demonstrate significantly greater increases in aesthetic, cultural, and intellectual values, social and political liberalism, and secularism.

Part of the ambiguity is that research has indicated that, compared to commuter students who live off-campus, resident students had significantly higher levels of involvement in activities outside the classroom, interaction with faculty and peers, and overall satisfaction, which was assumed to be beneficial (**Chickering**, 1974; **Astin**, 1977; **Pascarella and Terenzini**, 1991; **Bliming**, 1993). Indeed, research found that students who lived on campus exhibited greater gains in critical thinking than those who commuted (**Pascarella** *et al.*, 1993). Not surprisingly, **Pascarella** (1985) and **Astin** (1973, 1977) found a clear relationship between living in a residence hall and greater satisfaction with campus environment and social climates.

The research relating to the first-year in the US shows no universal benefit, as Astin acknowledged. The effect of living on campus had its greatest impact on degree attainment of first-year students at small, four-year colleges and a small positive effect on students at large, four-year universities; the effect was minimal for students at two-year colleges (**Astin**, 1973). Based on data collected annually from first-time, full-time freshman through the Cooperative Institutional Research Program (*CIRP)*, **Astin**'s (1975) study found that living in a residence hall as a freshman was

associated with reduced possibilities for dropping out. Similarly, living at home with parents negatively affected persistence when compared with living on campus. Among the most significant positive effects of living on campus versus commuting were involvements in extracurricular activities, interaction with faculty, achievement in academic studies, social life, and satisfaction with the undergraduate experience (**Astin**, 1977).

Grayson's (1997b) study of a large Canadian commuter university showed that place of residence affected student involvement and first-year marks but not in the direction presupposed by those who advocate the development of residential learning communities (see below 5.6.1). After controlling for appropriate variables, the first-year marks of students who lived at home with parents were higher than those of students in residence. This result is contrary to research from the United States that has shown that students living in residence have greater gains in areas such as intellectual development and are more likely to stay in university and complete their degrees, than students who live off-campus. Grayson argued that part of the explanation is that, despite their place of residence off-campus and low involvement in some activities, students living with their parents have higher rates of classroom involvement than students living in residence. In essence, living off-campus with parents does not represent a disadvantage when it comes to first-year marks. It is also likely that the kinds of campus and institution that Astin's study encompassed was very different from Grayson's large commuter university.

Grayson's result was echoed in a recent European study by **Beekhoven** *et al*. (2004). They explored the impact of first-year students' living situation on the integration process and study progress. In all, 782 first-year full-time students in the Netherlands responded to a questionnaire. There was no positive effect on integration of living independently. The students living in university rooms experienced more personal problems than students who stayed at home. Students living in rooms spent several hours less on their studies, which negatively affected study progress.

Stevens and Walker (1996) developed a model of social and emotional adjustment to the first year of university in an Australian university of residential college students. The longitudinal study of 126 late-adolescent, non-local college students found that social and emotional adjustment to university was only partly a function of the new, 'objective' circumstances and that their outlook was most important: feeling positive from the beginning about the transition, believing they had sufficient friends to rely upon, experiencing intimacy and not worrying about whether they were independent enough. Male and female students adjusted in different ways. Suggestions are made for how these findings would be very useful for those engaged in counselling students, for professional staff in houses of residence, for university administrators and for academic staff.

5.6.1 Communal-living learning communities

There are several US studies that try to establish the benefits of students living and studying together. 'Residential learning communities' means slightly different things in different US institutions, they range from a group of students who live together and share at least one common module of study, through students living together in campus residences who share whole programmes; sometimes teachers are part of residential learning communities, sometimes extra-curricular seminars or activities are integrated into the residential learning community process. In essence, it is a little

like the traditional college residential system in UK universities. (For more detail on residential learning communities see **Goodsell-Love** (1999).)

An early example of the development of a learning community was described by **Dugmore and Grant**, (1970) who experimented with cluster registration of college freshmen to explore the effects it had on achievement, anxiety and perception of the college. **Schroeder and Griffin** (1976) described the establishment of an undergraduate student residence hall specifically for engineering students at an American university. Residence in the special living unit was positively related to persistence in engineering and academic achievement.

Pike's (1999) study is typical of US research outcomes, he found that students in residential learning communities had significantly higher levels of social interaction and extracurricular involvement, higher persistence and graduation rates, and greater gains in critical thinking and comprehension than did students in traditional housing (see also **Pike** *et al*. 1997).

Zeller *et al*. (1996) is a guide that presents research and innovative programming ideas for improving the first-year residential experience. Chapter topics include the role of residence life in recruitment and orientation, assignment issues, promoting diversity, working with paraprofessional staff, safety and security, living-learning programmes and assessment.

These studies and guides seem to endorse the advantage of living and studying together, at least in the first year.

5.6.2 Summary of accommodation and residential learning communities

- There is ambiguous evidence about whether residential status enhances first-year performance and retention.
- Residence does seem to enhance a sense of social integration but the impact on grades is insignificant, although it may aid the development of critical thinking.
- The beneficial effects of residential living seem to be dependent on the context and may be more beneficial in small institutions.
- It seems most benefit comes where students live and learn together, although evidence does not show overwhelming advantages.

5.7 Health and stress

Health and stress issues are increasingly being taken into consideration when exploring persistence and performance in the first-year experience (see for example, **Wintre and Yaffe**; 2000; **Johnston**, 1997; **Porter and Swing**; 2006)

5.7.1 Sources of stress

Although not specifically about the first-year experience, **Hughes**' (2005) experiments cast some light on sources of stress. All participants in the experiments were full-time undergraduate students of psychology in the UK. In Experiment 1, academic fear of failure, assessed using psychometric testing, was found to be associated with depressed blood pressure responses among students who

performed a stressful task on a computer. In Experiment 2, students were found to exhibit higher blood pressure before end-of-semester examinations than afterwards. In Experiment 3, students of relatively high academic ability were found to have demonstrated increased levels of pre-examination blood pressure responses to stress. Overall, the three experiments suggested ways in which the stressfulness of student life may have adverse consequences for student health and, moreover, ways in which the stressfulness of student life can be further explored. Factors such as fear of failure, impending examinations and academic ability must be taken into account when considering stress-related health consequences on campus.

Zeidner's (1991) study of first-year Jewish and Arab college students in Israel examined socio-cultural and gender differences in perceptions of major sources of academic stress and the relationship between reported academic stress and college achievement. Data were collected via a self-administered student stress inventory given to a sample of 184 Jewish and 209 Arab college undergraduates studying in a major Israeli university. Generally, most pressure came from course overload and academic assessment procedures and least pressure from a variety of personal, familial and social factors. The findings also lent some support to the cross-cultural generalisability of major stressors in academia.

Burns (1991) examined stress and culture shock among first-year overseas students in an Australian university. Previous studies suggested that overseas students' beliefs, values and attitudes to knowledge and learning behaviour could lead to study shock. A questionnaire survey of a sample of 133 first-year students mainly from Singapore, Malaysia and Hong Kong and 76 native-born students showed that the overseas students had significantly greater difficulties adjusting to academic requirements than did the native-born students, particularly with regard to managing the demands of study (specifically study methods, independent learning, language skills, participation and time management). The overseas students displayed significantly higher stress levels than did the local students. The author argued that more academic and counselling support should be provided for the increasing intake of overseas students.

Harris and Brooks' (1998) survey of older students in the US showed that women were more likely than men to feel that that their stress level had increased since coming to college, despite also noting that other students were supportive of their academic goals.

Brown and Ralph's (1999) review revealed that many researchers have noted the need for stress-reduction courses, though this has been a recommendation that has not generally been taken up. A specific stress-reduction programme was tested with first-year undergraduates. The students involved all felt that the programme had been valuable.

5.7.2 Health and progression

Health issues have been a particular issue for first-year students. **Tooth** *et al*. (1989) showed a link between health and examination performance. **Szulecka** *et al.* (1987) presented the results of a survey of 1279 first-year undergraduates who, at the time of registration at a British university, completed a health questionnaire and a vulnerability inventory. There was an association between health and the likelihood of the student withdrawing from university. Positive associations were also found between health and unsatisfactory relationships with parents, earlier psychological help and a familial history of psychiatric disorder.

Parkerson *et al*. (1990) studied the self-reported health status and life satisfaction of 286 first-year medical students at an American university. Health status scores were generally lower for women than for men. There was a definite trend of worsening along all parameters of health and satisfaction during the year for both women and men. However, the most marked change was the increase in depressive symptoms. Strong social ties were the factor most positively related to better health and life satisfaction. **Wolf** *et al*. (1991) also assessed psychosocial changes during the first year of medical school. A sample of 181 first-year students at an American state university showed that students finished their first year in a worse psychosocial state than when they began. Suggestions are made for teaching students to cope with stress.

Rego and Fernandes (2004) studied students at a Portuguese university and showed that students demonstrating higher emotional intelligence on a test instrument (that had six dimensions: emotional sensitiveness, empathy, emotional self-awareness, use of emotions, emotional awareness of others, emotional self-control) also had better health, higher satisfaction with life and better academic achievement.

Beard (2005) reported findings from a holistic study that explored students' emotional journeys over their first year at university. Students articulated a range of experiences through several interventions (blank sheets to note positive and negative feelings; emotional wave mapping; focus groups). The data showed that students experienced an emotional journey as they progressed through the year; one that affected their whole being, containing many significant events that influenced their disposition to learn. The report concluded with suggested research to provide future practical guidance for lecturers who want to enhance their students' learning experience.

5.7.3 Summary of health and stress

Studies that look at stress and the health of first-years students suggest that this is an area that deserves more attention from institutions. This reflects the study by **Porter and Swing** (2006), which showed that one of the two most effective elements of the US first-year seminar programmes is health education.

- The main determinants of stress tend to be study factors rather than external factors, which suggest institutions could do more to ameliorate the situation.
- The limited evidence suggests better health leads to better academic performance and persistence in higher education.
- It seems that health tends to deteriorate over the course of the first year.
- There are gender differences in stress and health of first-year students.

6.Supporting first-year students

Support for first-year students takes various forms, ranging from tailored induction and adjustment programmes, to specific skill development, counselling and guidance. This support may be part of the programme or external to it and provided by central support departments. In some cases the support is disparate and in some cases attempts are made to integrate support for first-year students. Published material reports on, and in some cases evaluates, arrangements, strategies and practices.

Most of the reported interventions relate to specific practices, as will be outlined below. However, critical voices suggest that piecemeal approaches are no substitute for a holistic integrated approach.

6.1 Integrated holistic approach

Recently, **Tinto** (2003, p. 1) argued that for all the effort put in, most universities do not take student retention seriously. He claimed that: 'An extensive body of research identifies the conditions that best promote retention, in particular during the students' first year of college. Here the emphasis is on the conditions in which institutions place students rather than on the attributes of students themselves…. They can be changed if institutions are serious in their pursuit of student retention.'

Tinto pointed to the classroom practices that universities in the United States have utilised to promote learning, including: cooperative and/or collaborative learning, problem-based learning, learning communities, supplemental instruction, and service learning. He argued that these activities enhance student involvement, enrich student learning experiences, and in turn improve retention. He argued that evidence from the research implied that to improve retention there is a need to begin changing the university, its structure and practices, in particular those in the classroom. In essence, he argued for an integrative approach that moved beyond the adding-on of services, often at the margins of university life. Tinto proposed the reshaping of student classroom experience in ways that build powerful educational communities of engagement for all students. **Tinto** (2006) claimed that students are more likely to persist and graduate in settings that: foster learning; expect them to succeed; provide clear and consistent information; advise students effectively about choices; provide academic, social, and personal support; involve them in the institution (not least through contact with staff). Tinto's view is to some extent supported by the differential retention and graduation rates in the US. **Porter and Swing** (2006) claimed that institutional characteristics (type, private or public, spending per student, selectivity) positively affected persistence and graduation rates in the United States (**Hu and St. John**, 2001; **Ryan**, 2004; **Kim** *et al*., 2003; **Porter**, 2000).

The transformative approach, encouraged rather more generally in the UK in the work of Harvey (**Harvey** *et al*., 1992; **Harvey and Knight**, 1996), is evident in the British view of the first-year experience, as represented, for example, by **Yorke and Longden** (2004). As noted above (section 5.1.3), they argued for enhancing the student experience generally, rather than focusing specifically on the first-year experience. **Wallace**'s (2003) briefing highlighted the importance for retaining students of supporting the first-year experience. Retention should be the outcome of well-designed policy and practice that has student success and satisfaction as its primary goal.

Pitkethly and Prosser (2001) argued, on the basis of a review of the literature, that each university must understand the experiences of its own students if it is to address attrition. Initial experiences on campus are important, and influence students' persistence in higher education. An analysis of models (including Tinto's) that attempt to enhance first-year student success, led the authors to the conclusion that a co-ordinated, informed, university-wide response to transition issues will improve the learning experiences of all first-year students.

Ramsay *et al*. (undated) outlined an ongoing project designed to develop a strategic approach to improving the retention of first-year student and facilitate significant change. They noted that 'the Latrobe University project reported by **Pitkethly and Prosser** (2001) is one of the rare examples of a more strategic model focussing on a whole university approach.' Ramsay *et al*. endorsed the underlying premise that 'involves enhancing the learning experience of all first year students', which will lead to more students achieving greater success and retention rates will improve. 'As argued by **Pitkethly and Prosser** (2001), having a coordinated, informed, university-wide response to transition issues is likely to improve the learning experiences of all first-year students' (Ramsay *et al*., undated, pp. 1–2). They, then, reported how an organisational learning model was used as a basis for breaking down perceived 'silos' in their institution, with the aim of improving information exchange and learning across different areas of the university. The project highlighted the importance of increasing awareness of, and communication about, good practice approaches already operating at Griffith University.

The 2002 *Griffith University Student Retention Project (***Griffith University**, undated) explored retention issues at Griffith, across Australia and overseas and aimed to develop a strategic framework to inform teaching, student support, administration and policy at the university. The final report of the 2002 project (**Griffith University**, 2003) identified good practice and initiatives at Griffith University and made recommendations for further improvements in this area. The 2003–04 project, focused on strengthening the first-year community and supporting the development of strategic partnerships between academics and student support services to facilitate the transition and support of first-year students at Griffith.

6.1.1 Summary of integrated holistic approach

- There is a strong call from some quarters for services, which research has shown to be effective, to be introduced more systematically in institutions to support the first-year experience.
- Various well-placed commentators are seeking holistic, integrated development of support services.
- Changes to university culture and organisation are required that take a student-focused approach: various initiatives have begun to break up silos and to seek strategic alliances between academic and support services.

6.2 Encouraging and monitoring retention

In the US, retention analysis is a major preoccupation in higher education (and has been a concern since the 1960s, see for example **Knoell**, 1960). Data from the end of the century suggested that 16% of students who entered a four-year institution left during the first year or did not return for their second year (**Horn and Carroll**, 1998). The rates were higher in two-year colleges. A third of the 16% are lost permanently but the other two-thirds returned to a college within six years. However, these students took a longer time to degree and were less likely to earn a bachelor's degree (**Choy**, 2002).

6.2.1 Best practice

There is a national symposium on student retention sponsored by the Consortium for Student Retention Data Exchange (CSRDE) at the **University of Oklahoma** (2005). Among other things, this annual conference addresses retention issues and theory, showcases effective strategies and promotes dialogue between CSRDE members. In addition, the large Association of Institutional Research (AIR) annual conference has many papers on retention issues.

Challenging and Supporting the First-Year Student: A Handbook for Improving the First Year of College (**Upcraft** *et al*., 2004) is a compilation of 29 contributions on the policies, strategies, programmes and services designed to support students through the first year, enable a successful transition as well as challenge them and fulfil their educational and personal goals. This follows from an earlier book on the same topic *The Freshman Year Experience: Helping Students Survive and Succeed in College* (**Upcraft**, **Gardner, and Associates**, 1989), which is a follow-up to *The Freshman Year Experience* (**Gardner** *et al*., 1985) the Proceedings of the February 1985 USA National Conference of the same name. Many of the papers described practical examples of successful courses, welfare structures, induction, innovation in teaching and learning designed to reduce student attrition in the first year. There were also papers on research to identify factors in withdrawal decisions. Two major events prompted this review at the time: the large-scale onset of computer technology, and the publication of the US National Institute of Education and Association of American Colleges reports on 'Integrity in the College Curriculum'.

A more recent book in the same vein is *Achieving and Sustaining Institutional Excellence for the First Year of College* (**Barefoot**, **Gardner** (Ed.) *et al*., 2005), which provided case studies of 13 'institutions of excellence' that placed a high priority on the first-year experience. The case studies illustrated best practice and lessons learned in teaching, assessing, and retaining first-year college students. Broadly, these texts argued that students in their first term need help in three areas: academic skills; skills for living; and knowledge about the institution and higher education.

There is a substantial web-based grey literature on first-year student retention, as American universities have whole departments dedicated to retention activities. Some institutional sites reported reviews of good practice such as **Valdosta State University** (2003), which reported a study by a task force that concluded with recommendations for improvement including strengthening the advising process; integrating all facets of the enrolment management process, expanding support and supplemental instruction. Some sites are guides to first year students (for example, **State University of New York College at Brockport**, 2004.

In the UK, the **Centre for Information and Computer Sciences, LTSN** website also has a section devoted to student retention and offers examples of good practice: it refers, for example, to the Scottish Higher Education Retention Forum; the Student Retention Project at Napier University; and M-Power, student mentoring at the University of Edinburgh. In addition, the website pointed lecturers towards tools and materials they could use to improve retention rates within their own institutions. The site referred to **Jefferson Community College**'s (undated) website page that offered ideas for improving retention through student interaction, classroom management, student-initiated activities and faculty-initiated activities.

The Higher Education Funding Council for England FDTL3 *Student Progression and Transfer* (**SPAT**, 2006) project offers materials for both students and staff to support retention-enhancing initiatives, ranging from 'culture shift' through 'key skills' to 'partnership'. A similar project (not on the LTSN website) from the **University of Ulster** (2006), 'Student Transition and Retention' (STAR) addressed the needs of students at a variety of stages, for example: prior to entry; induction processes and flexible progression. Each of these stages and associated retention strategies are exemplified through case studies. These projects, then, are based on whole university programmes and are not specific to certain subjects or skill sets. The project has also developed an audit for higher education institution staff to help them identify their current practices, covering, pre-course information, student recruitment, induction, personal tutors and personal development planning, the curriculum; academic support; student learning; extra curricular activities, staff-student contact outside class, administrative leadership and institutional research.

Thomas *et al*. (2001) and **Thomas and Yorke** (2003) reported a HEFCE-funded 'Action on Access' project that investigated six institutions that had performed particularly successfully in widening participation and retention, with the intention of identifying factors that contributed to that success. Semi-structured interviews were held with senior staff in each of the institutions, resulting in the production of brief vignettes covering widening participation and retention. Key interventions to encourage retention appeared to be: a supportive and friendly institutional climate especially support leading up to, and during, the critically-important first year of study; an emphasis on formative assessment in the early phase of programmes; a recognition of the importance of the social dimension in learning activities; a recognition that the pattern of students' engagement in higher education was changing, and the preparedness to respond positively to this in various ways. Although the institutions involved in the research appeared to be successful not all staff were involved or committed to the philosophy of widening participation and to supporting the success of more diverse student cohorts. **Thomas** (2003) also considered the role student services could play in increasing the number and diversity of students participating in higher education from a widening participation perspective.

There is, as noted above (sections 4.3.1 and 5.6), some research that suggests a link between participating in campus activities and retention. **Skipper and Argo**'s (2003) monograph went beyond the retention debate and argued for a broadened definition of campus activities that would lead to heightened social and intellectual engagement for college students and provided examples of successful academic and student affairs partnerships for designing and delivering educationally purposeful out-of-class activities. They addressed cognitive and developmental impact of campus involvement, the changing needs of today's college student, building community on commuter campuses as well as how to engage distance learners. The text also

provided models for developing leadership programmes and changing campus culture.

6.2.2 Retention data and reporting

American universities have departments monitoring retention. Compiling statistics on retention and graduation is an intrinsic part of the office of institutional research in US universities. Such offices have extensive reporting requirements to the US government and produce copious tables of statistical data, much of which are posted on web sites. The **University of Florida** (undated), for example, on its 'Degrees, Grades, and Graduation/Retention Rates' web page lists *inter alia* tables on 'Retention and Graduation Rates for All First Time in College (FTIC) and Community College AA Transfer Students (1986-2004)' and '6-Year Graduation/Retention Rates by Department for 1998 First Time in College (FTIC) Students'. While institutions collect the information, not least for government reporting purposes, it is not clear how it is used locally, if at all, to affect changes or influence institutional policy.

Morehead State University (2006) provided a limited set of retention data with no supporting discussion. The **Ohio University** (undated) site provided breakdowns of retention by years, campus, age, gender, high school rank, living arrangement and so on. As a member of the Consortium for Student Retention Data Exchange, Ohio participates in its annual survey and the university's retention and graduation data is compared to CSRDE data.

The Ohio office of institutional research also reported a study to enhance retention of first-years (**Williford and Schaller**, 2005). Findings indicated that students who leave and those who return have different perceptions and needs. If the university does not address these needs, especially the process of adjustment, they are likely to leave. The report suggested that the following help to meet student needs: early intervention of at-risk students; increasing services to larger classes of first year students; developing more learning communities; focusing more on student socialisation and adjustment; providing more student support.

Mutch (2005) undertook an analysis of 300 internet sites offering advice to new university or college students. The largest category was the advice provided by professors, deans, lecturers, advisors and counsellors, usually as part of an orientation package on an authorised university website. The advice ranged across the spectrum from planning a course of study, getting to know your way around campus and keeping a balanced lifestyle, to a range of study tips. The top twenty tips for new students (Table 3) can be grouped under six headings: time management; important things to know; study habits; involvement; collegiality; and life skills.

Ability to manage time was considered a high priority by teaching staff. Most advice suggested students construct different kinds of schedules. There should be a long-term overview, a weekly planner and a daily schedule. It was also mentioned that a student needs to realise that the time between, before and after classes is much more important than at high school and needs to be used more effectively. Staff also emphasised relevant rules and regulations such as the university's code of conduct. Knowledge of the campus and its facilities was also important.

Table 3: Advice on university web sites (% of sites mentioning advice)

Advice	*%*
Plan and manage your time	95
Get involved and feel included	72
Get to know faculty, advisors, career counsellors	68
Develop good study habits	68
Learn the prerequisites, regulations, requirements and expectations for your course of study	53
Know your way around campus and use its facilities	38
Look after your health and balance your lifestyle	33
Be prepared	32
Don't be afraid to ask for help	30
Organise a study group	27
Have a positive attitude	25
Create a purposeful study environment	23
Go to class	23
Take time to socialise (but don't overdo it)	20
Participate actively in class	20
Organise finances, set up and keep to a budget	20
Set personal and academic goals	15
Be prepared for life to be different	15
Be an active listener	13
Schedule yourself breaks and find ways to reward yourself when you have achieved a goal	13

Adapted from Much (2005)

6.2.3 Summary of encouraging and monitoring retention

There is a published literature on best practice designed to minimize withdrawal and improve student performance in the first year. Some of this is based on research evidence and some report strategies and activities (that work in a given setting) and which have, to some extent been taken for granted.

- Although a significant proportion of people who drop out of a course return to higher education they clearly take longer to get a degree and perhaps do not perform as well as those who do not drop out.

- Best practice covers strategy, process and organisation but highlights the need for constructive interventions.
- Reporting and monitoring of retention is an established activity in US institutions and websites report data. Some report interpretations of data, give advice to students and some undertake analyses and indicate changes to institutional processes and structures.

6.3 Induction

One key area for support of first-year students is induction, which is seen as important in retention and enabling adjustment to the higher education culture. Induction of first-year students is often criticised for being confusing, sometimes overly bureaucratic and, whilst providing information, not providing it in a user-friendly way and in a context that can be readily assimilated. Various studies report induction programmes and longer-term active processes designed to ameliorate the confusion and information overload of the induction period. They suggest more gradual provision of information and better integration and socialisation of students. There are separate issues for integration of distance students.

6.3.1 Information overload

The overload of information provided to first-year students in the early days of their course is a problem that has been documented and commented on for 25 years. **Lewis**'s (1984) participant observation study of the freshers' introductory week at a UK university showed that the first few weeks are characterised by confusion in the minds of most new students, as they are 'assaulted' by new information from the various university and student organisations. In the late 1990s, **Hargreaves** (1998) contended that transition to university had become more complex for students and for staff because *inter alia* class sizes and the cultural diversity of students had increased, while the academic ability of students had decreased. Students did not know what was really expected of them, what learning strategies to adopt and how their chosen field of study fits into the more global aspects of the community. **Woodfield** (2002) summarised the first few weeks' experience of her e-mail survey sample as evenly split between positive and negative reactions. These were not always mutually exclusive. Events of this first period could leave students feeling either well integrated or somewhat alienated. Although most students faced difficulties during this period, problems were felt more keenly by part-time, foreign and mature students. There was also evidence that difficulties at this stage could negatively influence the rest of the academic year.

Research in the US by **Godwin and Markham** (1996) drew on observation and interview data to examine the early encounters of traditional-age, first-year students with a campus bureaucracy, focusing on their definitions and coping strategies. Though frustrated by queues, impersonal treatment, and 'run-arounds', most first-years accepted the bureaucracy with superficial equanimity. This research revealed inherent strains and differences in client and staff perspectives and goals.

The close-up study of institutions, discussed below (section 9), shows that institutions still provide students with large amounts of information during induction.

6.3.2 Induction programme

Rather than one–off induction, albeit a sequence of presentations, some publications report on induction programmes. For example, **Hargreaves** (1998) outlined developments in an engineering school of an Australian university, including: an orientation programme designed to break the ice between students and staff and among students, a staff-student mentoring scheme and a new course, 'technology and society', designed specifically to improve the teamwork and communication skills of students. The innovations were considered to be a success by both students and staff.

Edward and Middleton (1997, 2002) also described the development of an induction programme for first-year engineering students. Withdrawing students had mentioned disorientation, feeling of impersonality and uncertainty about the structure of the course. Induction had hitherto been a one-day event devoted almost exclusively to the dissemination of information to the class arrayed in a lecture theatre. The change was to introduce a week-long induction devoted to a technical activity that the students, in groups, investigated. Some staff acted as facilitators to the groups while others played the roles of experts who could be consulted by the groups, each through a different medium of communication. The aims were: to involve the students in informal contact with the staff and peers; to encourage them to become familiar with the system of the university; to develop their study and communications skills; and to start the process of professional socialisation. Student and staff opinion of the activity was sought by questionnaire and interview. Student reaction to the experience was very favourable. Facilitator and expert opinion were somewhat more qualified but were also favourable. **Edward** (2001) further explored the learning style aspects of the small-group problem-based approach to induction and noted that there was no significant correlation between learning styles and perceptions of the induction process. **Edward** (2003) provided guidance on optimizing the effectiveness of the approach.

Purnell (2004) reported a university-wide induction strategy at Massey University in New Zealand. The institution established a first-year experience task force and started initiatives such as: mentoring programmes; early assessments; 'second thoughts' weeks; Maori study spaces; language provision for international students and space for staff to share good practice. The intention was to expand this to include peer tutoring, staff development workshops and a virtual first-year physics laboratory. **Crosling** (2003) reported a transition seminar aimed at non-traditional students.

Pascarella *et al*. (1986) examined the influence on withdrawal decisions of an intensive two-day orientation to college (in the US). The results suggested that the major influence of orientation on persistence is indirect, being transmitted through its positive effects on level of student social integration and commitment to the institution.

In the US, there is an association for those engaged in providing orientation for first-year students. The National Orientation Directors Association (NODA) produces a newsletter, refereed journal, guides and manuals. *The Orientation Review*, in its 35th year (as of 2006) includes innovative and successful programming ideas, as well as updates on Association news and services. For example, volume 34(2) included an article on working with parents on how to begin the process of 'letting go' of their new undergraduate children and another on how first impressions mould student

perceptions, which stressed the importance of giving an accurate but positive representation of the institution and campus during campus visits and induction. The refereed *Journal of College Orientation and Transition* focuses on the trends, practices, research, and development of programmes, policies, and activities related to the matriculation, orientation, transition, and retention of college students. It carries practical accounts of innovative initiatives, successful practices, and new ideas as well as literature reviews. The Spring 2004 issue, for example, included articles on the impact of induction on retention (**King and Wessel**, 2004), designing induction to cope with new virtual learning environments (**Haulmark and Williams**, 2004) and the need for graduate student orientation (**Lang**, 2004). NODA's short guides reflect their concern to help parents assist their children in transition and include *Helping Your First Year College Student Succeed: A guide for parents* (**Mullendore and Hatch**, 2000) *A Guide for Families of Commuter Students: Supporting your student's success* (**Hatch and Skipper**, 2004) and the more substantial edited volume, *Designing Successful Transitions: A guide for orienting students to college* (**Ward-Roof and Hatch**, 2003), now in its second edition. These were all published jointly with the National Resource Center for The First-Year Experience and Students in Transition. *Designing Successful Transitions* has chapters that explore orientation from a variety of perspectives, including the organisational, theoretical, technological, and practical, as well as chapters on adult learners and transfer students.

6.3.3 Gradual and integrated induction

Some programmes are designed to make induction a gradual process that links with the subject of study. **Billing**'s (1997) study of the induction of new students into a British university identified the importance of social integration for full-time students; the need for peer support networks and a consistently understood and applied tutorial system; the need for understanding and diagnosis of students' previous knowledge and skills; making induction student-centred and recognising the diverse needs of students. Importantly, induction should not attempt to do everything in the first week; rather it should be integrated into courses. Further, the university's expectations of students should be explicit. **Carter and McNeill** (1998) examined data from three British institutions of higher education that piloted peer tutoring/guiding arrangements. The analysis suggested that students have an enhanced role to play in a renegotiated tutor-student relationship. There appears to be a transition from the obscurity of their early days at university, towards a more enlightened position within their institution.

Gaskin and Hall (2002) described an induction approach for geography students at a UK university, based on an orienteering exercise, designed to make a positive impression in the first few weeks of term? Results obtained from the focus-group evaluation demonstrated that there were many benefits from the exercise for the new student, with 'teamwork' and 'meeting new people' being the most important. The authors claimed that the experience reported in the paper is transferable to other geography departments and programmes of study worldwide.

Zepke *et al*.'s (undated) synthesis of fourteen studies addressing environment and welcoming issues, concluded that assimilation into the institutional culture is enhanced by clarity and accessibility of information about the institution and programmes, the impact of enrolment processes, effectiveness of advice about course changes, the flexibility of timetabling and ease of early contact between institution and students.

6.3.3.1 First-year seminars

In the United States, the first-year seminar programme has become a widely used way to extend induction and aid adjustment (**Gardner**, 1986; **Gordon**, 1989). As the **California Polytechnic State University** (2005) website explained:

> 'First Year Seminars (FYS) are elective credit courses designed to support the success of new incoming freshman and transfer students at the university. Through these courses, you will explore your academic, career and co-curricular options at Cal Poly. Your participation in one of the two-unit courses will assist you in developing new study techniques and problem-solving skills, as well as enhance your educational experiences as a first-year student.'

First-year seminars are usually taught in an active classroom environment using peer activities and instructor guidance. They cover a range of aspects of the first year including academic skill development, campus facilities especially information technology, awareness of university regulations and requirements, student health, future course and career planning, personal development, including awareness of others, and involvement in campus activities.

Barefoot (2000) noted that the last twenty years has seen the creation of thousands of first-year programmes in the United States, the primary aim of which is to increase first-year retention. A survey by the **Policy Center on the First Year of College** (2002) with 979 respondents asked for an estimate of the percentage of first-year students that participated in first-year seminars at the respondents' institution. Only 6% of respondents indicated that no students in their institution were involved. 80% of institutions had at least 10% of their students involved in first-year seminars and in 42% of institutions at least 90% of students were involved. The involvement of students in the most prestigious institutions tended to be lower than in other types of institution.

Barefoot *et al.* (1998) claimed that first-year seminars had become the most studied higher education innovation in the US and that, research suggested that they appear to have had a positive impact on persistence by improving student academic and social integration (**Cuseo**, 1991; **Pascarella and Terenzini**, 1991). An early example of the reporting of the efficacy of first-year seminars can be found in **Gordon and Grites** (1984) account.

Research had shown that seminar participants get better grades and progress more smoothly in first-year classes than non-participants (**Cannici and Pulton**, 1990; **Chapman and Reed**, 1987; **Davis**, 1992) **Williford** *et al.* (2001) showed that, over a ten-year period, those who participated in an extended orientation course at a US university outperformed those who did not. Controlling for students' prior academic achievement and students' measured academic aptitude, year-end GPAs for participants were higher than non-participants retention rates; four-, five-, and six-year graduation rates were also higher. The purpose of the course was to help students adjust to the demands of the university environment and develop long-term academic skills. However, **Hyers and Joslin**, (1998) and **Davis** (1992) showed that the impact of first-year seminars on persistence seem to vary based on the SAT/ACT scores of students. More recent research has linked seminars with improved performance and transition as well as persistence (**Keup and Barefoot**, 2005).

Maisto and Tammi (1991) found that participants in a freshman seminar course were more likely to return for the second year than were non-participants. Similar research outcomes were repeated throughout the 1990s (**Bedford and Durkee**, 1989; **Fidler**, 1991; **Fidler and Moore**, 1996; **Murtuza and Ketka**r, 1995; **Pascarella and Terenzini**, 1991; **Strumpf and Hunt**, 1993; **Wolf-Wendel** *et al*., 1999; **Yockey and George** (1998)). Most of this research used enrolment records connected with curriculum records to compare the persistence rate for first-year seminar participants and non-participants.

Maisto and Tammi (1991) also found that participants in the first-year seminar course were more likely to use services designed for student development and more likely to participate in out-of-class student activities. Because most of the students in their study were identified as at risk by the researchers, Maisto and Tammi's study lends support to the notion that academic integration may not contribute as much to retention as social integration does for students with special needs. **Davis-Underwood and Lee** (1994) also showed, *inter alia*, that participants in a university seminar programme also had higher frequencies of participation in campus activities or services and report more out-of-class connections with academic staff. A view reflected in **Cannici and Pulton** (1990).

Blackhurst, (1995) showed that the mentoring aspects of seminars appear to work better for females than for males a view echoed by **Nora** *et al.* (1996).

Porter and Swing (2006) noted that much of the existing research on these courses is limited to single-institution studies and focuses on the impact of the courses overall, rather than what specific aspects of the first-year seminar programme affect persistence. In the main, studies correlated attendance at first-year seminars with withdrawal and progression data. It is not clear which course content/components (for example, an emphasis on study skills, explanations of campus policies and procedures, encouragement for students to become involved in the campus) most contribute to increased persistence. Understanding which aspects of a first-year seminar have the greatest impact on persistence could inform course administrators and instructors about where to concentrate their efforts. Porter and Swing surveyed almost 20,000 first-year students at 45 four-year institutions and combined this with institutional-level data, using a multilevel modelling approach controlling for student and institutional characteristics. Topics generally covered in transition-format seminars included study skills and academic engagement, college policies, campus engagement, peer connections, and health education. Of these, *learning skills* and *health education* had both statistically and substantively significant impacts on intent to persist to the second year of college.

Porter and Swing (2006) indicated that study skills and academic engagement reflect the philosophy of many first-year seminars, and it makes intuitive sense that students who quickly gain confidence in their study skills would believe that they are likely to be successful in college and so plan to continue their enrolment. It may be less clear why health education has an immediate pay-off. The authors argued that students commonly worry about their health and that knowledge about health may make students feel better and perform better. They speculated, however, that the real value might be that by addressing health issues staff are *de facto* expressing a concern about students' wellbeing. However, the authors pointed out that academic staff often reported that their least favourite part of first-year seminars is teaching study skills, and that the area they feel least prepared for is the counselling aspects of helping students develop holistically. Effective course content on study skills and

health education are, the authors claim, too important to persistence to be ignored by those who administer and teach first-year seminars.

College knowledge, peer connections, and co-curricular engagement were not highly associated with early intent to persist in Porter and Swing's study. However, this may have been a reflection of the timing of the data collection, or perhaps these issues were addressed in many ways so that first-year seminars were not viewed by students as the key source of these topics. First-year seminars often seek to prepare students for future collegiate decisions by 'planting seeds' that are not expected to immediately produce fruit. Further, first-year seminars are often a kind of insurance that all students receive key information even though it is provided in other ways.

6.3.4 The first class

Wieneke (1981) argued that the first lecture can produce lasting impressions, for students, about the department in which they will be studying. The manner in which staff deliver the first lecture, together with what they say, can impact on how students approach the subject and the staff. A study of several first lectures suggested that staff needed to think carefully about the content, organisation and delivery. To assist lecturers in preparing for this first meeting a checklist, consisting of a series of questions, was constructed.

Radloff and de la Harpe (1998) also argued that how the lecturer plans, organises and manages the first class has an effect on students' subsequent feelings, thoughts and actions related to the subject and their learning. A small study involving 35 lecturers in an Australian university explored goals for the first class and what they did during the class to achieve their goals. They suggested guidelines to make the first class a happy, intellectually engaging and active learning experience for students.

6.3.5 Distance students

Induction for on-line learners is addressed by **Phillips** (2004) and by **Forrester** *et al.* (2004). Phillips provided a case study of the delivery and evaluation of 'mass customization techniques', which it is claimed offer the advantages of efficient production combined with the development of a learning experience precisely tailored for the individual's study requirements.

Forrester *et al*. explored the induction process for distance-education students in one faculty of a British university. Depending upon the programme taken, students participated either in an induction held at the university as part of a residential study school, or were enrolled on online programmes with induction via paper-based materials and web pages. The research investigated students' experiences of the induction process and identified good practice and areas for improvement. Using the same material, **Parkinson and Forrester** (2004)[1] reported a study of the induction experiences of 36 students commencing three distance-learning programmes. The research used 'gap analysis' to explore whether there was a difference between student expectations and perceptions. Preliminary findings indicated several guiding issues when planning induction sessions for distance students, in particular: ensure the format combines mixed approaches to teaching and learning, which include a

[1] Parkinson and Forrester (2004) and Forrester *et al*. (2004) were both presented at the same BERA conference.

significant element of active student participation; undertake a pre-course diagnosis of students IT skills; include a hands-on IT session as part of the induction programme; try to developing social cohesion within the group and establish the foundations for peer support networks; facilitate a sense of belonging to both the programme and the wider university. Appropriate adjustments within the programmes were made and the gap between students' expectations and perceptions significantly narrowed.

6.3.6 Summary of induction

The research and evaluation suggests the following.

- Avoid information overload at induction and unnecessary bureaucratic procedures in an increasingly complex environment.
- Gradual induction through a week-long programme (or longer) appears to be positive. However, this needs to be linked to the programme of study and involve active participation by students. If this involves informal contact with staff as well this appears to be beneficial.
- Induction is important for retention, mainly because it provides an opportunity to assist adjustment and integration.
- Students go to university to take a course and the first lecture or class (in each module) can be an important element of the induction process.
- Papers suggest that induction of on-line students can be efficient and tailored to their needs. There are possible lessons for augmenting induction of campus students through virtual learning environments.

Additionally, the research implies a need to clarify the aims and purposes of induction and separate out (a) course material (b) learning support services (c) general information about the university and the environs (d) adaptation to university life (e) becoming an autonomous learner.

As will be seen below, induction is regarded as significant part of the package to ensure good student retention. Part of that is the idea of creating learning communities, which it is important to establish in the induction period.

6.4 Adjustment

There is a significant amount of research on the adjustment made by students entering higher education. Most explores issues of social and emotional adjustment, addressing issues of identity and belonging. Most reported work is geared towards aiding adjustment, implicitly to ensure retention. *Designing Successful Transitions: A guide for orienting students to college* (**Ward-Roof and Hatch**, 2003) suggests good practice to aid adjustment as well as induction (see section 6.3, above).

However, this kind of adjustment study tends to be from the UK, US and Australia. A French study has a different perspective. **Leroux** (1997) explained that first-cycle university courses have a special function in France's education system. They are there not only to provide education but also to serve as an adjustment vehicle, guaranteeing a place in higher education to any student with the baccaulauréat. Criticisms levelled at French universities for poor completion rates on undergraduate courses are partially unfounded in that the problem stems from the lack of political will to reform the system as a whole. In Italy, **Nardi** (2001) argues, adjustment has

been made more problematic by a reform of the education system. The examination that all students have to take at the end of upper-secondary education has been reformed, while at the university level, a law has been approved for reorganising higher education. This fluid situation posed transition problems for Italian students embarking on university education. An earlier study from South Africa had noted the duplication of the higher education system created by apartheid and outlined the difficulties faced by South African first-year undergraduate students (**Ferreira**, 1992).

6.4.1 Social and emotional adjustment

Stevens and Walker's (1996) longitudinal study at an Australian university resulted in the development of a model of social and emotional adjustment to the first year at university. Although new circumstances affected social and emotional adjustment, most important was the students' outlook: feeling positive from the beginning about the transition, believing they had sufficient friends to rely upon, experiencing intimacy and not worrying about whether they were independent enough. Male and female students adjusted in different ways. As noted above (section 5.7.2), **Rego and Fernandes** (2004) showed that students demonstrating higher emotional intelligence also seemed to adjust better and be more satisfied.

In her e-mail based survey, **Woodfield** (2002) noted that many first-year respondents indicated that friendship networks formed at university not only enhanced students' enjoyment of their whole experience but also operated as a necessary support during the ups and downs of their new life.

Terenzini *et al*. (1994) described the results of a series of focus-group interviews with 132 diverse, new students entering a community college, a liberal arts college, an urban, commuter, comprehensive university and a large research university in the US. The study identified the people, experiences and themes in the processes through which students became (or failed to become) members of the academic and social communities on their campus. **Dowaliby** *et al*. (1993) described efforts, in the US, to develop a self-report rating scale that provided diagnostic information about students with academic and/or social integration difficulties.

Wintre and Yaffe (2000) also explored the parental impact on first-year students' transition to university. This study investigated the contributions that perceived parenting style, current relationships with parents, and psychological well-being variables made toward perceived overall adjustment to university, from both socio/emotional adaptation perspectives and actual academic achievement. Data were collected from a sample of 408 (116 males and 292 females) first-year students attending university in a large metropolitan Canadian city. Results indicated that there was a direct link between adjustment to university and mutual reciprocity and discussion with parents and with psychological well-being. The results varied by gender. **Mooney** *et al.* (1991) had explored distance from home as a predictor of college adjustment using a sample of 88 female first-year college students. Adjustment was aided when students had the perception that the distance from home was 'just right'.

Sha Tao *et al*. (2000) explored how perceptions of social support changed across time during the first semester of university, and how social support, coping strategies, and adjustment were interrelated among 390 first-year students in a university in China. Results indicated that overall levels of social support among students did not change significantly across the first term but that support from different sources (parents, peers, teachers, siblings) showed distinctive patterns of change. Support

was positively related to adjustment and to coping skills in a dynamic way and the role of social support operated both directly in relation to adjustment and indirectly through its relations to coping styles. **Billing** (1997), as noted above (section 6.3.3), also emphasised the importance of social adjustment.

There is a general view, fuelled by US research, that early adjustment is reflected in better grades and completion of modules and programmes. **Grayson** (2003) examined the progress of students entering a large Canadian university in 1995. The study showed that early adjustment had only a very slight impact on first-year grades and completed credits and no implications for five-year outcomes. Grayson suggested that findings such as these may indicate that students who do not make an early adjustment to university in Canada may not necessarily be disadvantaged. The difference between these findings, research on American campuses, and the assumptions of American models of student outcomes, may result from general differences in the post-secondary experience in the two nations.

6.4.2 Unfamiliar territory

Adjustment is often a matter of dealing with the unfamiliar. **Lowe and Cook** (2003) showed that, in the UK, although most students coped adequately with the transition into higher education, there was though 'a considerable minority' who had problems and found university a negative experience. **Blicharski** (1999) argued for an access summer school as a means of adjusting to the unfamiliar.

Paxton (2001) thought adjustment was a deeper problem and explored the ways in which students from different communities and cultural practices began the process of adjusting to the new discourses and cultures of the university. The focus was on how students made sense of new concepts and contextualised the rhetoric of the first-year South African university economics classroom. She claimed, following interviews before and after a writing exercise, that a student's language and learning history affected the processes and methods of learning that the student employed. She pointed to the need to understand more about students' life histories and to conduct more detailed discussions with them around their written texts. Similarly, **Lawrence** (2001) argued that the contemporary Australian university constitutes a new and unfamiliar culture for the increasing numbers and diversity of students accessing it. Adopting a postmodernist perspective she suggested that students can achieve familiarity with the 'multiple discourses' of university life, thereby facilitating their successful transition to university culture. Furthermore, academics also have a responsibility in this process, collaborating with students to help them access and negotiate the unfamiliar discourses. **Hargreaves** (1998) expressed similar views about the UK, (see section 6.3.1).

Roberts *et al.* (undated), as noted above (section 5.2.2), showed that doubters who persisted were better able to adapt to the new environment over the first year than those who withdrew. The results suggest that doubting may be no more than an indication of a more cautious nature and thus greater apprehension when placed in a new, and therefore more stressful, environment.

6.4.3 Self-perception and risk

Adjustment is also affected by students' self-perceptions and by what they can, or feel they can, lose. This is often a problem for non-traditional students.

Analysis of focus group interviews with 32 students (**Thomas**, 2002a) suggested that decisions to leave or stay in higher education were influenced by the 'institutional habitus' (**McDonough**, 1996; **Reay**, 1998; **Reay** *et al*., 2001). Institutional habitus is more than the culture of the educational institution; it refers to relational issues and priorities, which are deeply embedded, and sub-consciously inform practice. If a student feels that they do not fit in, that their social and cultural practices are inappropriate and that their tacit knowledge is undervalued, they may be more inclined to withdraw early. Thus decisions about persistence in higher education are, at least to some extent, relational. Relations between both staff and students, and peers, were found to be crucial to academic achievement and perseverance in higher education (**Thomas**, 2002a). The importance of relational issues and the sense of either fitting in, or being an outsider, reflect the social exclusion discourse.

Mature students are a particular focus of studies on adjustment. **Bamber and Tett** (2000, 2001) examined the learning experiences of a group of adult working-class students participating in higher education in an élite university in the UK. They argued that the university environment is alien to many such students and suggested that a two-way process of change and development is required if working-class students are to enjoy a successful experience that integrates their learning. Issues facing mature students included perceptions of their right to participate in higher education, dispositions towards the courses and attitudes to gaining professional qualifications. The authors suggested that teaching staff and institutions can support non-traditional students by pro-active recruitment strategies, introductory level courses, more one-to-one support for students, interactive rather than didactic teaching, relevant course materials, which are easily accessible and greater flexibility in course structure and timetabling.

A similar account of mature student experience focused on student identity (**Britton and Baxter**; 1999; **Baxter and Britton**, 2001). Mature students at a British university were encouraged to tell stories about the effects higher education had on identity and the implications for relationships with their families and former friends. Two sources of risk were highlighted in their stories; first, risks stemming from challenges to established gender roles in the family; second, risks that accompanied the movement away from working-class habitus, which was an inevitable consequence of being in higher education. Being in higher education may be experienced either as being seen by others as superior, or as feeling superior to others, but in both cases, there is an implicit challenge to former relationships. Students described how they tried to manage relationships with families and former friends to minimise disruption to their lives. Whatever strategy they adopted had consequences for their self-identity, which was experienced as fragmented and compartmentalised. The transition process was affected by class and gender. **Wakeford** (1994) had raised similar issues, by illustrating how the concept of 'social risk' explained the process of becoming a mature student.

Crozier and Garbert-Jones (1996) explored why mature students often lacked confidence in themselves and felt 'out of place' among students who had entered higher education from school. They drew upon the concept of shyness in an attempt to gain insight into the nature of some of the problems experienced by mature students in Wales and considered possible support that could be provided for them. **Johnson and Watson** (2004) explored the fit between a mature student's own identity and what is perceived as a successful student. A micro-analytic discourse analysis of interviews with a first-year, teacher-education student was used to show how student identity moves towards a better fit with the institution or programme.

Jackson *et al*. (2003) was the first report from a five-year study, for the UK National Children's Bureau, following three successive groups of young people entering higher education from a background in local authority care. The report tracked them through their first year of university and showed how they far surpassed the educational attainment of the majority of care leavers. The main purpose of this report was to help local authorities to fulfil their obligations under the Children (Leaving Care) Act 2000 by providing adequate financial and personal support to enable care leavers to access higher education and gain maximum benefit from their time at university. The research findings showed that this is not yet happening, with the result that most of the young people had serious financial problems and ended their first year heavily in debt. For some, the stress was so great that they gave up the struggle and dropped out. The report argued that local authorities must be prepared to provide realistic levels of financial support if they hope to raise the attainment of children in their care and for more care leavers to enter higher education. Universities and colleges also have their part to play and should be proactive in raising the aspirations of young people in public care and encouraging them to apply for places.

Thomas (1988) reported research comparing the first-year experience of undergraduates studying physics and English in a UK university. The concept of 'minority' was discussed and a distinction made between the idea of a numerical and a social minority. It is argued that female physics students are perceived and treated as a minority group, whereas male arts students are treated as individuals. The conclusion is that the onus should be on institutions, rather than on students, to change. **Lewis**'s (1984) open-ended interviews had explored the differences in adaptation to university life between arts and science students and students with or without a year's gap in their full-time education.

6.4.4 Interaction with teachers

For some students, integration is aided by opportunities to interact with teaching staff. **Dennis** (2002) noted of medical students that the most compelling factor in student adjustment was faculty behaviour and attitudes.

Krause (2001) was concerned about integration and found in his Australian study that interactions with staff and peers during assignment writing processes provided significant opportunities for academic integration, provided these interactions were supportive.

Kember *et al.* (2001) investigated the sense of belonging of part-time students through interviews with 53 novice or experienced students enrolled in part-time programmes in Hong Kong. It was found that students were more easily able to affiliate with their class groups or teaching staff than with their department or university. The data showed that promoting a sense of belonging contributed to better quality learning outcomes and increased the chances of students completing programmes. Class cohesiveness can be developed through learning activities and maintaining classes as a cohort. Relationships with teaching staff can be developed through encouraging interaction, providing good quality teaching and making a positive initial impression. There was also evidence that a sense of belonging was more likely to develop if enrolment was through departments and part-time students had access to resources and facilities.

Booth (1997) also argued that the transition to university has never been more challenging both for students and tutors and there is a commensurate need to

understand students' experience at this critical point. However, tutors commonly possess only a sketchy knowledge of their students' stage of development. This article examined the student perspective at the point of entry to a history degree programme in order to help university tutors to understand more fully their students' interest and rationale for studying history, views on effective teaching and learning and preparedness and motivation.

6.4.5 Transfer from other institutions

Andres (2001) reported the findings of a qualitative study of the experiences of students at a Canadian university who had transferred from a community college. Although the majority of students in this study supported transfer as a viable and even preferable route to university degree completion, problems occurred including: difficulty gaining access to useful information; problems understanding transfer policies, practices, and procedures; and declines in grades following transfer to university. **Moerkamp** *et al*. (1999) reported the results of research carried out in the UK and the Netherlands on how to ease the transition to higher education of students from senior vocational education in the Netherlands and Advanced General National Vocational Qualifications (GNVQ) courses in the UK. **Jones and Abramson** (2001) also explored how to improve the retention of advanced GNVQ students entering higher education.

Knox (2005) addressed how best to prepare students to make the transition from further education to higher education, particularly when they are direct entrants and join ongoing cohorts of students who are already familiar with the higher education environment. At one new Scottish university, the generic module 'Next Steps at University' aimed to prepare students for life at university and to help them acquire the necessary key skills for coping with higher education delivery and assessment regimes. The paper outlined the content, delivery methods and assessment of the module and analysed the performance of 103 students who had completed it.

Transfer from two-year to four-year institutions is an aspect of US higher education and many of the papers on retention embrace the first-year in a four-year college for transfer students (see for example, **Ward-Roof and Hatch**, 2003) and first-year seminars are also designed to include transfer students. A recent paper by **Flaga** (2006) noted that understanding of transfer students' transition from the community college to the four-year university has recently expanded. Based on a study that tracked students throughout their first year at a four-year university, Flaga identified five dimensions of transition: learning resources, connecting, familiarity, negotiating, and integrating.

6.4.6 Summary of adjustment

Small (1966) had noted the idiosyncratic nature of student adjustment and the impact that had on performance. The research relating to adjustment also suggests that there are no simple solutions to the adjustment conundrum.

- Most of the publications on adjustment in the UK, US and Australia are oriented towards retention issues. There are different issues in other countries.
- Feeling positive and having a friendship group greatly aids social and emotional adjustment to higher education.
- Sources of perceived support evolve through the first year.
- Male and female students adjust in different ways.

- The view that early adjustment is reflected in better grades and better persistence rates is not always supported by research evidence.
- The difference between doubters who persist and those who leave appears to be motivational factors such as goal orientation and self-efficacy.
- Students adjust quicker if they learn the way in which higher education is constituted through rules, processes and 'discourse'.
- Institutional habitus impacts on adjustment: students need to feel they fit in.
- Mature students often find it difficult to adjust, especially when they are a distinct minority. Often they have reservations about whether they should be in higher education and thrive on one-to-one support, interactive rather than didactic teaching and programme flexibility.
- Adjustment is a particular problem for students from local authority care, which, in the UK, is compounded by lack of financial resources and support, despite legislative provision.
- Integration, through supportive interaction with teachers, greatly enhances adjustment. This requires both students and teachers to be pro-active.
- Access to and quality of learning resources and facilities also impact on integration and adjustment.
- External influences, such as family and friendship groups (outside university) can impact significantly on adjustment in the first year.
- Adjustment for transfer students involves additional problems as they move into a milieu populated by already-adjusted students. There may be difficulties understanding new procedures and a dip in performance grades. Transfer students thus need support in the early stages.
- Overall, students are helped to adjust if they are engaged in their own terms rather than expect them to come to terms with mystifying institutional 'discourse'.

6.5 Skills development and other support

In some cases, support is seen as the provision of various skills. The emphasis tends to be on providing certain elements that are either presumed to be lacking in students' skill sets or relate to students' ability to adapt and become assimilated to university or college life. Few approaches really address student strengths and attempt to further enhance those or empower the student. Reported studies of support are much more about the process of doing things to students rather than working with students. Yet often, the support requirement is one of facilitating a learning environment, dialogue and peer engagement, rather than the bestowing of specific skills.

6.5.1 Study skills

Durkin and Main (2002) referred to quality requirements in the UK and argued that 'intellect' (analysis, synthesis, evaluation and problem-solving) and 'transferable' skills (including communication (oral and written), teamwork, research skills) can be developed through study skills support. They considered the potential benefits of different approaches to academic study skills support for undergraduate students. **Mortimer and Greaves** (2004) presented an account of the development of critical skills for first year students at a post-1992 UK university.

There has been some recent research addressing various study skills including basic numeracy and literacy skills. **Marland** (2003), for example, identified the need for more specific tuition in key skills in courses offered by universities. **Beach** (2003)

reported a project that showed a link between retention and levels of adult literacy and numeracy among Scottish college students. By increasing levels of literacy and numeracy (at all levels, from 'basic' to 'advanced'), the college hoped to retain more students. Support was offered via the Independent Learning Centre and had good results. Of those who needed support, mature women tended to self-refer while young men did not.

Clerehan (2002) reported the 'Transition to Tertiary Writing Project' at an Australian university that attempted to explore how well students were prepared for and developed writing skills that matched staff expectations. Lecturers expected written work to be a dialogue between student and sources. First-year students were still inclined to express their opinion with little sense of the need to arbitrate between different scholarly points of view. First-year students needed to learn how to negotiate several different discourses simultaneously. Not all first-year students will need to have the components of tertiary writing explicated, though one insight that emerged from the project was that teaching staff underestimated how much careful explication was required. Clerehan argued that staff needed to play a role in bridging the gap and that any online support must be integrated into the processes and practices of the subject.

In the early 1980s, **Winefield** (1982) described an eight-hour training programme in basic communication skills that involved a first-year behavioural science class. Students participated in small-group practical workshops and there was a significant overall increase in empathetic responding. Student evaluations of the project were positive and included suggestions for increasing the impact of similar training efforts in the future. **Haning** *et al*. (2001) showed that a tutorial on effective learning strategies for a group of at-risk first-year science majors resulted in better final grades than for a control group.

Tooth e*t al*. (1989) had earlier suggested that although anxiety levels of first-year medical students were correlated with poor end-of-year examination performance, the root problem was deficiencies in study and learning skills.

Cuseo (undated) in his review of support in US institutions claimed that research showed that skills developed within isolated and insulated 'learning skills' workshops or 'study skills' courses did not translate into permanently-adopted and routinely-applied effective learning strategies (**Gamson**, 1993; **Weinstein and Underwood**, 1985). Furthermore, basic academic skills are most effectively learned in a meaningful context, as when they are applied to the learning of specific subject matter (**Levin and Levin**, 1991; **Means**, *et al*., 1991). This view was endorsed by **Healey** (1992) who argued, on the basis of the development of a practical course in geography in a UK institution, that skill development is best integrated into mainline courses rather than taught as separate courses. In general, in the UK, there is now a strong argument for integrated rather than stand-alone skills courses.

Blicharski (1999) provided a contemporary snapshot of the progression problems perceived by students in a Scottish institution and advocated an access summer school as a tried-and-tested preparatory route to support new traditional and non-traditional undergraduates. Findings of a pilot study are outlined identifying methods of helping new students becomes successful, employable graduates.

Although not research publications, there is also an increasing body of published work providing guidance for students on the skills needed at university and the following are examples. Some publications are specifically targeted at first-year

students and include advice not only on study skills but also on transition into university in general (for example, **Moore and Murphy,** 2005). **Drew and Bingham** (2001) and **Drew and Thorpe** (2000) cover a wider range of skill areas each at two levels, for new and for more advanced students. Some publications address specific skills, for example writing skills (**Creme and Lea**, 2003).

6.5.2 Subject-specific skill development

There are many accounts of subject-specific skill development initiatives, some as optional extras and others embedded in curricula. Reports cover a range of subjects such as anthropology (**VandeSteeg**, 2004), history (**Booth**, 1997, 2001), English (**Ballinger**, 2002; **Smith** 2002, 2004), business studies and computer studies (**Long and Tricker**, 2004) and engineering (**Hargreaves**, 1998; **Edward and Middleton**, 1997). Some of these have been mentioned elsewhere in this review. A flavour of the types of publications includes the following.

Booth (2001) noted that with the growing numbers and diversity of students, as well as demands from employers and students themselves, many humanities and social science tutors have become increasingly aware of the importance of developing students' skills in the first year of university. However, subject tutors often lack confidence in introducing skills to students whose primary motivation for study is discipline-based. The paper described how subject and skills were combined in a way that engaged student interest, encouraged them to become more confident in a variety of practical skills, as well as reflexive about their subject and the ways in which they approached learning.

Hubbard's (1990) Australian study made the case for incorporating reading and study skills into first-year university mathematics courses. The special problems of reading mathematics are discussed and methods outlined. **Hoyles** *et al.* (2001) noted the changing profile of entrants to mathematical subjects in higher education and lack of preparedness of students making the transition from school to university mathematics. **Armstrong and Croft** (1999) described the results of surveys of engineering students' confidence in basic mathematics and the subsequent diagnostic testing of basic mathematical skills at a British university. The results identified learning needs and indicated ways in which students can be supported.

Gouveia Oliveira and Galvao Melo (1989) discussed the initial two-years' experience of running an optional course on computer systems for first-year medical students as part of the biostatistics course at a Portuguese university. They noted the need to direct computer applications to the needs of medical students. **Marteenson and Brattebo** (1992) provided an account of an intensive weekend course, offered to first-year students at a Norwegian medical school. It covered study approaches and skills, learning issues, strategies for improving the current curriculum, and preparing for the first comprehensive final examinations. **Hesser** (1992) evaluated the effectiveness of an American medical college's summer pre-matriculation programme in facilitating participants' first-year achievements and retention from 1980-89. No significant difference was found between the sample of black and the sample of other non-traditional and at-risk students who were attending the programme. **Boker** *et al*. (2004) evaluated a course designed to teach empathy to first-year medical students.

Baillie (1998) addressed skill development in the context of an innovative overhaul of the curriculum. In this case engineering in a pre-1992 UK university in the context of a world-wide review designed to develop adaptive, creative, communicative engineers who can work effectively in a team and be aware of the broader

implications of engineering on society. The first year has been a focus for many courses and the paper collated various approaches, worldwide, relating to first-year issues. Six major concerns emerged: creating a short introductory course; additional help with one aspect of the course; developing a new or overhauled subject; introducing an entire curriculum change; mentoring/tutoring by staff; peer tutoring. The effectiveness of such approaches was discussed alongside issues about implementation. **Higgins** *et al*. (1989) described a short course in problem-solving for first-year chemical engineering students at a pre-1992 university. The overall intention was that the conventions and procedures learned by the students should be carried over into design and related student projects and, subsequently, into their later careers.

Clark (1990) described the development of nine computer-presented questionnaires for use in diagnosing and assessing study skills and associated attitudes and intentions. A pilot study using six of the questionnaires with 129 first-year undergraduates in the business studies department at an Australian College of Advanced Education suggested that skill in academic tasks consisted, in major ways, of possession of a very large number of techniques and associated helpful attitudes.

6.5.3 Mapping forms of support

Some publications have attempted to map skills support for first-year students. Twenty years ago, **Rolfe** (1986) outlined services for polytechnic first-year students. More recently, **Smith and Todd** (2005a) carried out an electronic survey on behalf of the Centre for Sociology, Anthropology and Politics (C-SAP), part of the Higher Education Academy, in the UK with the aim of mapping the forms of support available nationally in the social sciences. Although not specifically for first years, much of it related to them. A total of 44 responses were received from a mixture of institutions in the UK, all of whom offered a range of university support including: counselling services, student intranets, study support, disabled student support. For most, the discipline-specific support included introductory lectures and printed handbooks for the students to keep. Interpersonal relationships were fostered through offering students a personal tutor and designing group-focussed activities in their curriculum delivery. The most frequently used initiatives to support student learning and teaching included: embedding skills support in the curriculum, ensuing students had assessment guidelines and criteria and seeing that assessment came early and feedback was given. Some institutions referred to open days, departmental newsletters, student support networks, early supervisor meetings, student common rooms and societies, extra revision sessions and departmental websites. This approach seems to be much less of a spoon-feeding approach than that developed in many US institutions. Staff themselves were most frequently supported via workshops, followed by self-evaluation and share-and-discuss events. The phase two report (**Smith and Todd**, 2005b) provided detailed case studies.

Cuseo (undated), in his US-focused review, argued that as research suggested a positive impact from additional support services, institutions should be intrusive and proactive in the way they deliver academic support. This involves ‘initiating contact with students and aggressively bringing support services to them, rather than offering services passively and hoping that students will come and take advantage of them on their own accord’. Furthermore, support should be delivered ‘early in the first year of college in order to intercept potential first-year attrition, rather than responding reactively to student difficulties after they occur’. However, this has not been the case in US institutions as the **Education Commission of the States** (1995) report had

noted; despite best practice advocating a central role for support programmes, in practice they were treated as auxiliary experiences. **Richardson and Bender** (1987) had also earlier reported that support programmes designed for disadvantaged minority students were not well integrated with mainstream institutional activities and thus their effectiveness was reduced.

Nonetheless, **Cuseo** (undated) showed how early-warning systems, of first-year progress, of varying degrees of sophistication have been put in place in US institutions. A nationwide survey (**Barefoot**, 2001) showed that more than 60% of postsecondary institutions reported mid-term grades to first-year students for the purpose of providing them with early feedback on their academic performance. In some cases these also went to parents (with student agreement) and at some institutions, such as New York University, advisors made follow-up telephone calls to students. Some institutions acted very early: at New Mexico State University, attendance-problem requests were sent to instructors during the second week and sixth week of the term. Rather than merely reporting a letter grade, some colleges include additional information from the instructor to help diagnose the specific nature of the problem and facilitate targeted intervention! Empirical evidence for the effectiveness of an early-alert system was provided by campus-specific research conducted at Vincennes University Junior College (Indiana). Following implementation, the number of students receiving D grades or worse was substantially reduced. The beneficial effect was particularly pronounced in mathematics classes, for which there was a 17% drop in low grades (**Budig** *et al*., 1991).

Viera *et al*. (2003) surveyed (via e-mail) 114 persons in charge of student services from 53 universities in Spain. The aim of the study was to examine the provision of student support aimed at helping students with vocational, academic and personal concerns that could be considered as criteria of quality at higher education institutions in Spain. The result of the study was a list of general criteria for student services (affairs) that every institution should accomplish if they are to be accredited or assessed in a satisfactory way.

Although not focusing specifically on the first year, the Institute for Access Studies at Staffordshire University produced a research report (**Thomas**, 2003) that considered the role student services could play in increasing the number and diversity of students participating in higher education from a widening participation perspective. It included a framework for good practice, literature analysis, research results and case studies.

6.5.4 Meeting specific student needs

One study that looked at the support for students crossing from further education colleges to higher education institutions revealed several misconceptions. **Rhodes** (2002) focused on the further education/higher education interface and its impact on the transition and progression of advanced GNVQ students in business, and leisure and tourism in the West Midlands (UK). The study raised concern about key skill support and its relationship to potential course success and hence entry to higher education. It also suggested that, in providing advice and guidance, college staff should be aware of student concerns. Finally, it indicated that some staff in further education tend to under-estimate the level of support available in higher education, and perceive significant and perhaps prohibitive differences in student skill

requirement between the two sectors. It emphasised the need for additional networking and dialogue between colleagues in the two sectors.

The South African context provides an acute need for support for first-year students. **Sutherland** (2004) reported on the 10-year transformation process in higher education (and society generally). However, there is a new sector of black students whose home language is not English and whose parents may have rejected the Bantu education provided by the apartheid regime. The paper discussed how such students were helped in four universities by peer tutoring, curricular change and counselling. This contrasts with **Nicholas**'s (1995) earlier study of the personal, career, and learning skills needs of first-year university students in South Africa.

Gutteridge (2001) drew on an array of empirical findings to suggest that the delivery of appropriate student support is a multi-factorial and complex issue, which cannot successfully be addressed unless social and individual life course issues are taken into account. Further, published and unpublished data suggested that core skills of communication, self-management and self-appraisal may be predictors of successful participation equal to academic attainment, especially in under-represented groups. Gutteridge suggested that successful strategies for enhancing retention needed to take account of the life skills on entry and incorporate planned continuing development. In short, an approach that maximizes the student's strengths rather than gives them what they are presumed to need.

Support also includes the provision of mentoring services, for international students, for example **Quintrell and Westwood** (1994) described how newly-arrived first-year undergraduate international students at a Canadian university were paired with host national students who had received brief training in intercultural communication and information on campus services. The hosts were asked to keep a twice-monthly contact with their students during the first year. An end-of-year survey showed that structured contact between host and international students appeared to have beneficial effects on international students' experience. Participants were more positive about their experience and their language fluency than non-participants and were more likely to have used campus services. There were, though, no differences in academic performance between the groups.

Dennis (2000) reported an approach designed to help medical students adjust to a stressful academic environment. Many would-be physicians find that medical school is a gruelling experience characterised by chronic stress, the need to recognise one's strengths and limitations, and dissonance between their own values and beliefs and those of the school. The faculty and administrators at one medical school developed a special extra-curricular programme to render their undergraduate programme more humanistic in supporting student socialisation and adjustment. The programme featured intentionally structured, faculty-facilitated small groups of first-year students. This study used focus group interviews to explore student perceptions of the effectiveness of the 'Personal, Professional, and Leadership Development Programme' and thereby to gain insight into the phenomena that affect the development of medical students as future health care providers. Findings showed that students described social support and academic support from peers and teaching staff as contributing to their adjustment. **May** *et al.* (2005) reported developments in support for first-year students in a health and social care faculty at a post-1992 university in the UK. Three project groups, made up of students, academic staff and colleagues from health and social care practice, were established to initiate innovations.

Thornton (1999) described the use of a club for 35 male primary teaching students designed to support them in their course and prevent attrition. Male students training as primary teachers faced particular problems because of gender stereotyping and societal expectations. It was noted, though, that success among these students tended to be associated with higher entry grades, being older and having a clear commitment to teaching.

There are also various studies of support for students with disabilities (such as, **Porrer**, 1990; **Weiss and Repetto**, 1997; **Hall and Tinklin**, 1998). None of these deal with the first-year experience *per se*.

6.5.5 Summary of skills development and other support

- Learning skills development is best contextualised and embedded in the curriculum rather than taught as stand-alone courses or workshops.
- Most reports of specific skills development and optional courses provide indicators of what was done but it is rather more a celebration of the activity than an analysis of how they may be used more widely in different contexts or cultures.
- There perhaps needs to be a more focused mapping of what is available by way of support for first-year students.
- The reporting of the way the support needs for first years are identified and responded to suggest that support is still *ad hoc* and often not integrated into the curriculum learning process.
- Much of the provision is based on perceived student needs (often identified as deficiencies in student cohorts) rather than building on student's individual strengths.

7. Learning and teaching

There is an extensive literature on learning and teaching in higher education. This review identifies some of the published accounts that explore approaches to learning and teaching in the first year. Some of these are designed to aid adjustment and retain students, others reflect the changing size and nature of student cohorts and others explore the responses of first-year students to innovations.

7.1 Approaches to learning and conceptions of learning

There are many studies linked to evaluating approaches to learning and learning styles, apart from those used as predictors of performance (discussed in section 4.1.7 above). Most of this work falls into the category of innovation in teaching and learning in general and is not specific to the first-year experience and is thus excluded from the review. The following are indicative of some specific studies about learning approaches, styles and strategies that refer directly to the first-year experience. They seem to point to the importance of the first year in developing good learning habits, a concern about a degree of superficiality not helped by a lack of clear link between learning approach and assessment grades, as well as problems for first-year students in becoming autonomous learners.

7.1.1 Use and development of learning behaviours

7.1.1.1 Cognitive and metacognitive development

Two independent studies conducted by the Washington Center for Improving the Quality of Undergraduate Education revealed that more cognitive growth occurred during the first year than during any other year in the US college experience (**MacGregor**, 1991).

Pheiffer *et al.* (2005) undertook a case study of a first-year introductory module in a post-1992 university. The paper was more concerned with critiquing previous work on learning styles than the first-year experience *per se*. It suggested that learning styles in association with concepts of engagement and identity may be usefully and successfully employed in supporting, guiding and developing student learning. Contextual factors are important in influencing learning strategies. **Archer and Scevak** (1998) explored achievement-goal theory through a study of a cohort of Australian first-year developmental psychology students, which included reported use of effective learning strategies.

Dahlin's (1999) phenomenographic study involved in-depth interviews with 30 Swedish first-year students about learning, understanding and knowledge. It showed that students come to understand through experiences, mental construction and merging with reality, which suggests a progression towards 'metacognitive awareness'. **Opdenacker** *et al*. (1990) studied 250 Belgian first-year medical undergraduates and showed that students' achievements in solving chemical problems were not simply a function of the students' working memory.

Berzonsky and Kuk (2000) investigated the affect that identity had on the transition to university in the United States. Differences in identity statuses of a sample of 363 first-year students accounted for significant variation in the students' progress on measures of academic autonomy, educational involvement, and mature interpersonal

relationships. Moreover, in most cases these associations were mediated by the students' identity processing style score, as determined via a test instrument. In general, students with an informational identity style were best prepared to effectively adapt within a university context, whereas those with a diffuse/avoidant style were most apt to encounter difficulties.

Flowers *et al*. (2000) sought to estimate the extent to which computer and e-mail use influenced standardised measures of cognitive or intellectual growth during the first year of college. They found that the cognitive impacts of information technology differed in magnitude or direction for different kinds of students and in different institutional contexts.

7.1.1.2 Importance of first-year in developing learning behaviour

A critical incident approach has also suggested the importance of the first-year experience. **Ramsay**, *et al*. (1999) examined the academic adjustment and learning processes of international and local first-year students in Australia. The small-scale, in-depth study of critical incidents indicated what helped or hindered learning during the first year, which has implications for teaching and learning. **Light** (2001) reported the results of extensive research conducted by two Harvard researchers, working independently, on how undergraduates and alumni recalled and described critical incidents in their college experience. The research claimed that there was a clustering of critical moments in the first few weeks of college. **Cuseo** (undated) in his review of the first-year experience in the US argued that such findings suggested that the first-year experience may 'represent a "window of opportunity" for promoting student learning that would be missed if colleges and universities do not front-load their best learning resources and educational interventions during this pivotal period of college development'.

Schilling's (2001) study suggested that strategies and learning behaviour adopted in the first year remain with students throughout. He reported a study in which first-year students were equipped with beepers that were activated periodically by the investigators. When their students' beepers were activated, students were to write down what they were doing at the time. This study revealed that the amount of time that first-year students spent on academic activities predicted the amount of time they spent on academic activities during their senior year. **Leckey and Cook** (1999) demonstrated that A-level habits can continue well into the first year of the university career. Science students at a Northern Ireland university were surveyed on entrance and after one semester and the results confirmed that many of the study habits developed in school persisted into the first year of university, despite staff expectations that students will work more independently.

7.1.1.3 Gender differences

Braten and Olaussen (1998) examined the learning and study strategies of 173 Norwegian first-year college students. They showed that students with high perceived ability, and female students, on the whole, reported using more strategies than males but that age differences were not significant. **Meyer**'s (1995) study showed gender differences in the learning behaviour of first-year students at a South African university but that these are only partially correspond to classic 'deep' or 'strategic' structures.

7.1.1.4 Reflection

Reflecting on abilities is an important element of cognitive development. **Mitchell** (1993), referring to health students, had argued that reflection does not come naturally and must be introduced at an appropriate time and carefully instilled and supported in training during initial clinical exposure.

Higgins *et al*. (1992) collected data from 22 first-year students as they work collaboratively on an assignment at an American institution. The students tape-recorded themselves as they planned course papers with a colleague. The analysis revealed a significant correlation between amount of reflective conversation and the quality of students' plans. Students used reflection to identify problems, to search for and evaluate alternative plans and to elaborate ideas through the process of justification.

Haapala's (2002) study of 72 first-year students from a Finnish university involved them writing a reflective essay about planning their studies. The aim was to explore how students plan, given that it is seen as a significant factor in study effectiveness. The paper identified a typology of planners and indicated implications of each.

Rees *et al*. (2005) examined the utility of reflective portfolios as a method of assessing the personal and professional development of first-year medical students. The paper was mainly concerned with the reliability, validity and acceptability of assessment criteria for reflective portfolios at a new UK medical school. Focus groups with assessors and students showed that students preferred the structured nature of the portfolios but assessors thought that this reduced the uniqueness of the portfolios. Although students understood the importance of reflective practice, some disliked the process of reflection, particularly reflective writing.

Masui and De Corte (2005) argued that in the context of larger and more heterogeneous student populations improving learning competence is important. A sample of 141 first-year students of business economics divided into an experimental group and two control groups, the former receiving various training sessions with associated tasks designed, *inter alia,* to improve their metacognition. The experimental students showed a higher degree of reflective behaviour and obtained better results than the control students. This suggests that reflective learning can be taught.

7.1.2 Deep and surface approaches

Elen and Lowyck's (1998) survey of 488 first-year's in educational sciences and psychology in a Belgian university showed *inter alia* that respondents regard regular instructional interventions at the university directed towards, or supporting, surface-level processing and reproduction to be highly efficient. The use of technology was conceived as inefficient by these students.

Johnston, C. (2001) examined the perceptions and experiences of first-year Bachelor of Commerce students in an Australian university. Students' responses to pre- and post- university experience surveys of their approaches to learning indicated a slide into surface learning during their first year and indicated that their expectations of learning at the university level were not realised. There were few differences between English and non-English speaking students although the latter

exhibited a slight preference for social forms of learning and deeper approaches to learning.

Similarly, **Maguire** *et al*. (2001) examined the impact on geography students at a British institution of a geography-based skills-development programme, which emphasised a deep approach to learning students. Results showed that students' confidence levels in their ability to study and learn improved but that they became increasingly instrumental in their approach to learning. **Rowe** (1998) showed that engineering students, in the UK, who adopted a deep approach were not rewarded by getting better grades. He argued that if a deep approach is to be encouraged then assessment processes need to be modified.

However, it is possible to establish conditions to encourage deep learning. **Ramsay** *et al*. (2005) reported on changes to the learning environment centring on the introduction of group learning activities that were designed to improve the quality of students' learning outcomes in the first year. Results indicated that, across the semester, accounting students exhibited a small but statistically significant increase in their deep learning approach, and a small but statistically significant reduction in their surface learning approach. The results suggested that accounting educators, through changes in the learning environment, may be able to influence the learning approaches adopted by first-year accounting students.

7.1.3 Approaches and outcomes

In the UK, **Norton and Crowley**'s (1995) content analysis study of the conceptions of learning of psychology students at an English institution showed that workshops on approaches to learning resulted in a significant shift from naive to more sophisticated conceptions. Furthermore, students who attended all the workshops on essay writing and examination taking obtained higher essay and examination marks than students who did not attend these workshops. However, there was no clear relationship between academic performance and having a deep approach and holding a more sophisticated conception of learning. In a recent study, **McCune** (2004) presented the variation in psychology students' accounts of their conceptions of essay writing. Although the findings suggested that the students made some development in their conceptions, it seemed that by the end of the small study many of them were still unable to describe what was expected for their essays in a way that fully mapped onto their tutors' accounts. Students were given help that seemed relevant to developing their conceptions but there was little evidence in interviews that this made an impact on their learning. Students often described minimal engagement with advice and feedback. The paper reflected **Small**'s (1966) study in emphasising the complex and idiosyncratic nature of students' development

Owens *et al.* (2004) undertook a study of students on a generic skills-based programme. The students completed a learning inventory and then discussed with their tutors what they had discovered about their beliefs and approaches to learning and how this fitted the demands of their academic subjects. The findings suggested that one-to-one discussion of an individual learning profile is useful as a first step in raising levels of meta-learning awareness in first-year undergraduates.

Beckwith's (1991) study of 105 first-year psychology students showed that approaches to learning were found to be unrelated to assessment performance, and prior knowledge did not relate to a deep approach although it did predict performance.

Morris's (2001) study of UK physiotherapy students showed that a majority of students had lower level conceptions of learning than desired in higher education. However, a larger proportion of students had higher levels of conception than has been found in other research. A direct relationship between conceptions of learning and learning outcomes was also identified.

Groves' (2005) study of first-year medical students aimed to assess the influence of a graduate-entry, problem-based learning, curriculum on individual learning style and to investigate the relationship between individual learning style, academic achievement and clinical reasoning skill. It is debateable whether this paper was specifically about the first-year experience or about learning and problem-based curricula in general. Subjects were classified on the basis of their predominant learning approach based on a study process questionnaire administered at the commencement and conclusion of the first year and a diagnostic thinking inventory, which measured clinical reasoning skill. The learning approach was correlated with examination results. The outcomes was a net shift in predominant learning approach away from deep learning towards a more surface approach over the period of the study, as well as a significant decrease in deep-learning scores. No correlation was found between learning approach and examination results. The substantial shift towards a surface learning approach brings into question previous conclusions that PBL curricula foster a deep approach to learning, and suggests that other factors, such as work load may be more appropriate determinants of learning approach than curriculum type. These findings emphasise the context-dependent nature of learning approach as well as the importance of assessment as a driver of student learning.

Schatteman *et al*. (1997) examined a programme in a Belgian institution designed to promote in-depth learning by the training of general and specific learning skills in a content-specific context. Analysis showed the programme led to a better performance in examinations and induced positive effects on the learning approach precisely because it enhanced those changes in learning approach and regulation, which induced an increase in performance in examinations.

7.1.4 Prior conceptions

It seems that students who come with pre-fixed or misleading views about their subject or how it might be taught may find their learning and development inhibited. **Mitchell**'s (1993) Scottish study showed that first-year students in the professions allied to medicine come to their course of study with well-formed and fiercely-defended models of therapeutic practice. These models are essentially traditional, skill-based and contingent upon an ethic of cure and they reflect **Schön**'s (1983) 'technical rationality'. Mitchell argued that these models, which formed the students' cognitive schemas, acted as a filter or block through which the students accepted or rejected topics and concepts offered to them. In particular, notions of reflective practice, negotiation and partnership and their predicates, psychology, medical sociology and methods of enquiry, may have been too sophisticated for first-year students.

Shanahan and Meyer (2004) explored the diversity of views, held by entering students to a business course in an Australian university, about economic phenomena (what economics is, what economists do, mechanisms of price determination, and so on). Entering students whose conceptions of learning are at odds with the demands of the institution, or who hold misconceptions about economics, face difficulties even before they commence their university studies.

Kember's (2001) in-depth study of a small number of part-time students in Hong Kong universities showed that novice students holding didactic/reproductive beliefs found it difficult to adjust to higher education if the teaching was not expository and if assignments went beyond the reproduction of material, since these were incompatible with their epistemological beliefs. The conclusion was that courses should aim to help students make the difficult transition to a facilitative/transformative belief orientation. **Maqsud and Khalique** (1991) had earlier explored the relationship between dogmatism and mathematics anxiety among first-year mathematics students in South Africa.

7.1.5 Summary of approaches to learning and conceptions of learning

- The first year appears to be a time of considerable cognitive growth and potentially marks a shift into metacognition.
- The first year appears to be important in establishing learning strategies and approaches.
- There is some evidence to suggest that study strategies and habits developed in the first year often persist throughout the undergraduate degree, in some cases, study habits from school spill over into higher education.
- There is a suggestion that there are gender differences in learning behaviour.
- Reflective approaches to learning can be developed.
- There is a tendency for first-year students to slip into surface learning or to adopt instrumental approaches. Deep learning, in the first year, seems to be a function of student confidence.
- The evidence on the relationship between approaches to learning, learning styles and learning behaviour on student achievement or learning outcomes is far from clear. Direct correlations are hard to establish.
- However, although developing a strategic, deep or metacognitive approach in the first year may have no evident positive consequences in some settings, it does in others and there appears to be no disadvantage in developing such an approach.
- Deep learning needs to be reflected in assessment outcomes if students are encouraged to take a deep, strategic or reflective approach.
- Rigid prior conceptions about the subject area or approaches to learning can inhibit learning and development, especially transformative learning.

7.2 Autonomous learning

As noted above (section 4.1.1), **Pokorny and Pokorny** (2005) argued that one cannot presume that students can become rapid independent learners without help. **Fazey and Fazey** (2001) investigated autonomy-related psychological characteristics of first-year undergraduates at registration in a Welsh institution. The results showed a positive inclination towards autonomy but caution on the part of students on their abilities to meet the demands of higher education. This needs to be addressed by teaching staff if autonomy in learning is to be demonstrated.

Hughes (1998) took a similar view that empowerment and student autonomy correlate strongly with self-confidence and that this needs to be enhanced through the acquisition of enabling skills. Analysis of a questionnaire survey of first-year geography students in an English institution suggested that many students were

enthusiastic, well motivated, keen to do well and aware of the importance of developing their skills. Others lacked self-confidence and were ambivalent about becoming autonomous individuals, showing a marked disinclination towards participatory decision making and independent learning. A gender bias is revealed with young females significantly less confident than males, yet more likely to prioritise a need to become more autonomous.

Thompson *et al.* (2005) reported the development of a self-assessment schedule for first-year geography students at an Australian university. Its purpose was to guide students towards independent learning by encouraging them to reflect more on 'what' and 'how' they learned. Results of the 2003 and 2004 trials showed that the self-assessment schedule had a positive impact on student learning and was at least partially effective in improving students' critical thinking skills. It helped students to plan and organise their thoughts, describe the geographical characteristics related to their fieldwork exercise and indicated that students were generally positive about becoming more independent and reflective learners.

Chan's (2001) Hong Kong-based study also explored undergraduate students' attitudes and expectations of autonomous learning and their readiness for such a learning approach. There is an underlying assumption that students' attitudes towards, and preparedness for, autonomous learning will determine the level of autonomy that they could achieve in the learning process. The paper's findings suggested that curriculum planners and teachers think of ways to develop student autonomy in their specific context.

Watkins' (1987) survey of 744 first-year students at an Australian university had provided no evidence of significant sex, age, or faculty differences in students' perceptions of their control over their own learning. A follow-up survey of 182 of this sample over two years later suggested that neither maturation nor the impact of tertiary study brought about a significant change in these students' academic locus of control. However, where students accepted responsibility for learning they adopted less superficial and more achievement-oriented learning strategies.

Carter (2005) looked at the development of student autonomy in learning in the French programme at one campus of the University of the West Indies. Data from questionnaires and learning journals of first-year students allowed a comparison of student attitudes to learning and autonomy with what is documented in the literature. The data suggested that transformative learning occurred in learning environments that allowed participants to reconceptualise their roles and responsibilities. The higher education sector optimally provides such environments.

Years earlier, **Jordan and Yeomans** (1991) reported research following a policy decision to promote independent learning in the first year of a social policy and administration degree course at a UK polytechnic. In another early paper, **Jerome** (1967) commented on an experimental, independent study programme in the first year at Antioch College in the US. The 'first year programme', like other independent study programmes of the time, allowed student to progress at their own rate; no credits, grades, or courses. After two years it was dropped although Jerome contended that the essential structure of the programme was an excellent one for adaptation to the rapidly changing world.

7.2.1 Summary of autonomous learning

- Autonomous learning is something that students aspire to but need help in achieving.
- Despite a positive inclination towards autonomy students are cautious about their abilities to meet the demands of higher education.
- Autonomous learning is linked to self-confidence. Young females tend to be less confident than males but are more likely to recognise the need to become autonomous learners.
- Students' attitudes towards, and preparedness for, autonomous learning affect how well they develop as autonomous learners.
- The development of autonomous and transformative learning requires flexible learning environments.

7.3 Learning communities

As noted above (section 6.3.3.1), first-year seminars are widely regarded as good practice in the United States. More recently there has been an emphasis on learning communities in US literature on retention (residential learning communities are discussed above, section 5.6.1). **Tinto** (1996) argued that most college and university retention programmes do little to change the quality of academic experience for students, especially during the first critical year of college. He thought that 'learning communities' offered a promising line of reform.

Learning communities vary but what all types or models of learning communities share as their distinguishing feature is the co-registration of a cohort of students, who take the same block of courses together during the same academic term. However, variations occur in (a) the number of courses students take together during the term, which may range from two to an entire course load (4–5 courses); (b) whether the cohort comprises the entire class, a subset of a larger class; (c) the degree of instructional coordination: no coordination by instructors, some instructional coordination of course content and assignments, or full coordination in which all instructors team teach all courses together as part of an integrated, interdisciplinary programme of study.

According to **Dabney** *et al*. (2006), freshmen learning communities (FLCs) or freshmen interest groups (FIGs) have recently emerged as an innovative means of improving educational outcomes. Building around a cohort-based pedagogical model, FLCs use thematic foci, block scheduling, and faculty collaboration to ease the transition into the first-year college experience. The authors outlined the logic and structure of a FLC in a particular area, that of criminology and criminal justice. They detailed how pedagogical variations such as writing across the curriculum and web-based design can be included.

Kingston University's School of Earth Sciences and Geography had a First Year Experience Programme to help students in the transition into higher education. As the website (**Kingston University**, undated) noted, research has shown that many students suffer difficulties in making the personal and academic move into higher education. Students are supported through their first year via a range of academic and social activities.

> ‘We encourage first year students to interact socially and academically with fellow students and staff members, thereby introducing students to the supportive environment and good team spirit that exists within the school. We are proud of the fact that we retain nearly all of the first year students we recruit and ensure that they progress successfully through to Year 2.’

Specific activities in the programme include: a comprehensive induction programme; personal tutorial scheme; common first-year modules; a weekend field course after four weeks; assessed tutorials that link with the personal tutorial scheme; peer-assisted learning if required; and a virtual-learning environment.

7.3.1 Summary of learning communities

Recent publications and some institutional websites promote the effectiveness of first-year learning communities. However, these communities vary considerably in the way they are organised. Whether they lead to a more coherent learning situation for first-year students is not clear.

7.4 Teaching techniques

There are many papers that discuss various approaches to teaching first-year students. It is debateable, in some cases, whether the techniques are implemented with a view to enhancing the first-year experience or whether the first year was a convenient forum for experimentation. Reference has already been made (section 6.5.2) to papers reporting skills development embedded in the curriculum. Teaching and learning innovations are designed to improve the quality of students’ learning outcomes in the first year and, often, to enable staff to deal with a larger and more diverse student cohort. The following is a selection of such papers.

7.4.1 Developments and preferences in learning and teaching

Over a decade ago, **Williams** (1992) showed that the majority (72%) of a sample of 99 first-year undergraduates at a Welsh institution preferred student-centred learning, characterised by a shift from lecturers as expert sources of knowledge to a facilitative role. **Sander** *et al.* (2000) reinforced this result in their exploration of undergraduate students’ expectations of and preferences in teaching, learning and assessment. A convenience sample of 395 first-year university undergraduates, from three British universities, enrolled on a medical, business studies or psychology degree, showed similarities in expectations and preferences. Specifically, the students expected to be taught by formal and interactive lectures but preferred to be taught by interactive lectures and group-based activities. Their least favoured learning methods were formal lecture, role-play and student presentations. Students asked to rate various qualities of a good teacher selected ‘teaching skill’, followed by ‘approachability’ as the most important.

7.4.1.1 Experiential activities and practical work

Beylefeld *et al*. (2005) investigated the usefulness of providing students with community-located experiences in the first year as a basis for reflection. They observed the degree to which community-located experiences influenced the quality of a reflective writing exercise of 128 students (66 Afrikaans-speaking, and 62 English-speaking) in a South African university. Student’s emotional states tended to

move from negative to positive as the visit continued. This was important for the students' personal growth, signifying their awareness of how perspectives can be distorted. Nearly all (94%) regarded the visit as being important prior to immersing themselves in the theory of primary healthcare. The authors concluded that reflective writing can be promoted through using a real-world experience as stimulus, and a framework for guiding students' thoughts. **Aronson** *et al*. (2005) also suggested that one-off experiential interventions might provide an important complement to didactics around issues of intercultural awareness and sensitivity with medical students. Medical students, in a US institution, participated in group activities in which they shared personal experiences, solved a hypothetical problem, and engaged in team-building exercises. Importantly, experiential interventions must provide students with sufficient time to reflect upon and discuss feelings, thoughts and attitudes that emerge during this kind of intercultural awareness training.

Tan's (1990) Malaysian study explored first-year medical student's approaches to undertaking experiments. Comparing a control group, who performed an experiment for themselves in the usual way, and an experimental group, who were given a programmed text to study before the experiment, revealed that the latter group showed significant gains in performance, although the results might be compromised because both groups were inadequately prepared for the practical exercise and many students failed to study the programmed text conscientiously. This study suggested that, in general, pre-preparation for practical activities augments learning. **Tan** *et al*. (1989) had already suggested the need to review the role of practical work to maximise its benefits.

Williamson (1999) provided a case study of a flexible resource-based learning approach to media studies. In an Australian institution, designed to encourage students to apply and reflect on writing formats drawn from professional fields such as journalism and screen production. The aim was to encourage an interest in the broader social conditions affecting media practices and the diverse settings in which these forms can operate. Problems encountered and suggested strategies were noted. Thirty-five years ago, **Sherman** *et al*. (1969) compared a new architectural drawing method with the existing traditional method and showed the new method produced better results. **Adamson** (1979) described a method used at an Australian university for implementing a home experiment approach in first-year biology.

7.4.1.2 Reconfiguring curricula and content

In some cases, innovation is no more than reconfiguring content. **Maude** (1991) reported an approach to geography that integrated human and physical geography, in a first-year undergraduate course in Australia. The reasons for teaching the course, its content and structure and problems that had to be resolved in its design were discussed. **Strayhorn** (1989) explored the impact of a major curriculum revision on students' perceptions of the quality of the medical school learning environment, social supports, and their own mental and social well-being. First-year students' perceptions one year before the curriculum revision were compared with first-year students' perceptions two years after the introduction of the new curriculum. The findings suggested that well-considered and well-executed efforts to improve the quality of a medical school's learning environment can be successful and can raise students' perceptions of their overall well-being.

One of the rare studies of first-year postgraduate experience reported the development of a modular educational programme for pre-registration house officers

at a UK university, in line with the General Medical Council's requirements (**Challis** *et al*., 1998).

In other cases, there are calls for a reconstruction of the curriculum to enhance the first-year experience. **Lines** (2004) reviewed good practice in several institutions around the world and argued that, greater emphasis might be placed on a coherent and thought-through curriculum. Additional resources including investment in staff development might be required but evidence suggests that the impact upon the student experience can be both significant and positive.

7.4.1.3 Problem-based learning

De Volder and De Grave (1989) discussed training programmes in problem-based learning for first-year students in a Dutch university and highlighted the value of the approach. Similarly, **Feletti** *et al*. (1988) explored students' satisfaction with, and changes in approach to, learning during their first year in problem-based curricula for agriculture, architecture, medicine and para-medicine. Students at each school showed little change in approach. However, students' approach to learning correlated with their degree of satisfaction with their course, which, they claimed, further endorsed the merits of problem-based curricula.

Roberts *et al.* (2005) evaluated the introduction of large class problem-based learning into an undergraduate medical curriculum. They compared the outcomes of a problem-based learning module conducted in a large class format within a lecture theatre with a module having the same defined learning outcomes delivered in small group format, both supported by e-learning resources. There seemed to be no significant differences in learning outcomes, based on various measures, between the large and small groups, although it is recognised that students would prefer the small group teaching format. Within institutions where resources to support small group problem-based learning are limited, the large group format supported with e-learning techniques may be a useful alternative approach.

Koufogiannakis *et al*. (2005) undertook a controlled study to explore the impact of librarians in first-year medical and dental student problem-based learning groups in a Canadian university. Informal feedback had suggested that librarian involvement in groups was beneficial. To test this, six librarians were assigned randomly to a third of the 18 existing problem-based learning groups. Students were given pre- and post-tests at the outset and upon completion of the six-week course and there was a small positive librarian impact, although final examination scores showed no impact. There was also no difference in attitudes or comfort levels between students who had a librarian in their group and those who did not.

In Australia, **Rolfe** *et al*. (1998) compared the performance of Australian doctors in their first (intern) and subsequent first year of postgraduate hospital training on traditional and problem-based programmes. Data on 349 doctors (79 percent response rate) indicated that there were no significant differences between graduates from different educational backgrounds during internship or residency. The study also suggests that gender and age are factors influencing junior doctors' performance.

7.4.2 Teaching concepts

Nardi (1997) addressed issues of the induction of first-year mathematics undergraduates into the abstraction of advanced mathematical thinking. Abstraction

here is meant both as the psychological process of deductive and axiomatic reasoning and as the engagement with abstract mathematical entities beyond the numerical and physical ones encountered in school mathematics. Twenty first-year mathematics undergraduates at a pre-1992 UK university were observed in their weekly 30–60 minute tutorials, individually or in pairs, over two terms. The students were also interviewed in the middle and at the end of the observation period. Their learning difficulties in a range of pure-mathematical topics were examined. The underlying intention was to integrate teaching styles, which the students were familiar with from school, into their initial experiences at university level and to present mathematics in a way that was more revealing about the mechanisms that characterise mathematical thinking.

Claridge (1979) described a course for first-year architectural students that concentrated on developing an understanding of the nature of design activity through exploration of the kind of thinking that may be applied in order to improve the first-year studio work. The course was based on two premises: first it is possible and educationally desirable to separate a thinking process from any product that results from that process; and second beginning students bring with them knowledge and experience from their everyday life that provide a useful starting point for investigation of the activity of design, and it is desirable to proceed from this starting point. Projects and exercises were used to achieve the aims.

Kannemeye (2005) investigated the development of an instrument to analyse students' written responses to non-routine problems in a first-year calculus course both to describe the complexities of, and to assess, students' understanding of particular mathematical concepts. In similar vein, **Britton** (2005) reported a case study of the design of an instrument consisting of questions to test conceptual transfer, which was completed by 47 first-year science students at an Australian university.

7.4.3 Group work and projects

Group working is now well-established as a form of learning in higher education in the UK and other countries. Research relating to the first year suggests that group working has potentially positive outcomes.

Holt *et al.* (1990) reported the operation and effectiveness of study groups in an MBA course at an Australian university. **Garvin** *et al's*. (1995) study of a group-working project involving 120 bioscience students (in groups of 4) in a Northern Ireland university indicated positive outcomes from such practical work. **Mitchell** (1992) described a first-year business law module run at a post-1992 UK university that substituted group work for lectures and seminars. The aim was to develop skills of legal research, group work, communication and time management as well as the acquisition and understanding of legal knowledge. **Leveson** (1999) described and evaluated a programme of small collaborative working groups (outside scheduled class time) that was offered to students in a first-year accounting degree course. She noted that the learning was more active than passive and was a qualitatively different experience to lectures.

Durham (1990) reported successful electronic group communication, using a simulated conference, as a way to encourage first-year students, at an Australian university, to become aware of communication issues in technology, be more sensitive about the effects of their own written communication, and to transfer this

learning to the more formal traditional academic modes. **Bourner *et al*.** (2001) reported that first-year undergraduates, on completion of group projects, indicated both positive and negative experiences.

Based on a three-year study of the introduction of small group teaching and learning techniques into a large, first-year course in an Australian university, **Jackson and Prosser** (1989) had shown how small group teaching and learning techniques can be introduced into large classes with no increase in resources. **Roberts** *et al's.* (2005) study of small group problem-based learning in a large class setting, mentioned above (section 7.4.1.3), endorsed this view.

7.4.4 Assessment

Assessment for first-year students is an area where the nature of published research has apparently moved on. Thirty years ago issues were about the introduction of assessments other than formal examinations. For example, **Krause**'s (1975) M.Litt thesis from a Scottish university explored some aspects on objective testing as a means of assessing improvement in German language at first-year university level. **Faulkner** (1977) described the introduction of a multiple-choice test into the existing framework of examinations at an English university.

In the 1980s as innovation in assessments for first-years students were developed, the reported studies were often microscopic in scope. For example, **Gray** (1987) reported an exercise where first-year engineering students marked their own and each other's examination scripts, to see if they learned more about the subject matter and their own examination skills by so doing. **Taylor and Ishaku** (1989) reported the case for three-part questions on an engineering course in a Nigerian institution. They claimed the three-part question method of examination, which assesses assimilation of material, application to real practical problems, and the resourcefulness of the student produces a normal distribution of student scores and yields a pattern of information that is useful to both lecturer and student. **Seddon and Dedrosa** (1988) reported experiments on 193 first-year students in Portugal to look at whether and how the quality of students' explanations of chemical phenomena was affected by changing the method of giving the question and answer, respectively, between the spoken and written formats. The results suggested no observable difference between students using varying combinations of spoken and written formats.

7.4.4.1 Online assessment

Current research seems more concerned with a mix of assessment techniques, including peer assessment, and the use and value of internet-based systems. For example, **Sjoer and Dopper** (2004) undertook a study of the use of an online assessment system in the first-year module on systematic problem solving at a Dutch university of technology. **Ariwa** (2003) reported a process for peer assessment and tutoring linked to e-learning for first-year accounting and finance students. The paper, *inter alia*, examined the relationships between students' achievement and performance when supported by knowledgeable peers in semi-structured groups. Peers demonstrated and described basic parameters using understandable language, answered questions, provided constructive criticism and reinforcement with minimum supervision from the lecturer.

Aisbitt and Sangster (2005) described the background, design process and implementation problems encountered during the initial use of an asynchronous, internet-based, on-line assessment system on an introductory accounting course. The on-line assessment system was both summative and formative in nature and was designed to encourage and reinforce the learning of basic principles. There was a positive correlation between student performance in the on-line assessments and in their final examination. However, when the non-financial costs resulting from inappropriate IT structures and problems with the software are taken into account (unpaid faculty overtime and increased levels of stress both for students and faculty), it is doubtful if the pedagogical benefits of this example of internet-based on-line assessment outweighed the human costs of providing it. Recommendations for implementation include working closely with competent technical staff from the start, ensuring the on-line assessment system has a long and stable life to recoup the investment, taking care over software selection and providing adequate technical and pastoral support to students throughout the course.

7.4.4.2 Peer tutoring and assessment

The evidence on peer tutoring and peer assessment in the first year suggests that it may be beneficial, although it would seem that the key is interactions that enable discussion of academic subjects, be they with peers or teachers.

Based on a significant paired peer-tutoring experiment in a mathematics class, **Topping** *et al.* (1996) concluded that peer tutoring added value to teaching and learning in higher education. **Wallace** (2003) considered a peer tutoring practice initiative as a mechanism for supporting the first-year experience. **Webb** (1990) described a case study, in a New Zealand university, of peer discussions on a series of drafts of assignments. **Mabrito**'s (1991) microscopic American study showed that first-year students who are apprehensive writers responded better to peer comments received by e-mail than in face-to-face interactions. **Randels** *et al*. (1992) described a 20-hour training programme to prepare peer tutors on an MBA programme in an American university.

King *et al*. (1992) showed that peer marking of written coursework in a first-year engineering class provided as valid an assessment as that typically achieved by experienced staff markers. **Falchikov** (1986) compared self, peer and tutor marking of a coursework essay on psychology by 48 students and three tutors in a first-year undergraduate course in biological science. **Slater** (1996) reported portfolio assessment strategies for grading first-year university physics students in the USA. **Hughes** (1995) discussed the replacement of academic staff marking with peer assessment in the pharmacology department of a pre-1992 university in the UK.

More recently, **Meldrum** (2002) claimed that the literature on assessment has been preoccupied with technique and efficiency of assessment by teachers. Instead he focused on peer- and self-assessment and regarded assessment as a social encounter rather than as a set of tools. The case-study research involved classroom observations and interviews with twelve first-year undergraduates. Many of the students felt empowered through the assessment process although they also told stories about oppression and raised serious issues about trust.

7.4.4.3 Other assessment techniques and issues

Thomson and Falchikov (1998) collected qualitative and quantitative data from first-year students from three contrasting academic courses as part of an ongoing longitudinal study. The findings support the widely-held belief that assessment has an effect on student learning. These findings are echoed in data from a parallel study of second-and third-year students on the same courses. Interview data provided a snapshot of student experiences of learning and assessment. Student preferences for particular types of assessment provided insights into their approaches to studying. Interview data were related to approaches to studying profiles and stress measures. Mismatches were identified and discussed, and some year and area differences were explored. Implications for both teachers and learners were considered.

MacMillan and McLean (2005) reported an approach to assessment that aimed to encourage greater active learning in first-year tutorials along with a range of other learning skills, in particular the practice of good argumentation. Students were expected to prepare thoroughly for each tutorial, engage in challenging discussion, and reflect on what and how they were learning. The method employed was to centre the assessment regime on the tutorial itself in conjunction with frequent and rapid feedback on student work.

A different approach to assessment is to see the language of academic assessment as a specialised argot that students need to get to grips with. **Williams** (2005) examined the way in which a cohort of first-year chemistry students interpreted commonly-used assessment task verbs and compared these responses with their lecturers' usage of these terms. The results of the research suggest that the gap between the understandings held by students new to university, and those held by lecturers, is sufficient to indicate that changes in practice are needed to contribute to fair assessment practices. The paper argued that understanding assessment as a discourse, which exists alongside (but also independent of) general and discipline-specific academic discourse, will help explain the substantial gap between student understandings and lecturer usage of assessment terms. Students must become members of this discourse community to gain mastery within it. This requires deliberate exposure to the language, values and practices of academic assessment through examples used in everyday teaching practice and through formative assessment.

Sander *et al.* (2000) showed that students' coursework assessment preference was for essays, research projects and problems/exercises. Although there was an overall preference slightly in favour of coursework assessment rather than examinations, this was not consistent across all three institutions.

Brodie (1998) showed that, at a Canadian University, grading leniency was linked to lecturer evaluation. Altogether, 1939 student evaluations were obtained from 75 first-year university classes representing 15 disciplines. When grades varied markedly across sections of the same course, the professor assigning the highest grades, with least studying, received the highest evaluation ratings.

7.4.5 Computer assisted and virtual learning

Back in 1985, a computer-assisted instruction program, at the University of Sydney, to develop problem-solving skills (at a remedial level) was judged a success as it increased in the number of students successful at the final examination and resulted

in a smaller drop-out rate and continued motivation (**Mihkelson**, 1985). **Walezowski**'s (1989) study of an introductory computer-assisted design course had also shown that students with prior experience of a work-station environment usually completed the schedule of experiments with greater ease than those with no such experience.

More recently, **Rodrigues** *et al*. (2001) indicated that students were positive about using information communication technologies in practical work in a first-year undergraduate physics course, which they regarded as helping them to understand their physics concepts. However, analysis indicated that students used elements of the video analysis and other aspects of the practical work to reinforce already-existing ideas rather than challenge the robustness of their existing ideas. **Cannavina** *et al*. (2004) explored whether student health professionals were ready for web-based learning environments. **Kemp** (2002) examined the effectiveness of replacing practical laboratory pathology sessions with courseware in the first-year medical undergraduate curriculum at a British university.

Brooksbank *et al*. (1998) had reported staff and student feedback on the introduction of a computer-aided learning package in a first-year microeconomics module. The reaction was that the package was unlikely to completely replace classroom tutorials or prove completely satisfactory as a textbook or workbook without additional work to customise it to the needs of the specific course. However, it did offer a useful addition to more traditional teaching methods in an integrated learning programme.

Noble (2002) reported the experience at a large Canadian university in which students voted in a referendum 4-to-1 against an initiative for lecturers to use more web site technology in their courses despite a lengthy administrative campaign promising them a more secure place in the high-tech future.

This was the opposite of an Irish experience reported by **Concannon** *et al*. (2005). They explored what 600 campus-based, first-year accounting undergraduate students thought about the quality and benefits of e-learning. The research showed that to look only at the positive and negative factors of the technology is to miss the wider factors impinging on students' use of it as a support mechanism. Student motivation, peer influence, and study strategy are all as important to the learning process as are access to technology and computer skills. The research examined how students really used information technology and its overall impact. Of primary importance to the process were peer encouragement and perceived lecturer and tutor support. Students tended to approach the study process in much the same way as they might have, prior to the introduction of technology. The major difference is that students used the Internet as a secondary resource, along with textbooks, to supplement the lecture and tutorial notes. The medium allowed students to go through material with the flash demos, at their own pace, either in tutorials (preferred location), or at a later time. With large lab sessions, it was difficult to ask questions, and as students had varying prior experience with Excel, it was difficult for the tutor to give the necessary individualised instruction. It also permitted continuous revision for the online tests, in a manner that could not have been facilitated by a lecturer correcting 600 exam scripts three times during the semester. Students saw e-learning as an expected and integral part of the learning process within higher education. Major benefits noted included the ease of access to resources, given the limited books in the library, and the provision of central information and comprehensive resources pertaining to each module. Over 70% of the students in the end-of-semester survey commented that they were happy overall with the e-

learning aspect of the module. Negative experiences that were verbalised focused predominately on technical problems.

Tonkes *et al.* (2005) reported problems with a sophisticated software tool for numerical analysis and visualization for first-year mathematics students. The package in use at an Australian university had met severe resistance from students for several reasons: first, the software was numerical rather than symbolic, providing a departure from the thinking patterns presented in lectures and tutorials; second, many students could see a direct connection between the laboratory exercises and core course material from lectures; third, the program was not user friendly, commands often returned incomprehensible error messages and programs were difficult to write and debug. Overall, the details of the mathematics were lost in trying to negotiate the software. The authors reported innovations that have captured student support and added considerable value to both the computational and traditional learning process.

7.4.6 Summary of teaching techniques

- Evaluations suggest that students exhibit preferences for student-centred active learning rather than lectures. However they are not keen on role-play or student presentations.
- Experiential interventions and other activities in a work or community setting can provide useful impetus and clarification for students, despite initial disorientation or difficulty.
- It is important to prepare students adequately for practical work of all kinds.
- Problem-based learning works well provided the student is properly prepared. It seems that it does not need small groups to be effective, even if that is the preferred mode for students.
- Conceptual development is complex and staff need to consider whether their teaching styles enable students to best grasp new (abstract) concepts.
- Research relating to the first year suggests that group working has potentially positive outcomes, however, it cannot be assumed that students work in groups naturally or that working in groups equates to team working.
- It is possible to introduce small-group teaching and learning techniques into large classes with no increase in resources.
- Students are more likely to prefer coursework assessment, although this is not the case in all subjects and institutional settings.
- Published material on assessment has moved from small-scale experiments to considering the effectiveness of multi-dimensional assessment processes including on-line and peer assessment.
- On-line assessment needs to be introduced with care. The evidence suggests that it may be a useful way to provide formative feedback.
- Peer assessment seems to be a useful additional assessment procedure and appears to be reliable.
- It is important that students understand the discourse of assessment and that lecturers do no presume that students' understanding is the same as theirs.

8. Conclusions of the published literature on the first-year experience

There is no first-year experience; there is a multiplicity of first-year experiences. The research suggests that two things are special about the first-year experience. First, is the process of transition and adjustment and its concomitant high incidence of withdrawal, about which there is much research and advice. Second, is the mass experience of being a first-year as opposed to the differentiated experience of later years: as not being seen as individuals, as being taught or instructed rather than as having one's learning facilitated, as often taught by untrained or inexperienced teachers or teaching assistants, as being perceived as a (potential) problem. There is much less research on this second aspect and what there is tends to explore how students can be given extra support or subjected to pedagogical experiments.

The published material is overwhelmingly small scale, single institution empirical studies that pile up without any systematic attempt to theorise the first year experience. Modelling and theorising is mainly around the issue of retention. This is dominated, particularly in the US, by social and academic integration theory, which has been contested and augmented by an array of psychological and sociological notions such as emotional intelligence and cultural capital. In the UK, while not discounting the importance of integration, the emphasis has been on preparedness for higher education, expectation and satisfaction with the quality of the experience.

The funding and status of higher education research is a major reason for the proliferation of small-scale studies in the UK. The Higher Education Academy has provided one of the first major commitments to funding more holistic research on the first-year experience by funding this review and an empirical research project being undertaken by **Yorke and Longden** (2007). Prior to this, most major funding, which could be seen as relating to the first-year experience, has been focused on retention and access issues, which make it unsurprising that these are areas where much of the evidence now lies. Small-scale research done in response to local circumstances and personal interest is inevitable if research on student experience, learning and teaching and similar non-discipline based research is not valued by funding bodies, or by the research assessment exercise. Credit should, therefore, be given to those researchers who have chosen to engage in under-funded and often under-valued research that has maintained interest in the student experience of higher education.[*]

Most of the published research explores success and persistence factors, often focusing on one specific aspect be it intervention, student or institutional characteristic or non-college external influence. Success and persistence is characterised by a complex mix of personal, institutional and external factors the weighting of which shifts over the course of the first year. The importance of different factors in success and persistence depends on the type of student, programme of study and institution. The changing balance of influences is unique to each situation. The factors are interdependent and the process is not one reducible to unidirectional causal models as there is an iterative/dialectical relationship between the influential factors.

The key factors appear to be:

[*] We are indebted to an anonymous reviewer for this helpful note on circumstances.

- personal goal setting and motivation;
- family, friends (external);
- paid work and financial situation;
- higher education-based peer support and friendship groups;
- institutional habitus (discourse, rules, norms);
- student understanding of the institutional habitus;
- student's cultural capital;
- prior information and choices;
- expectations;
- satisfaction;
- teaching and learning process and engagement with teachers;
- assessment and discussion of progress.

Forty years ago **Small** (1966) showed that it was not easy to identify determining factors for the first-year experience because of the idiosyncratic way students engaged with it. The vast amount of loosely connected literature on the first-year experience since then has tended to reinforce this view. The search for determining factors has, though, suggested good practice in addressing issues and needs of students in a mass higher education system. The focus, though, tends to be on what it is best to provide for (deficient) first-year students rather than to explore the learning needs of fist-year students as individuals and build on their strengths. If anything comes out of the pile of research it is the need for dialogue between student and staff and the need for institutional structures and cultures that enable that dialogue.

Yorke, in various publications, has argued that the key to improving success and persistence is not to focus just on the first-year experience but to improve the student experience generally. This suggests that the focus of the first-year might be providing a learning situation in which students' individual needs are catered for rather than seeing students as part of a potentially problematic mass. The available research literature suggests that the use of information technology, through blended learning, to support this endeavour could be a promising way forward.

9. Institutional grey literature

The research team aimed to review grey literature within four institutions to see if institutional concerns and approaches related to published literature in the area. The published literature review identified a lot of material on the first-year experience, on performance and retention, factors impacting on performance and persistence, supporting first-year students and teaching and learning. Much of this suggested what might be good practice for institutions. In their turn, the institutions reviewed both generate and collect a lot of information, at least incidentally, for and about the first-year cohort. However, the close-up study showed that in the four higher education institutions reviewed there was no one mechanism to draw together all the information that illuminated the first-year experience. It was difficult, even where the researchers were very familiar with an institution, to locate the information. Therefore, although the institutional grey literature unearthed in this study provides a good indication of what is available, it unlikely to be comprehensive.

What is striking is that, whilst there was a huge amount of information, connections did not seem to be routinely made between the different types of information. For example, the focus groups carried out as pre-work for the study, as well as anecdotal evidence, suggested links between the student experience and their 'biographies'. However, there seemed to be limited exploration of this, for example, the impact on the student experience of having predominantly local students, or of having students with very different types of prior qualifications on one course.

The information given to first years indicated the areas staff considered to be important for their experience. This does not coincide with what students said in the pre-work focus groups and in Hallam's student experience surveys about what was important to them. The sheer amount of information given to students at the start of courses suggested the scale of the task facing them in their transition to higher education. However, evaluations tended to focus on limited aspects, for example, evaluations of modules and courses. Reports on the usage of facilities and services for students tended not to focus on year of study and there seemed to be limited evaluations of some areas identified by students, such as night life, safety and security, health and the administration and organisation of courses. It seemed that one-off studies explored some issues, rather than ongoing mechanisms. Where there were institutional surveys on the student experience these tended to report on many of the issues students and staff considered important. Generally, the institutions tended to report on the student experience by subject area or organisational structures (for example, faculties) rather than by year of study.

None of the institutions had grey literature specific to first-year postgraduates. The statistical information reviewed did not identify the year of study for postgraduates. Some information given to first years was given to both undergraduate and postgraduates, for example, all new entrants received information from Students' Unions and all students in any year/level received course and module information. The impression gained was that the institutions did not perceive the postgraduate first-year experience to require specific attention. However, anecdotally, postgraduates, particularly those returning to study after several years or those coming from overseas to study in a different academic tradition, do find the transition into postgraduate study difficult.

9.1 Methods used by institutions to collect data

The methods used by the higher education institutions to explore the first-year experience included:

- routine application, enrolment, assessment and progression procedures to gather statistical data. This data was then often used in evaluations, such as student experience surveys;
- ongoing recording of usage by departments (for example, Student Services) of their services or participation in their events;
- university departments (for example, Student Services) carried out ongoing recording of usage of their services or participation in their events;
- regular questionnaire evaluations of course provision tied into quality requirements;
- regular student experience surveys;
- other methods, such as interviews and focus groups, used in one-off studies.

One development was that the National Student Survey (**NSS**, 2006), which commenced data collection in 2005, appeared to be influencing the content and processes of some institutional surveys, although whether this was beneficial or pragmatic is unclear.

9.2 Overview of the institutional grey literature

The institutional grey literature germane to the first-year experience fell into six categories.

1. Statistical data on the composition of the student body and on retention and progression.
2. Information given to first-year students.
3. Evaluations of modules and courses.
4. Reports on the usage of facilities/services for students.
5. Institutional surveys on the student experience.
6. One-off studies.

This section gives an overview of each category and section 9.3 then provides the detailed findings.

9.2.1 Overview of category 1: statistical data on the composition of the student body and on retention and progression

All four institutions, at the time of the review, produced statistical data about the composition of the first-year undergraduate cohort on an annual basis but it is difficult to identify data on the first year of post-graduate study. All the institutions stored the data in student management systems that were often used as a basis for other information gathering (for example, student feedback surveys). The information was only available in-house (for example, on staff intranets), although summary data was provided in institutional annual reports available on institutional websites (these usually referred to the whole student body, not to any one year of study). Although there is full information for first-year undergraduates, university publications, such as

annual quality reviews, usually presented data by subject area. Reasons for withdrawal were usually only given in very broad categories only (for example, personal).

9.2.2 Overview of category 2: information given to first-year students

First-year students (undergraduates and postgraduates) receive a large amount of information, including welcome packs, induction information and Student Union welcome packs. These packs indicate the areas considered to be of importance to first-year students:

- university processes (enrolment, complaints, student representation systems);
- fees;
- finding your way around the university;
- university facilities and support services;
- accommodation;
- useful contacts;
- university sports and recreation facilities (including Student Union clubs);
- personal issues such as safety, drugs, alcohol, health;
- the locality (pubs, clubs, shops, entertainment).

First-year students, in common with students in other years, also receive information about the course/programme and individual modules. The information, covered: aims; learning outcomes; learning, teaching and assessment; resources; special requirements (for example, where there was professional practice). Students also received assignment guidance. Study skills modules also continue to be commonly provided as part of courses in the undergraduate first year.

9.2.3 Overview of category 3: evaluations of modules and courses

All the institutions have systems for evaluating modules (sometimes using standard evaluation forms across the institution) and here the first year is no different from any other year of study. Only one of the institutions had evaluation forms for the whole course at each year (stage). Institutions, at the time of the review, had differing views on the confidentiality of module feedback, with some seeing it as for the individual module leader and others collating information across modules. Module evaluations fed into annual quality reviews of courses but these tended not to report by year of study, although issues arising for a particular year may have been highlighted.

9.2.4 Overview of category 4: reports on the usage of facilities or services for students

The reports identified were about student support. Only reports on the counselling services were commonly published on the institutions' web sites. Normally, reports on services did not contain much analysis by year of study. For example, counselling service reports gave the numbers of users by year but did not identify presenting issues by year of study, so that whilst it was possible to see that more first-year

undergraduates used the services than do other years or postgraduates, it was not possible to identify the presenting issues by year. In most cases, information was collected by year of study but it was not reported on in that way, unless a service was for first-years only (for example, a mentoring scheme).

9.2.5 Overview of category 5: institutional surveys on the student experience

At the time of the review, two institutions routinely carried out annual institutional surveys with the intention of continuing them. Analysis is *inter alia* by year of study. One other institution has undertaken a survey of final-year undergraduates and the other has had one-off surveys and is currently planning a regular survey. The two institutional annual surveys currently conducted have questions on common areas (e.g. academic study, workload, teaching, support) and also on differing areas (e.g. psychological well-being, part-time work). The basis for the questionnaires differs: in one the questions are based on a review of the literature and on staff views on what to usefully include; in the other the questions are based on focus groups where students identified issues of importance to them. Both surveys feed into quality processes. The surveys seem to be the only mechanism in any of the institutions that pulls together and reports information about a range of aspects relating to the first-year experience, although only as one aspect of a broader review of the student experience in general.

9.2.6 Overview of category 6: one-off studies

One-off studies were difficult to identify, even within the researcher's own institution, and the review only identified a taste of what might be available. The studies tended to be similar to those identified in the published literature, that is, small scale and focussing on one aspect of the experience in one course, department or faculty.

9.3 Findings from the review of the grey literature

9.3.1 Category 1: Statistical data on the composition of the student body and on retention and progression

All four higher education institutions produce statistical data on an annual basis about the composition of the first-year undergraduate cohort. Similar information is produced for postgraduates but it did not differentiate between first-year postgraduates and subsequent years.

The statistical information was not readily available outside the institutions although it was available from the staff intranet within the institutions, often under the aegis of planning departments. The Teaching Quality Information (**TQI**, 2006) website publishes statistical information by institution and course but not by year of study. Statistical information about first-year students was not accessible to externals from any of the four institution websites, although they provided data on request under the Freedom of Information Act.

The information is currently gathered via the student management system in each of the four institutions. Students each had an identification number, information about them was obtained via enrolment and from this information the statistics were produced. Information about each student's progression was input, for example after examination boards. Information against specific variables, such as year of study, exists and may be provided on request although it may not always be 'ready-made'. For example at York St John data may not be presented by year, but if an issue emerges they can 'drill down' to obtain it. The method of gathering the data is important not only for the actual statistical tables produced but because it provides the starting point for data collection in other contexts. For example, at Sheffield Hallam, Student Services maintained a database of student's contact with different services, the presenting issue and the number of appointments. The database recorded the individual student ID, so that it was then possible to relate the database information to the variables of the student management system.

The type of information available at Sheffield Hallam only is described as an example since similar types of information were available in each of the four institutions. For example, York St John currently produces tables indicating retention figures by year for a course (retained, not retained, transferred). Bradford produces statistical information for academic staff to feed into their quality reviews. For example, for each department, it produces statistics on admissions by year for the last six years, so that comparisons could be made. The data included gender, age, special needs declared, nationality (EU/Overseas/ UK), ethnicity, entry qualifications. There is also data on how many first-year undergraduates proceeded to the next stage and how many withdrew.

At Sheffield Hallam, the data is currently displayed in EXCEL pivot tables, which can be manipulated to summarise the data in many ways. Information on first-year students can be obtained by selecting 'New' as an option: 'New > 1' limits the summary to students starting a new course but exempt from the first year. Most tables are updated daily and show the position at the close of the previous day. The type of information gathered at Sheffield Hallam is indicated in some detail (Table 4). It is an indication of the information available in institutions, which might be used for further analysis of the first-year experience, although, currently, interrogation of such data seems to be limited.

At Sheffield Hallam, the current practice is for retention information to be coded by administrators in the faculties and fed into the student management system. It includes a code for reasons for leaving but the categories are broad (for example, 'personal') and, therefore, not very informative. There was no other formal recording of this information that produced easily obtainable statistics.

Table 4: Type of statistical data collected at Sheffield Hallam.

Enrolment information	Student profile	Student progression reports	***Summary information***
Break down: mode of attendance, source of funding, course.	Break down: new students, academic year, course.	Break down: similar to student profile reports.	
Includes: Faculty Division Type of course (undergrad., postgraduate. etc) Attendance mode Fee status (home, overseas etc) Gender Disabled Learning contract (disabled students) Mature students Ethnicity Associate college (if attended prior to course) Domicile	Includes: Age group A-level points Tariff points Disability Entry qualifications Ethnicity Gender Subject	Progression options: Qualified Completed (not gained award, not returning) Pass (expected to continue the following year) Alternate qualification Extension (extra time to complete) Writing up (extra time to complete) Repeat year Withdrawn Transfer (to a new course in the university).	Provided by: Faculty Division Type of course (undergrad., postgraduate. etc) Attendance mode Fee Status (home, overseas etc) Source of funding Age Ethnicity Associate college (if attended prior to course)

Although the statistical data did not provide information about the student experience, they could alert an institution to issues needing further exploration, for example, if high numbers withdrew in a particular subject area. The types of data gathered indicated the aspects about students that higher education

institutions considered impinged on their experience, for example gender, age and prior qualifications. Discussions within the institutions suggested the possible implications, for the student experience, of this biographical data. These included the relationship between the type of prior qualification and progression, or the effect on the student experience of students tending to be local and, therefore, coming into a university as a group, with existing friends from school or further education. However, the research did not identify any institutional grey literature exploring these implications within the sample institutions.

9.3.2 Category 2: Information given to first-year students

The institutional grey literature reviewed in this area included:

- welcome packs given to students before or at enrolment and induction information, including information from the Students' Union;
- course information.

9.3.2.1 Welcome packs and induction information

The information provided in welcome packs and induction information suggested the areas that the institutions considered important for the early stages of the first-year. Welcome packs included where and how to enrol and pay fees, how to navigate around the university and its environs, provision for health, safety and security, sports facilities, local amenities, student services provision and brief information about the course. Induction information, in some cases, also covered how to use library and computing facilities and specific legal requirements where applicable. There was often a focus on where responsibilities lay and on 'legal' requirements (for example, assessment regulations). The information provided tied in well with the issues raised by students and staff in the pre-review focus groups (Table 1, above).

Examples of the contents of welcome and induction packs are given here for three of the institutions (Table 5) and the contents of a Students Union Freshers' pack for one institution (Table 6). The contents are given in some detail to indicate the extent of the information provided. The individual items included letters, simple printed sheets, fliers, business cards, bookmarks, DVDs, glossy printed booklets and publications from non-University sources such as local tourist offices. York St John had a particularly comprehensive, accessible and attractive *Student Guide.* At the University of Bradford all new students completed a learning styles self-assessment questionnaire (**University of Bradford,** undated) designed to identify learning difficulties or dyslexia. Where the completion of the questionnaire suggested difficulties, students were referred for further screening.

Although the contents listed in Tables 5 and 6 do not describe or explore the student first-year experience, they do indicate what is considered to be important for new entrants. A glance at the contents suggests the scale of the transition task for students and indicates the amount of information a new entrant has to consider about a range of area: and this before the student begins to get to grips with the subject of the course.

9.3.2.2 Course information

First-year students in all four higher education institutions were provided with course or programme handbooks and module or unit handbooks. In this, first-year students do not differ from students studying at any other years or levels. The information usually covered aims for the learning experience, learning outcomes, teaching and learning methods, assessment (task, guidance, weightings, assessment criteria), resources, support and responsibilities.

The handbook for the 2005 sports studies programme at Sheffield Hallam, for example, included: key contact information; programme structure and named routes; module outlines and schedule; attendance requirements; health and safety; Criminal Records Bureau checking; programme management including complaints procedures; option selection procedures; professional accreditation; teaching, learning and assessment (for example, assessment regulations; timetable information); scholarship and study skills such as writing skills and referencing; student support and guidance (for example, learning disabilities and IT support); module evaluation forms and assignment hand-in forms.

The generic handbook for health courses had similar contents but also included sections on specialist facilities and placements.

At Bradford the *Student Handbook* for the School of Lifelong Learning and Development included information on different categories of students, the module and credit accumulation system, roles, resources and support, useful telephone numbers. It covered assessment submissions, criteria and results as well as plagiarism. Information on general requirements and processes, such as attendance and withdrawal, was included as well as general information on parking, libraries, shops and religion plus commonly asked questions.

A first-year module handbook for the applied social studies programme at Sheffield Hallam included contact details for the teaching staff, an outline of the module week by week, the module aims and learning outcomes, the learning and teaching strategy, assessment (tasks, feedback and criteria), indicative content, the role and responsibilities of the tutor, group activities by week with instruction, tips on using IT and evaluating web sites, a list of recommended reading and some pieces of reading on which activities are based. This module also had a handbook for the support tutors that included information about the tutor role and about student activities, model answers, where to go for help and frequently asked questions.

Each module handbook from York St John began with an overview indicating what the last module evaluation revealed and what resulting action had been taken. Otherwise the content was very similar to that at Hallam: aims and rationale, learning outcomes, content, assessment, plagiarism, module participation, book list, staffing, evaluation, management and communication.

At all four higher education institutions, first-year undergraduates usually have a skills module, implying a common view that new students need help in university study methods and approaches. In the Faculty of Health and Wellbeing at Sheffield Hallam, health students currently take a professional development module. It aims to develop student self-awareness and reflection, enable them to examine their role as a professional, raise awareness of evidence-based practice and facilitate inter-professional collaboration. In the Faculty of Development and

Society, counselling certificate students take a ‘learning to learn and study with confidence’ module that aims to develop writing and study skills, helps students understand what is required for academic study and builds confidence.

At Bradford University, in the School of Life Sciences, most courses have a study skills module in the first year/stage, although they differ between programmes. For example on the pharmacy course the module is delivered in a block in the first two weeks of the course, whereas on other courses the module runs through the year.

An assignment brief for first-year students in the first semester on Applied Social Studies at Sheffield Hallam gave very specific guidance on the word-processing of work, word limits, referencing, deadline, weighting of each task and requirements for them. Where students undertook placements in their first year, they received relevant information. On the diagnostic radiography course in the Faculty of Health and Wellbeing at Sheffield Hallam, for example, most information was given via the virtual learning environment (Blackboard). There was a site supporting clinical placement for each year of study with course documents and information about placement requirements: dress codes, responsibilities, contact with the university whilst on placement; placement calendars and patterns, report forms and assessment criteria.

At Sheffield Hallam, full-time students usually take six modules in the first year. Including the items indicated in 9.3.2.1 above, they, therefore, currently receive a considerable amount of information about the course and the university, often at the beginning of courses. A study reported below (section 9.3.6) suggested difficulties students may have in absorbing this information.

Table 5: Contents of induction packs.

University of Leeds *(2005a)*	***Sheffield Hallam***	York St John *(2005)*
• Welcome letter • Pre-arrival booklet (term dates, introduction from Academic • Registrar & Leeds University Union - LUU, what to do before Registration, what happens at Registration, dates/times/locations of School pre-Registration meetings, medical, fees, how to get to Uni.) • Drugs booklet (introduction, effects, emergencies, A-Z, contacts) • SSN bookmark (contacts for: Accommodation, Careers, Central Student Administration offices, Chaplaincy, Counselling, Disability Services, Graduate Centre, International Office, Joblink, LUU welfare, Medical Practice, Nightline, Research Degrees Office, Security, Skills Centre). • Sports Leeds Leaflet (sport facilities on campus) • 'Stay safe, stay secure' booklet (useful numbers, safety tips) • LUU leaflet (getting involved) • Complaints leaflet (how to)	Sheffield Hallam Faculty of Development and Society (2005a) welcome letter with enrolment and payment of fees information • 'Getting Started at Hallam: preparation countdown' (getting ready to come to University; settling in; finding your way around; money matters and fees; accommodation; staying healthy; where to get help; what to expect; what's available and where; countdown checklist) • information for the subject area (e.g. for Education Qualified Teacher Status courses: induction programme; Criminal Records Bureau checks; health checks; some advance reading). Sheffield Hallam Faculty of Health and Wellbeing (2005), Postgraduate pack • welcome letter (information on enrolment, fee payment) • financial information for international students • 'Sheffield' (Sheffield City Council, undated) • 'Finding the Right Place to live in Sheffield' • DVD, 'A Sense of Wellbeing' • Information about the course.	**Freshers pack** • enrolment information • campus map • term dates • finance office address • careers service card • recreation & sport & 'fun run' fliers • students union welcome letter • medical services • USA/Canada exchange programme • programme representation (student representation) • 'Your Rights Rules and Responsibilities, 2005–6 edition) • Student Guide 2005–2006 • 'Welcome week. Induction 2005' (glossary of terms e.g. 'academic tutor'; welcome week events for all & for programme groups; learning support sessions; essential 'to do' checklist; mature/part-time/ international orientation day; induction programme). **Residential students pack** • Welcome letter • Hall meetings • Contact information (e.g. for post, for light bulbs etc) • Map • Security • Health and safety • 'Communal living Code

• University Quality of Life and Learning - UNIQoLL survey (letter, questionnaire, pre-paid return envelope) • Medical practice information • Fees form (direct debit arrangement form) • Information for Parents booklet • Campus leaflet (maps of campus) • Elective handbook (elective modules)	Undergraduate pack • Also contains a handbook giving elective modules and a module choice form Induction programme • Enrolment • Discipline specific meetings • Introduction to Student Services • Introduction to assessment regulations • Introduction to Criminal Records Bureau and medicals (freshers' packs have information and forms for health screening and criminal records bureau disclosure) • Introduction to technology • Introduction to Learning and Information Technology Services: (booklet attached, Getting Started, LITS)	of Conduct 2005–6' • Student Survival Guide (Home Office, June 2005) • TV licensing information • Catering services guide • York mini guide (York Tourist Information, undated) • Student Services bookmark with contact details • A taxi business card • Emergency contact numbers (business card size)

Table 6: Contents of a freshers' pack

Sheffield Hallam Union of Students, *Freshers' Pack* (**Hallam Union**, 2005)

- Welcome letter
- Student Directory (Introduction to Sheffield; Sheffield by day; Money off Vouchers; Sheffield by night; making the most of your time; index of useful facilities e.g. plumbers, record shops, restaurants)
- Hallam Union Calendar
- Union shop vouchers
- Hallam Union Annual Report
- Freshers' week listings (events)

Hallam Union (2006) Web site **www.hallamunion.com** has similar information.

PowerPoint presentations used at freshers' presentations

- Hallam Union (Union structure and officials, what the Union offers,

social/sports facilities/clubs, support and advice, equal opportunities, media e.g. student newspaper)
- Hallam Volunteering. The volunteering scheme, examples of projects, how to get involved.

PowerPoint presentation for student representative training (also applicable to other years of study): Union structure, roles, the representative role, processes, procedures, sources of support for students etc.

9.3.3 Category 3: evaluations of modules and courses

All four higher education institutions currently require routine evaluation of each module for all years of study at both undergraduate and postgraduate levels. This provides information about students' experience. However, at the time of the review, the method of data collection, nature of the information and the presentation and usage of it did not differ between years of study.

York St John had one standard module evaluation form for all undergraduate levels for the whole college. There is currently a proposal to modify the form so that it aligns with the data collected for the National Student Survey (**NSS**, 2006), so that the college has its own comparable data and can see if the NSS data is representative (NSS only covers final-year students and does not cover all the subjects the college teaches). There was no common module evaluation form for postgraduate courses. The University of Bradford had one standard evaluation questionnaire for all undergraduate and postgraduate modules at all stages, usually administered through the virtual learning environment, Blackboard. Sheffield Hallam did not require the use of a standard evaluation form (although one is available on Blackboard). Some of its faculties had a standard faculty form, whilst others did not (Table 7).

At Sheffield Hallam an example of an alternative evaluation form used on an education course had two main sections. The first asked students to use three words to describe each of the following: the module experience; positives; negatives. It then had a 5-point rating scale (excellent – poor) and space for comments about: delivery, content, assignment, accommodation and resources, as well as an overall category.

Table 7: Aspects covered by module evaluation questionnaires

York St John *Module evaluation questionnaire. Undergraduate*	*University of Bradford* *Standard Unit Evaluation Questionnaire*	*Sheffield Hallam University* *Module Feedback Questionnaire (optional, faculties may use their own)*
4-point rating scale, plus a not applicable category, indicating agreement with statements under 5 categories, with a comments box for each category.	Part A 5-point rating scale indicating agreement, plus a not applicable category, with 10 statements. Part B space for comments against 3 items.	5-point rating scale indicating agreement, plus a not applicable category, with 21 statements, with a final box for comments.
Categories: • administration and organisation (e.g., statement "The module was well organised"); • learning, teaching and assessment (e.g., "Assessment has tested what we were supposed to learn"); • learning support (e.g., statement "The feedback I received was useful"); • learning resources (e.g., "I was able to access general IT resources when required"); • independent learning (e.g., "I understood the requirements on me for independent learning").	Part A statements are about • learning objectives • content • class sessions • teaching methods • lecturer/tutor • assessment • guidance for practicals • academic support facilities (e.g., library) • overall worth of unit • attendance example statement "Assessment of my work was helpful in my learning" Part B • strengths of the unit • how unit could be improved • further comments.	Statements about • aims & outcomes • assessment brief • feedback (written & verbal) • level of difficulty • teaching • development of knowledge & personal skills • specialist equipment (access & preparation) • Learning resources (library, IT, Blackboard) • tutor support • teaching accommodation • organisation • workload • timetabling example statement "I have been given verbal feedback to help with my progress"

At York St John, an example of an evaluation form for a postgraduate module ('reflective practice') had a four-point rating scale for questions about usefulness, meeting expectations and organisation, and suggestions for improvement, as well as marketing questions about how students heard about the module, any other comments and information about the student's professional background.

Only Bradford had an evaluation form for the whole of the first year of a course, rather than for individual modules. There was a standard 'stage evaluation questionnaire' divided into three parts for each year of the undergraduate courses and for the one stage that is postgraduate (Table 8).

York St John had a staff feedback sheet about 'Welcome Week' that went to all staff and asked what went well, what needed improving, what were the challenges, what the student perceptions of 'Welcome Week' were and if they collected local feedback on it.

Table 8: Aspects covered by Bradford University's 'Stage Evaluation Questionnaire'

Section	*Statements/items about...*
A. Course organisation, 12 statements	• aims (2 statements) • academic content • academic coherence • information about work/assessment • mix of teaching/learning activities • timetable • spread of workload between units • organisation • followed on from previous stage • able to make views known • views responded to e.g. statement "I felt that the timetable was clear and workable"
B. Academic support/facilities, 9 statements	I was satisfied with.... • student services officer • academic staff • non-academic staff (admin/technical) • library • IT services • careers service Then • teaching rooms/resources • English is first language

	• personal circumstances addressed
C/D Comments, 9 items	• overall satisfaction • course organisation • 3 most rewarding aspects • 3 needs for improvement • effectiveness of information given • other comments • how personal circumstances met • further assistance you found helpful

At all the institutions, evaluations fed into the annual quality report for the course. At York St John, the academic standards committee currently oversee the quality process and each of the five schools produce an annual evaluative report, with action plans signed off by the academic standards committee. The module evaluations led to the programme evaluations and these led to the annual evaluative report. Issues for first-year students on particular programmes were picked up in the annual evaluative report and the head of school ensured that items were included in the action plan. At Bradford, the results of the module evaluations went to the module coordinators and their line managers and the associate dean for teaching and learning. The results document was private and fed into the module coordinator's appraisal, although issues arising were picked up by line managers and the dean. The outcomes of the stage questionnaires were more public and fed into the annual monitoring report, which was posted on the staff intranet and included information on retention and progression by stage. The overall university annual report (accessible from the external web site) pulled together information, for example, on retention and progression, but it did not provide information by stage/year of study.

At Sheffield Hallam, the 2005 annual quality review for the Faculty of Development and Society, in which the applied social studies programme was located, provided a comprehensive overview of the faculty's student provision (**Sheffield Hallam University, Faculty of Development and Society**, 2005b). However, it provided virtually no information by year of study. The only aspect relating to first-year students was a short section about the profile of students at entry. There was data on extenuating circumstances offered for late submission of assessed work and the reasons for them, on appeals, cases of plagiarism and on retention but it was not broken down by year of study. Where there was a particular issue relating to the first year it was raised, so, for example, induction was mentioned as a strength.

The Faculty of Health and Wellbeing at Sheffield Hallam currently collates the ratings from all module evaluations for each semester for each year/level, producing spreadsheets that could be used by course leaders for annual quality reviews. However, these spreadsheets would need to be interpreted and do not stand alone. This faculty is also required to provide reports, on an ongoing basis, for the workforce confederations that commission and fund courses for health professionals (confidential to those confederations). There is a standard format with specified sections. These sections do not specifically address the first-year experience, although the content may have referred to it. The template sections are:

- introduction, with faculty overview;
- review of previous year's action plans;
- the student experience (including information from the Sheffield Hallam student experience survey);
- student profile on entry (the statistical data, see section 9.3.1 above); curriculum design, content and organisation;
- learning, teaching and assessment (including inter-professional learning modules);
- student progression and achievement including performance, withdrawals and first destinations;
- student support, feedback and guidance;
- employer experience;
- educator experience;
- resources, research, staff development, staffing;
- quality management and enhancement;
- action plan;
- appendix giving evidence.

At Bradford the annual course monitoring report for the department of archaeological sciences for 2003–4 identified good practice and reviewed practice against aims and learning outcomes, and particular issues for first years were identified within the text, for example the introduction to key and other skills. External examiner reports were summarised. Statistical tables were provided on first-year student progression, transfer to other awards or institutions and withdrawal, with reasons for withdrawal given only as 'deceased' or 'personal'. The appendices also include statistical information (see section 9.3.1 above) and the report summarised the statistical data provided by the stage evaluation reports, presented in tables and bar charts. The action points may have included items relating to first years.

All the institutions currently have student representative systems for which they provide guidance. Bradford has guidelines for schools and course continuation review teams. It also has guidelines for student representatives about student participation in the review of courses and provision. However, these cover all years/stages and not just the first year.

To summarise, at the time of the review, all four higher education institutions had documentation to support module and course evaluations and produced annual reviews of subject areas. There was no special documentation relating to the first-year experience, and usually no separate reporting on it, although where there were particular issues (positives and negatives) relating to first-year students they were identified. It was not, therefore, easy to pull together evaluative information about the first year, although extensive information did exist. Anecdotally, student services' staff who were consulted for this review of institutional grey literature said that where students withdrew from courses it was often for multiple reasons. The researchers could not find, however, any data to support this since the statistical data given in quality reviews is given under broad categories (for example, 'personal', as a reason for withdrawal).

9.3.4 Category 4: reports on the usage of facilities or services for students

The reports identified were on services related to student welfare or well-being.

All the higher education institutions collected information on the access to learning fund, which provided financial support to students in need. However, none collected information by year or level of study but according to the criteria students must meet in order to access the fund (at the time of the review the fund mainly benefited final-year students or mature students without dependents). At the **University of Bradford** (2004a) the report on the 'Disbursement of Student Support Funds' for 2003–4 claimed that the distribution of financial assistance continued to play a major role in student retention and that many European Union and international students have financial difficulties during their studies, referring specifically to problems created by the death of a family member (needing unanticipated journeys home), the death of a sponsor or a change in political régime in their home country. The report referred to different forms of financial assistance, with an appendix indicating how much money was disbursed for each type of fund but not the year or level of study for the student it went to.

Of the provision by the institution's student services departments (variously named), the counselling service had the most easily accessible reports in all four higher education institutions as they were on the universities' web sites. All the reports indicated that first-year undergraduate students used the service most, then second-year students, then final-year students and counselling services were least used by postgraduate students. There was, however, no further breakdown of information by year of study. It was not possible, for example, to identify which presenting issues were most common for first-year students. At the **University of Bradford** (2005a) the report provided statistical information on users and presenting issues but did break down this information by year of study. The appendix of the **University of Leeds** (2005b) *Counselling Service Report* gave statistics showing users by year (1–6), so that first-year undergraduates could be identified but not first-year postgraduate (i.e., some undergraduate courses might be longer than three years). The statistics gave users by issue raised and faculty but not against these variables by year of study. **Sheffield Hallam University, Student Services Centre** (2005a) report provided presenting issues (most commonly anxiety, depression, relationships and academic issues) and comments on concerns, such as the degree of social dependence of 18–19 year olds on their parents. Although this issue was most likely to relate to first-year undergraduates, there was no explicit information about year of study, although there was very full statistical information against other variables (clients by gender, ethnicity, mode of referral, number of sessions).

This tendency not to focus on first-year students was reflected in other reports of student provision. The accommodation offices at York St John collected information about why students left university accommodation, for example, but not by year or level of study.

The **University of Bradford'**s (2004b) nursery annual report did not include information about student parents using the nursery but rather about activities with the children. Other recent annual reports for its disability service (**University of Bradford Disability Service**, 2005) and its division of sport and exercise

(2005c) did not provide information about students by year. The university had information on its training for student representatives and group workshops for student representatives, which included information about the number of first-year students participating, but it was not available in report form. The **University of Leeds** (2005c) *Skills Centre Report* had an appendix giving statistical information about usage but it was not by year.

At Sheffield Hallam, student services professionals (counselling, educational guidance, careers, and disability support) enter information about clients into a database that links, via the student ID, into the student information system and therefore to biographical data. The database has fields for the appointments held, presenting issue and notes on the discussions. Although, therefore, data currently exists that would allow for reporting by year of study, it is not presented in that way. Usage of the database is increasing and each year its 'interrogation' becomes more sophisticated, so in future there may be reporting by year of study. The *Learner Development Annual Report 2004–5* (**Sheffield Hallam University, Student Services Centre** 2005b) indicated numbers of students using drop-in study support, by campus, gender, fee status, ethnicity, socio-economic groups, age, presenting issue, number of visits, school, mode of attendance but not year of study. Its review of workshops indicated which ones were for first-year students and gave student feedback on those sessions.

The *International Student Support Annual Report 2003–4* (**Sheffield Hallam University, Student Services Centre** 2005c) reported on first-year students in relation to pre-arrival guidance and the orientation programme. However, reports on individual consultations did not indicate year of study, although they did refer to biographical data and presenting issues. The same applied to the *Education Guidance, Annual Report 2003–4* (**Sheffield Hallam University, Student Services Centre**, undated), which usefully gave patterns of usage, indicating the months when most students sought support. Some of these services could provide a considerable amount of information about the first-year experience, for example, in 2003–4 there were 5987 initial enquiries to the educational guidance team.

In 2005, a new survey (also known as the 'student web CT survey') was conducted at York St John about Student Services, recently re-formed and co-located in one building as a one-stop-shop, on the Sheffield Hallam model. As well as using an online questionnaire, Student Union officers interviewed a sample of students, and there were a small number of focus groups. The report was for the Student Services Committee (with recommendations at college level), which reports to Academic Board. The questionnaire asked for year of study, so that responses by first years can be identified, and the questions asked for views on the Student Guide and on Student Services provision.

An exception to the lack of reporting by year of study occurs when a service is directed at first-year students. Sheffield Hallam has a volunteer mentoring scheme where second- and third-year students over the age of 23 mentor first-year mature students. The scheme aims to provide an opportunity for new mature students to discuss experiences, build self-confidence, be directed to services, improve their awareness of university facilities and processes and to 'belong'. The evaluation report for 2004–5 gave the number of first-year mature students participating as mentees by gender (more women), age (more in the 31–40 range), ethnicity (mostly white), discipline area (most in health and social care), gender preference for the mentoring partner (most no preference), number of

meetings (most up to four times). It also included student statements about what participants found most and least positive about the scheme and about the impact of the scheme on their adjustment to university.

9.3.5 Category 5: institutional surveys on the student experience

There was more variation in practice in relation to institutional surveys than in other areas of institutional grey literature.

York St John has a student experience questionnaire that only goes to final-year students (it is being amended so that it aligns with the National Student Survey). It has one question asking respondents to rate 'the College induction process'. At Bradford there have been 'one-off' surveys, for example a 'Student Satisfaction Survey' was carried out in 2002 by consultants (1400 self-selecting respondents) and in 2004 the same company did another survey (1100 respondents). Data was collected by year of study but was not presented in that way, so no data about the first year were published. In 2006, Bradford plans to carry out a 'Student living survey' about the student lifestyle, for example, hours of paid work done, what they get paid, mobile telephone usage, and so on. It will relate to the National Student Survey (to see if the NSS results, for final-year students only, apply across all years) and will be carried out by consultants.

The University of Leeds has a regular survey, the *University Quality of Life and Learning* (UNIQoLL) project, conducted by the Psychological Therapies Research Centre in its Institute of Psychology Sciences (**Audin** *et al.*, 2003; **Bewick** *et al*. 2004). It began in 1999 as the result of a concern by a member of university staff about students' psychological wellbeing and looked at the student experience from a holistic viewpoint. The project reports (as of 2006) to a steering group chaired by the pro-vice-chancellor for staff and students. It ensures that there is in place a system to consult students, obviating the need for additional consultative mechanisms when issues arise (relevant questions can be added to the questionnaires). Whilst there is no one place in the university pulling together all the information about the first-year experience, UNIQoLL does interface with many university staff and departments.

All full-time, first-year undergraduate students receive questionnaires before registration, during the first semester and during the second semester. The questionnaires differ (for example, only the first semester questionnaire refers to induction). In subsequent years students receive a questionnaire in each semester. The survey links into the student information system and the student ID so that connections could be made with entry qualifications or biographical data, making it possible to track individuals over time (although data has not been linked to students' names). Postgraduates were not included in the survey, although a survey of postgraduate students was carried out in 2004 by the Postgraduate Research Centre, and had been carried out two or three times before.

The survey questions were originally based on a review of the literature on the student experience and a consultation with staff, including the Students' Union, (via the steering group and targeted groups such as those responsible for student support), and departments or individuals can make requests for items to be

included. The section on mental health is based on the CORE questionnaire (**Sinclair** *et al*. 2005), giving a score for students potentially 'at risk'. Some questions are consistent from one survey to the next. If the response data does not change over time the question is removed for a while and reintroduced at a later date. Questions relating to specific policy initiatives were included, for example, sports provision.

The process (as of 2006) is that departments send an e-mail link to the questionnaire to students, each department having a UNIQoLL representative who adds a message to encourage responses (previously the questionnaires were paper-based). There is also publicity from posters and screen savers. Incentives are offered to encourage responses (e.g. in the 2006 survey a 100 free printer credits were given to the first 1,000 students replying). The response rate for the pre-registration survey of first years is 50% and is 20–25% for the first and second semester surveys. Since the questionnaires have been online response rates have improved. Semester reports are prepared for the steering group and the vice-chancellor's executive group and passed to faculty deans and departments. These reports provide the results for a semester survey, separately by year group, and an implications section commentary. These reports have not been available on the internet but students and staff are encouraged by the **UNIQoLL** website (2006) and e-mails to departments to e-mail for a copy. The annual report has a commentary and includes an identification of information by year, for example where there were differences between years. Where there are fewer than five responses to a question it is not reported to avoid replies being traced to a student, so that very small departments get limited results about their own department, although they get overall information. The project also undertakes special analyses for specific purposes (for example, whether having had a gap year increases students stress levels on entry) and any member of staff or student can request such an analysis.

There is no overall formal feedback system to indicate actions taken as a result of the survey but the project does get informal feedback and there are some separate formal systems: the UNIQoLL project manager attends the student mental health issues group, student support services committee and the drugs and alcohol advisory group.

The survey has provided information on the following areas: psychological well-being; academic study and workload; accommodation; alcohol consumption; department teaching and support; finance; guidance from departments and staff; living away from home; part-time work; recreational activities; social support networks; student debt and its relation to mental health (**Cooke** *et al*., 2004). **Cooke** *et al*. (in press) have undertaken an analysis of the psychological well-being of first-year students based on UNIQoLL's work.

Sheffield Hallam's **Centre for Research and Evaluation** (2006) conducts a student experience survey of all students each year. The survey has been running for six years, although it has changed in timing and content. It covers all aspects of the university from academic to services and facilities. It is based on the Student Satisfaction Approach, pioneered at the University of Central England in Birmingham and used in institutions in several countries (**Harvey and Associates**, 1997). This combines satisfaction and importance ratings and is designed to easily identify areas for action. The survey (as of 2006) is not a stand-alone instrument but is an integral part of an annual action and feedback cycle. The results are used for overall management and departmental

assessment and improvement. The results are fully available for staff and students, as well as for external audiences as they are posted on an open access website. Faculties (previously schools) and departments are required to draw up action plans to address issues highlighted in the survey. The use of A–E grades rather than numerical data makes it easy for stakeholders to identify areas of success and those that require action for improvement. Few questions are specific to first-year students but the results are broken down and reported by academic year. There are also longitudinal trend data but these are not routinely reported by year of study, however, the data could be interrogated in that way.

The procedure in 2005–6 was that the Centre for Research and Evaluation sent students an e-mail with a link to the online questionnaire and liaised with IT services to put the questionnaire onto the student portal. Posters around the university and messages on university computers were used to promote the survey. Prizes have been used in some years to encourage response. Paper questionnaires were posted to the home addresses of part-time and postgraduate students. Several electronic reminders were sent out and one postal reminder to those who received a paper version. All students on courses of at least one year in length, excluding distance-learning students, were sampled: 8,350 first-year undergraduates and postgraduates for 2006 and around 20,000 students in total. The survey was in one phase from November to the end of January, the survey being split into three questionnaires covering different areas of the student experience, each student receiving one of these. The overall response rate fell from 26% in 2002 (all paper) to 20% in 2005 (mixture of online and paper using a two-phase approach). In 2006 a prize draw amounting to £800 worth of prizes was offered and students had to answer fewer questions: the response rate rose to 25%.

The questions were based primarily on focus groups with students and updated on the basis of feedback from students in open questions on the survey itself. In some areas, questions were also based on consultation with departments, notably in areas such as student services where focus-group feedback is sometimes patchy. If questions tend to show a stable level of acceptable satisfaction and the areas are not very important, then they are removed from the survey. Hence the survey tends to constantly renew although there are a core of questions that recur and provide longitudinal benchmark data.

The initial report is usually online within a month of completion of the survey. The reports usually consist of tables broken down by numerous factors, commentaries and trend graphs.[i] The survey covers: learning and teaching; course content and organisation; the Learning Centre; computing facilities; environment and general university facilities; catering facilities; sports facilities; student services; Students' Union; personal issues including finance and discrimination; and overall satisfaction. Where there are fewer than ten responses in a cell the result is not reported, to preserve validity and student anonymity. CRE provides further in depth analysis of results for certain departments or where requested and will give aggregate feedback to departments or faculties in person.

9.3.6 Category 6: One-off studies

The one-off studies identified were only those at Sheffield Hallam because of the difficulty of tracking them down, even in one's home institution. Those identified merely provide a taster of what may be available.

One study concerned learning support for international students (**Ridley**, 2004). Information was gathered from the university's web pages, course materials, questionnaires from 100 international students at the university and 26 semi-structured interviews. The study included a report on induction programmes. Students were positive about them but found it difficult to fully concentrate, given the overwhelming amount of information provided (see section 9.3.2 above) and because of unfamiliar concepts and terminology, and the study concluded that issues raised at induction needed to be revisited. One school in the university had a special induction for international students, addressing cultural differences and UK academic expectations. The remainder of the report did not identify issues or present information by year of study but divided students by level: undergraduate, taught postgraduate, graduate diploma, research. It can be inferred that some topics do concern first-year students, for example reference to study skills modules that tend to happen in the first-year of courses but it is not explicit. For other areas in the report, it is more difficult to make such an inference, for example students may not necessarily access language support at the start of their course. The report is comprehensive and provides useful recommendations but for the international student population as a whole, rather than for first years.

Another study reviewed student retention in one of the University's faculties for 2003–04. This report focused on the cohort of all new full-time undergraduate students expected to register in 2003–04 and analysed data on students who did not enrol or who cancelled or withdrew from the programme, according to age, gender, ethnic group, disability, local residence (postcodes). It also considered the progression of those on specific courses between academic years 2003–04 and 2004–05. The study found that withdrawal patterns were highly complex, and that withdrawing students did not simply leave 'never to be seen again' but that they often re-engaged with the University.

Some Sheffield Hallam studies are published and were reviewed as part of the published literature, for example **Beard** (2005) and **Smith and Todd** (2005a, 2005b).

9.4 Gaps in the institutional grey literature

9.4.2 Gaps revealed by the literature

No institutional grey literature from the sample was gathered on the following aspects found in the published literature:

- seeking predictive factors ;
- evaluating the level of performance;
- examining the impact of learning styles and approaches to learning;
- exploring the impact of paid work on performance;

- additional support courses for first-years/prior experience;
- postgraduate first-year.

Data was collected of relevance to some of these items, for example statistical data on entry qualifications and progression might be used for predicting success and evaluating performance. However, no grey material was identified that explored the data from those perspectives. Few of the institutional grey literature items reviewed specifically examined the first-year experience. For example, module evaluations, which consider teaching, learning and assessment issues, feed into overall course reviews and tend not to be presented by year of study. There seems to be a lack of analysis by year of study, which in many cases would be quite simple to do. There is no clear indication why analysis by year is eschewed. One interpretation is that year of study is considered less important than analysis by subject or by biographical variables, such as ethnicity.

However, rather than indicating that institutions are remiss in not pulling together material about the first year, this may indicate that institutions consider there to be little that is unique about the first-year experience other than issues of induction and transfer. Nonetheless, issues relating to adjustment may be of considerable importance. For example, the numbers of first-year students visiting the counselling services in all four higher education institutions was higher than students from other years of study.

It seems to be quite difficult to gather institutional grey literature that provides a representation of the complex mix of elements that constitute the student's first-year experience. There tends to be information gathered for quality purposes that consider all years and levels, but outside such quality processes the information is much more sparse, for example, information about finance, social life, safety and alcohol consumption in the first year. However, there is a lot of information collected by institutions, possibly much more than was actually identified and much more than is actually presented by year of study, and there seems to be considerable scope to make more coherent use of it.

9.4.3 Gaps suggested by consultations with individuals

As indicated in 2.4 above, the institutional grey literature was identified via interviews with members of staff within the four institutions. For many of the issues about the first year raised by those staff there seemed to be no readily available and usable information. Retention, for example, was an 'up and coming' issue, an issue related to widening participation and variable fees, and retention is mainly a first-year issue, yet there was little material exploring it even though the sort of data used in published studies, such as prior qualifications, are readily available.

The discussions in the institutions suggested that there was a level of concern about, and awareness of, first-year issues that was not reflected in the institutional grey literature identified. Concerns raised by discussants included the following.

Changing entry qualifications seem to have impacted on course success, for example, science students with GNVQ/AVCE qualifications seem less successful as they are used to assessment tasks that are different from those encountered at university. One person wondered if, in order to protect their league tables, schools direct less able pupils to GNVQ/AVCE.

It was noted, too, that the simple recording of withdrawals can be misleading as not only do students leave for a combination of reasons but new flexible course provision permits students to 'drop out' for a while and then return. Withdrawal is thus more of a structural issue than one of retention, although it may be perceived as a retention issue.

Reasons for students 'dropping out' seemingly included their not being well prepared at school for higher education, or higher education not adjusting to widening participation, which reflects the published literature. Discussants noted that in higher education, students tended to be penalised for failure rather than supported to succeed: 'failure' could, rather, be seen as an indicator that help is needed. Students were not always prepared for autonomous learning and universities may not have adjusted to this. Universities have been successful in attracting widening participation students but some discussants questioned whether they have been as successful in supporting those students to succeed?

It was also noted that there seems to be less take up of university social activities, as students spend so much time doing paid work.

There is little information on the issues faced by taught postgraduates, who are often overseas students or on CPD courses. Such students tend to be older, more focussed and have better funding than UK undergraduates.

University learning, teaching and assessment methods may not have adapted to changes at school, where assessment is more iterative (pupils do work, get feedback, do it again) and where pupils develop their skills through this process. Students are often shocked when they find they cannot correct and resubmit work.

There may be a dissonance between school/further education and higher education that has not been explored. At university there are much bigger groups and less guidance.

In one institution, the timing of re-assessment was changed to address retention issues.

Where a high proportion of local students come as a cohort from school/further education to university this may impact on their experience. They may expect the university experience to be the same as their earlier experience and joining as a group may exacerbate this. It may mean they do not make new friends or see it as a different experience, and, therefore, do not perceive the need to study in new ways.

There are tensions between definitions of mode and the reality. Most students are in effect part-time as they have to work but do not want to do courses classified as part-time as they take too long. The proportion of students volunteering to do placements seems to be decreasing. This may correlate with their preferring to graduate quickly and obtain graduate employment and this may relate to increases in debt.

9.5 Conclusion of the review of the institutional grey literature

The review of grey literature in four different institutions revealed a high degree of commonality between those institutions in the information they collect and provide about the first-year experience, and in their processes and provision. They collected a lot of information about first-year undergraduate students but it tended not to be

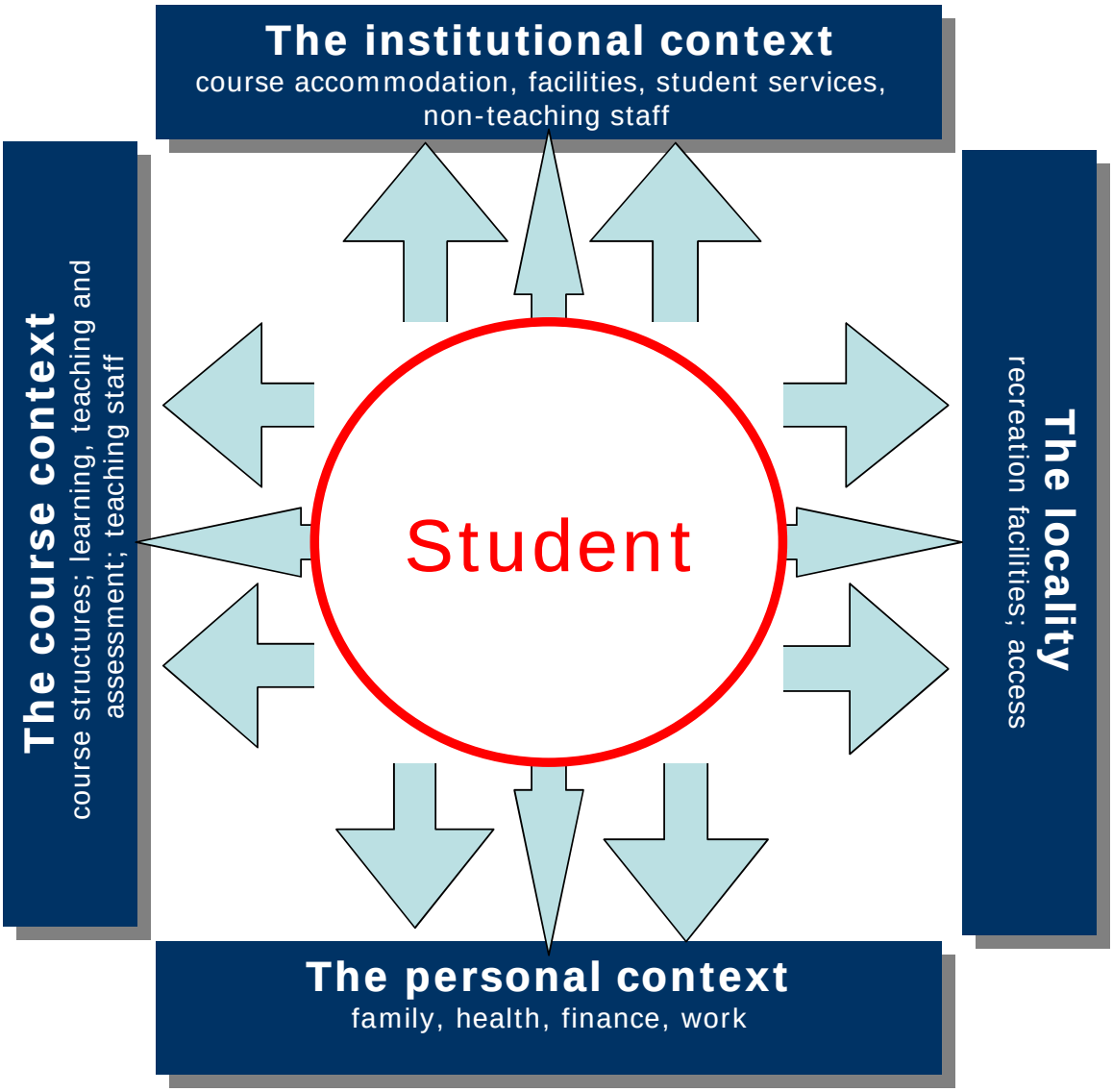
analysed and presented to illuminate the first-year experience but, rather, it reflected subject or organisational structures (for example, department or faculty).

Generally, it was difficult to pull together information about the first-year experience and this suggested that it has not been seen as important to explore the first-year experience over and above the experience of any students. However, interviews in the four institutions, carried out to identify material, suggested that retention is a serious concern and may drive an increasing focus on the first year in future.

Information given to first-year students suggested that institutions perceive a range of factors as important for students' transition and adjustment. These factors relate to four main contexts (Figure 2):

- the institution: finding your way around, institutional facilities, institutional processes and procedures;
- the course: aims, learning outcomes, learning, teaching and assessment methods;
- the environs: access and transport, social and entertainment facilities;
- the individual: health, personal safety

Figure 2: The student experience, as suggested by the review of institutional grey literature



The published literature addresses some but not all of these factors, or gives differing amounts of attention to them. For example, the published literature seems not to address factors to do with the locality in which the institution is situated, or personal safety. Locality is an incidental element of studies on different types of institution, such as residential colleges or commuter universities. There is a limited literature on the first-year experience that addresses health issues and much of this is primarily concerned with stress. Literature on the first-year experience rarely addresses alcohol or drug abuse (an exception is **Dunn**, 2000). However, many of these factors covered in the information given to first-year students also disappear from view in the institutional grey literature after the induction period. Institutions do not generally seem to monitor or explore many of the areas covered in induction information. The exception is where there is a student satisfaction survey.

Institutions' evaluations of modules and courses review teaching, learning and assessment practices, but there seem to be no differences between how modules and courses are evaluated in the first year and in subsequent years. It can be difficult to identify evaluative information relating specifically to the first-year experience in course reviews.

There are reports in all the institutions on the usage of facilities/services for students but these do not generally provide analyses by year of study.

Where institutional student experience surveys occurred, they tended to cover key aspects identified in the published literature. Where such surveys did not occur there seemed to be no information gathered about some of those aspects, for example about students' paid employment whilst studying and about their finances. Student satisfaction surveys suggest that effective course organisation is very important to students, and yet it also seems to be an issue rarely addressed in the published literature.

One-off studies were hard to track down in the institutions reviewed, but where they were identified their topics tended to be similar to those found in the published literature.

Interviews within the four institutions indicated an increasing concern with the first-year experience around two main issues. Widening access to courses means that students may not be familiar with or prepared for traditional university learning, teaching and assessment methods. The financial situation facing students is affecting study modes ('full-time' courses may now effectively be part-time, with students also working to finance their studies) and impacting on workloads. However, little grey literature was identified in the institutions that dealt with these issues. Although the interviews suggested that postgraduates also have transition issues there is little identifiable grey literature on the postgraduate first-year.

10. Conclusion: Implications for policy, practice and research

There is a considerable body of published literature on the first-year, mostly small-scale studies with a focus on one aspect of the first-year experience. Where there have been attempts at theorising this has mainly related to the issue of retention, which, particularly in the USA, has been about social and academic integration. In the UK a focus has been on student's preparedness for higher education and on their expectations of it and satisfaction with it. Many studies, in the UK and abroad, explore persistence, especially the factors that encourage student continuation during the first-year.

Although it is still possible to refer to the 'first-year experience' it is likely to become increasingly difficult to do so. Modes of study are becoming more flexible and students move in and out of higher education. They are increasingly moving between periods in higher education and periods in work, and parts of higher education courses may now be delivered in other contexts, such as in further education colleges or in the work place.

There is a sense in which the first-year experience is not a homogeneous experience but a multiplicity of experiences contingent on type of institution and student characteristics. The published studies have tried to identify key factors that relate, for example, to retention but it is clear that the first-year experience is complex. Furthermore, the first-year experience evolves and changes both temporally and culturally. Issues facing students when they first arrive are not the same as those half way through the first year or towards the end: expectations and satisfaction with the experience change. The culture shock of induction becomes replaced by assimilation and absorption of values as students become integrated academically and socially.

The review of the published literature is valuable as it provides an overview of the many and various factors impacting on the 'first-year experience' and gives some clues about the complex evolutionary process, whereas most studies tend to have a specific focus.

An in-depth exploration of grey material in four higher education institutions revealed a concern with the immediate move into higher education: uncovering, as it did, the large amount of information given to students at induction. This information reflects issues arising in the published literature and suggests that institutions are aware of such issues and their importance to students. However, there seems to be little further monitoring or evaluation of those issues in a way that enables information relating specifically to first-year students to be identified. An impression gained is that once induction is over, institutions regard first-year students in the same light as they regard any students. This is an over-simplification, since there is special provision for first-year undergraduates, such as skills modules, but it suggests a concern with providing a good experience for all, regardless of year or stage of the course. Indeed, it may be that each year or stage of a course brings with it different but important transition issues. The institutional grey literature did not, in the main, address issues that appear frequently in the published literature, for example, individual motivation and goal setting (although recent learning and teaching developments such as personal development planning do allow for this).

The legitimate question can be raised: is there a first-year experience, however diverse, or should it be seen as part of a long process of cultural, social and

intellectual assimilation? The evidence seems to suggest that to decontextualise the first year from the entire student experience deflects from a need to ensure a positive learning experience suited to the evolutionary stage of the student. Certainly, those that focus heavily on keeping students in (their) institution put all their energies into addressing adjustment into higher education and creating appropriate supportive learning communities. While welcome, this tends to do two things, first it imposes a culture on students, which may be more appropriate for, say, traditional residential rather than non-traditional students and it tends also to lean towards a deficit model of student support.

Nonetheless, while it can be argued that the first year is a stage in a longer-term assimilation process, it is still useful to explore the first-year experience, especially if it is examined as a holistic experience from the student perspective.

This literature review met its original aims (see 1.2 above) to explore the research literature and 'grey literature' about the first-year undergraduate and postgraduate experience, to identify key issues affecting that experience and to inform higher education researchers, policy makers and practitioners about existing work in this area. It discovered a very large number of published items and that institutional grey material is dispersed and can be difficult to locate. The sheer scale of the undertaking led the reviewers to focus on an analysis of the content of the literature located rather than on the research methods described in the literature and the assumptions underpinning those methods, which was an original aim. The reviewers, however, did achieve the remaining objectives (see 1.2) and in so doing have produced an extensive account of the aspects emerging from the literature.

10.1 Implications for researchers

The review raises several implications for researchers. Most of the research is small scale, usually institutionally-based studies with limited focus. The result has been an accumulation of piecemeal studies, more driven by personal interest or local circumstances than by a systematic research interest.

There is a need for a more systematic attempt to explore and theorise the totality of the first-year experience. This does not just mean larger samples in more than one institution but attempts to synthesise the literature and address substantive issues. We need no more studies that, for example, say that U.S. first-year seminars are beneficial in integrating students. What is needed are more studies, such as **Porter and Swing** (2006), that explore why such support seminars are successful at integrating students and what does it mean for students to be socially and academically integrated? How do first-year seminars fit into the longer process of cultural, social and intellectual assimilation? To what extent do they provide opportunities for working positively with students to enhance their strengths and to what extent are they replicating a deficit model.

Similarly, we do not need more accounts that primarily describe specific teaching or learning processes. We know that student-focused learning can be beneficial, for example, students working in problem-solving teams, but again we need more investigation of why and how such approaches impact on the whole student experience rather than whether those who engage in them getting better grades than those who do not. We also need more holistic research that reflects the complexity of the student experience and that makes links between the separate strands that form the basis for most of the existing studies.

There is, therefore, an onus on those who publish such research, such as journal editors, to ask for a bigger picture, for answers to substantive questions. It is not enough to undertake a limited-scope empirical study, and show how it has or has not confirmed a simple hypothesis. Piles of studies, as this review has shown, have not provided clear answers. What is needed is the encouragement of approaches that go beyond empiricism and the positivist search for definitive factors. This does not mean advocating qualitative studies that do nothing more than provide detailed evidence on an even smaller, more focused, set of students. What is needed is the encouragement of studies that go beyond simple answers to safe but insubstantial questions: the encouragement of critical dialectical studies, hermeneutic and historiographical analyses, semiotic and structuralist accounts, phenomenography and critical ethnography. Most of all, an encouragement to adopt a totalistic approach to the first year and project it as a crucial step in the long-term process of academic assimilation.

There are also implications for institutional research. Institutions, particularly in the UK, collect large amounts of information in different ways about the first-year experience but rarely bring this information together. There is an opportunity, given an institutional will, to undertake critical holistic analyses of the first-year experience at the institutional level. This potential is mainly eschewed, although where such endeavours have taken place on a systematic and ongoing basis, such as at the University of Teesside, there have been useful pay-offs.

Finally, despite all the research into the first-year experience, or in some cases research that has used first-year groups as the sample, there are also areas that have been little explored. For example, there is little research on the first-year postgraduate experience, student health, the impact on students of changing patterns of social activities, and the impact on students of the environs.

10.2 Implications for policy and practice

A clear implication from the research, then, is that institutions should do more with the data they collect that relates to the first year of study.

However, institutions should treat the first-year experience as more than about induction and retention. The focus on retention in many countries occurs for several reasons including (1) financial exigency, either, to keep tuition-paying students enrolled or to meet the demands of budget-connected performance indicators; (2) reputation enhancement, such as improving ranking in league tables that use first-year retention rate as a criterion; (3) perceived advantage in admissions, marketing, and fundraising as retention and graduation rates have become a *de facto* measure of institutional quality. However, these are all about the institution not the individual student.

There is a latent view that retention, keeping students once they are in higher education, is beneficial. This is exacerbated by governments and quality agencies that take retention rates as performance indicators and regard withdrawal from programmes as indicative of poor quality provision.

In an era of flexible provision the onus should be on what is best for the student. While it might be regarded as laudable to encourage persistence, this should neither be seen as an end in itself nor viewed from the point of view of the programme or institution. If students persist in or return to higher education anywhere, then this is

indicative of 'success', assuming that the higher education experience is beneficial to the student.

The emphasis of much research into the first-year experience is on 'capturing' first year students, that is, integrating them socially and academically. The research has shown, though, that integration is a complex business depending on the type of institution and the characteristics and circumstances of the student. Attempting to identify key generic factors has limited value. There are a lot of different first-year experiences driven by a large array of potential intervening variables.

Good learning, teaching and assessment and support practices for first-year students are practices that are good for everybody. However, this review does suggest some important areas that institutions might usefully address:

- providing accurate information to applicants about courses to address issues of inaccurate expectations and ill-informed choices;
- greater collaboration with schools and colleges in order to identify differences between the pre-higher education experience and that of higher education, to enable support for students in adjusting to higher education discourses and norms;
- more flexibility in provision to allow for individual difference;
- more focussed inductions, over a longer time, related to the subject area and with less information provided all at once.

The key to success is to work with students, building on their strengths, rather than do things to students on the basis of a deficit model that emphasises inadequacies.

This requires an approach that sees the first-year experience as holistic and evolving and that attempts to match changing student expectations with their experience.

It is important to take first-year student perspectives seriously. There is a continuing assumption that students, especially first-year students, do not know what is best for them: despite the increased awareness of students, available information and the wide range of student experiences before coming into higher education. It is important to evaluate the students' satisfaction with their total experience, not just what goes in the classroom. It is also important to heed what students say in, for example, satisfaction surveys and act on it.

Satisfaction with the institution is an important but sometimes overlooked variable in determining the quality of the undergraduate experience. American research has also shown that it is directly correlated with persistence (**Pascarella and Terenzini**, 1991; **Tinto**, 1987), and academic performance (**Bean and Vesper**, 1994). Indeed, **Astin** (1993, p. 277) claimed that 'the student's degree of satisfaction with the college experience proves much less dependent on entering characteristics. . . .and more susceptible to influences during their freshman year from the college environment'. Furthermore, student satisfaction with the institution correlates with student grades (**Bean and Bradley**, 1986; **Harvey and Leman**, 2006). The interaction between students and academic staff also seems to be a positive influence on perceived satisfaction (**Astin**, 1993; **Bean and Kuh**, 1984).

This suggests that the primary focus should be on ensuring good levels of dialogue between students and staff and facilitating inter-student interactions. This means, *inter alia*, ensuing that first-year students are the recipients of good teaching and learning facilitation.

The published studies suggest that first-year students are seen as a potential problem, since the starting point for those studies is usually a ‘problem’ issue (for example, withdrawal) or a ‘problem’ group (for example, mature students). They are often seen as a group who need helping to become properly integrated into an existing cultural setting. A setting that is frequently restricted; based on outmoded social morays and practices and, socially, dominated by alcohol-related events. Rather than attempt to integrate students into an established culture institutions might develop an intellectual culture that students can recognise — one that is intellectually challenging but inclusive rather than residually exclusive that students have to strive to be part of, especially non-traditional students, who then are the target of support structures.

In essence, the policy implication of the review requires an approach that sees the first year as an important part of the long process of cultural, social and academic assimilation into the world of higher education.

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