London Review of Education
Vol. 6, No. 3, November 2008, 195–210

Routledge
Taylor & Francis Group

Reviewing the literature on the student learning experience in higher education

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This paper reports on the work of a six-month review project commissioned by the Higher Education Academy which aimed at mapping the research base around the student learning experience in higher education (HE). The project aimed to 1) provide an overview of the ways in which the student learning experience in HE has been and is conceptualised; 2) provide an overview of interventions aimed at producing a more effective learning experience; and 3) review the methodological approaches adopted to investigate the student learning experience. The paper outlines the review approach adopted by this project and presents an analytical map in which reviewed studies are categorised in terms of the methods they adopt and the area of investigation. Selected findings in the areas of inventory-based studies, assessment and feedback and teaching, curriculum and learning environments are discussed. The project identified a large, but broad, heterogeneous and somewhat scattered research base, dominated by a tradition of studies using inventory methods, and otherwise by small and localised studies often conducted by practitioners researching their own subject areas. The paper concludes with a discussion of the strengths and weaknesses of the project's methods, and recommendations for developing the student learning experience research base in the future.

Keywords: student learning experience; higher education; literature review; undergraduate learning

Background

The student learning experience is currently high on the political and policy agenda. Policy-makers and bodies such as the Higher Education Academy and the Quality Assurance Agency for Scotland identify it as a top priority, while it is prominent in the mission statements and promotional literature of individual higher education institutions.

Current interest in the student learning experience has a varied provenance, related to institutional and systemic change within the higher education sector, and broader political agendas. Within the sector, growth in student numbers and an increase in the number and types of institutions offering higher education (HE) courses since the 1960s, following the recommendations of the Robbins Report (Committee on Higher Education 1963), has changed fundamentally the composition of the student body and institutional landscape. In Trow's analysis, such expansion is linked to changes in curriculum, teaching and learning that would inevitably have consequences for student learning (Trow 1974, 2006). Another important influence has been the growing institutional concern with student satisfaction, associated with market competition between universities, the introduction of tuition fees and the development of complex scholarship and bursary schemes by individual Higher Education Institutions (HEIs).

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ISSN 1474-8460 print/ISSN 1474-8479 online

DOI: 10.1080/14748460802489348
http://www.informaworld.com

There are also broader political imperatives, including linking education and economic growth, and marketisation and public service reform. These are reflected, for instance, in the recommendations of the Dearing Report related to flexible, modular provision, quality assurance and accountability, and increased student financial contributions to their higher education (National Committee of Inquiry into Higher Education 1997). Alongside these political and financial concerns are associated developments such as the rise of a personalisation agenda (Clegg and David 2006). In the current decade, widening participation policies and the advent of tuition fees have, arguably, altered the nature of the student experience and of student learning.

These concerns have combined to focus policy and institutional attention on the changing student learning experience. However, the meaning of the concept is often not clearly defined. In its *Strategic Plan 2005–2010* the Higher Education Academy (HEA) identifies the student learning experience as a key driver of its work. What this means in terms of focus of energy and resources is less than clear: 'strategies for retention, the effective uses of e-learning, the development of enterprise capabilities, and support for excellent research training environments' being among the many areas to be considered (Higher Education Academy 2005, 3).

This ambiguity is mirrored among the research community. The student experience network of the Society for Research into Higher Education (2007) aims 'to find out what … students in UK higher education are learning in the widest sense of the word from their experiences within and outwith formally institutionalised study'. Others, however, confine attention to the formal academic curriculum and to learning in the HE classroom. A range of research traditions, themes, and methods have been drawn on to explore the student learning experience. Within educational development debates there has also been a shift in pedagogical perspective from a focus on what constitutes good teaching, including the debate on teaching methods in HE and training and professional development of HE teachers, to a focus on learning (Gibbs 2003). This has led to a highly diverse research base which has become complex and, arguably, unwieldy.

This paper reports on the work of a review project which aimed at mapping the research base around the student learning experience in HE. It starts by outlining the review's aims and methods, then outlines a selection of findings, and finishes with a discussion about the research base and the review process.

The project

The six-month review project was commissioned by the HEA in autumn 2006. The revised final report was submitted in May 2008 (Ertl et al. 2008). The core tasks of the review were described in the HEA's invitation to tender as '[making] explicit the issues and concepts relevant to [and] enabling and inhibiting factors that impact on the student learning experience' and examining 'how the student learning experience can be defined' (Higher Education Academy 2006, 2). The invitation to tender also referred to a lack of reviews of this area of research. It became clear that meta-analysis in a wide-ranging and changing area is a difficult task. There is neither agreement on underlying definitions and conceptualisations, nor a clear understanding of how the student learning experience can be measured and evaluated.

Against this background the review project team at the University of Oxford, Department of Education attempted to identify different traditions of research that, broadly speaking, offer perspectives on the student learning experience, and to investigate the factors that impinge on that experience. More precisely the project set itself the following aims.

(1) Conceptualisation of student learning. The review aimed to provide an overview of the ways in which the student learning experience in HE has been and is conceptualised. It evaluated the explanatory potential of these conceptualisations for the purposes of developing policy and

practice. The project considered the increasing diversity of learners entering HE in so far as this diversity is reflected in the literature. The project also paid attention to the increasing diversity of institutions offering higher education programmes through a variety of different pedagogies, and the wide spectrum of courses ranging from more traditional academic subjects to professional and vocationally related courses.

(2) Interventions. Given the above, a particular aim of the review was to provide an overview of interventions aimed at producing a more effective student learning experience. The review evaluated critically the results from such interventions, looking particularly at the quality of the research design.

(3) Research methods and methodological approaches. The review aimed to provide an overview of methodological approaches adopted in the literature to investigate the student learning experience in HE and to assess the appropriateness of different methodologies to answer different research questions in different contexts. Therefore, the review categorised systematically the different types of research methodologies that are being employed to investigate student learning in HE and assessed how successful they are in producing relevant knowledge for use by practitioners and policy-makers.

Review method

The review adopted a systematic approach to identifying, selecting and analysing relevant literature. The aim was to be as transparent as possible throughout the process, with clear inclusion and exclusion criteria and through logging our search strategy and findings. Given the time and resource limits to the project our search strategy aimed to be as broad and comprehensive as possible, but not exhaustive.

The review was conducted using a collaborative approach, bringing together the experience of a team of seven researchers at Oxford University, Department of Education. Review methods and processes were designed to make the best use of the combined expertise of the team.

The primary focus of the literature search was on materials produced since 1992, and on published research and conference papers. An initial search was conducted of the following education and social science electronic databases: British Education Index, Applied Social Sciences Index and Abstracts, International Bibliography of the Social Sciences and Scopus for published articles, and Education-Line to access conference papers and other 'grey' literature. Common search terms were used: 'student', 'learning', 'experience', 'context', 'environment', 'higher education', 'university' and lexicological derivations of all these terms, recording our searches on log forms. We generated an initial list of 'hits', eliminating items identified on more than one database. This initial search resulted in 523 items in total.

Titles and abstracts were then scanned to exclude items that fulfilled one or more of the following criteria:

- not about student learning;
- not related to the UK;
- not about higher education;
- not about undergraduates.

The first three criteria emerged from the priorities in the bid to tender, and the fourth from the time limits of the project and the somewhat different nature of the research literature on postgraduate learning.

We supplemented the electronic search by systematic searching of selected websites, handsearching of higher education journals from 2004–2007 (journals were selected using Malcolm Tight's (2006) analysis of citation levels), snowballing, and searching for particular authors or

texts recommended by the project steering group and other experts in the field. The same exclusion criteria were applied. Overall, 256 items were identified for coding and review.

The review team devised collectively, through a staged process, a framework for analysing items included in the review. We developed an analytical map as a heuristic tool to categorise the literature according to research methods and thematic areas. The map proved an important aspect of the review process, as it provided a focus for team-based activity and allowed us, once the map was developed, to distribute items for detailed review making the most of the expertise of different team members. We held a number of 'reading meetings' to develop this map. In preparation for these meetings, members of the review team were allocated a selection of items, including some to be read by the whole team, in order to identify common themes and research methods and discuss possible categorisations. This was an iterative process, and the initial map was revised at each meeting. The map was constructed as a grid (see Figure 1), with research methods on one axis and thematic areas on the other.

Items were coded using the categories on the map. Items that had already been distributed for the reading meetings were coded by the member(s) of the review team who had read that item, the remainder were coded by the research officer on the basis of a quick reading. We made our own judgement about methodology even where authors described their own research approach, and our judgements sometimes differed from authors' descriptions. At times it was difficult to differentiate between methodologies and thematic areas. There was substantial overlap between areas (particularly approaches to teaching, curriculum development, and constructing learning environments), while some studies employed more than one research method. Where there was overlap the item was coded for each relevant theme or method.

Groups of items were divided between members of the review team for detailed reading, taking the particular expertise of team members into account. Where appropriate, initial

Method **Area**	A) Reviews	B) Experimental	C) Inventory based	D) Action research oriented	E) Evaluation	F) Descriptive	**Total**
1) Induction/ transition			2		15	21	38
2) Approaches to teaching	4	2	7	3	9	15	40
3) Curriculum development and resources	1	1	2	3	24	10	41
4) Constructing learning environments	1		1	5	3	10	20
5) Student perceptions of learning	1		32	2	1	69	105
6) Assessment and feedback	1	1	2	1	10	21	36
7) Quality assurance and enhancement	1		1		7	2	11
8) Other			3		1	10	14
Total	9	4	50	14	70	158	

Figure 1. Analytical map.

codings were revised on the basis of a detailed reading. A smaller number of items were selected for more detailed review. These decisions were partly on the basis of quality of research methodology and reporting and accessibility (selection criteria 2 and 3) and also partly on the need to include an indicative selection of the literature for review. We analysed items that we selected for detailed review at three different levels: (1) content (the main findings about the student learning experience); (2) methods (methods used to investigate, describe and discuss the student learning experience); (3) and methodology (overriding theoretical ideas guiding the research). We discuss these different levels of analysis in the findings section.

Findings

The analytical map, as well as aiding the review process, gives a useful indication of the distribution of the literature in terms of thematic area and research method. There are some clear clusters of literature. The most common methods were descriptive (158 studies), and evaluative (70). The 50 inventory-based studies formed a distinctive group, concentrated around the thematic area of student perceptions of learning (32). Of the thematic areas, there were more studies related to students' perceptions of their own learning (105) than any other theme. Other common areas include approaches to teaching (40) and curriculum development and resources (41); there was considerable overlap between these areas with a number of studies addressing both. The map also reveals gaps: review and experimental methodologies are rare (with nine and four items respectively). Also only 11 studies were coded quality assurance and enhancement; we therefore adopted a different and wider search strategy to investigate this important area. The 'other' category was varied but included themes such as the perceived impact of part-time work on students, and retention and attainment, that addressed learning obliquely rather than directly.

We discuss our findings according to thematic and methodological categories in the analytical map. There were seven such sections in our review report but owing to space limitations we focus on three here. The first sub-section focuses on the distinctive methodological group of inventory studies. Subsequent sections are thematic, focusing on assessment and feedback, and approaches to teaching and curriculum development.

Inventory-based studies

The analytical map shows that research on students' approaches to learning, learning styles and their evaluations of teaching effectiveness, employing a variety of inventories and questionnaires, forms a dominant paradigm in research on student learning in HE. Price and Richardson (2003) and Coffield et al. (2004) provide reviews of instruments that purport to measure aspects of learning style (as opposed to 'experience') and few instruments have been found to have sufficient reliability to be worth citing studies employing them.

Richardson (2000) provides a review of the various inventories developed to measure students' approaches to studying and Ramsden (2003) discusses the possible implications of such research for teaching in HE. In our review we examined around 50 papers spanning from 1990 to 2006 in this category, employing 20 or so different inventories. Often the instruments are derived from one another, to target special populations, particular pedagogies or to elicit subject-specific understandings. Several studies include development and refinement of instruments as one of their outcomes. Checking of the consistency of scales within instruments and their meaning (for example in terms of whether they are assessing 'deep' or 'surface' approaches to learning), typically utilising Principal Components Analysis,[1] is common. Often this is part of the process of assessing the validity of an instrument in a new context (e.g. Byrne and Flood

2003). While such studies may be of methodological value they add less to our substantive understanding of the student learning experience.

An alternative approach is using inventories to elicit students' evaluations of teaching effectiveness and educational quality. The body of literature adopting this approach has already been reviewed, for instance by Marsh (1987). In our review we mainly focus on studies in which inventories are primarily used as a research tool rather than as an instrument for monitoring the quality of teaching and students' educational experience.

Two main emphases can be identified within this group of studies:

(1) students' approaches to studying; and
(2) the impact of different types of learning environments.

Students' approaches to studying

Research into students' approaches to studying applying inventory methodologies, and often employing the 'deep' and 'surface' learning distinction, forms part of a dominant 'approaches to learning' tradition which has evolved within the research area of student learning in HE since the 1970s (Higher Education Academy 2007). Assessing the value and quality of studies in this area is problematic given the range of instruments used, their different purposes and the methodology employed. Smaller-scale studies with small sample sizes and focused on students in one institution or one programme are often justified in terms of development goals, but little follow-up can be seen in the literature. Better studies in this genre have a planned longitudinal element in the research design (e.g. Kell and Van Deursen 2002). This should be encouraged, with articles addressing the whole of the research process rather than just the first phase, in order to add value in the field.

Some studies had a definite methodological objective, either as a primary or a secondary focus of the research. Often, however, what follows is an exploratory Principal Components Analysis. If instruments are to be improved perhaps newer conceptual and statistical insights need to be explored. The best study in this genre (Meyer 1995) identifies clearly a challenging statistical issue: how to make valid comparisons of cross-product matrices in order to make valid comparisons between males and females in their approaches to study.

Impact of different types of learning environments

Nine papers employing the Course Experience Questionnaire (CEQ) or variants thereof were reviewed. The CEQ has been used for over a decade as a performance indicator in Australian higher education, and is now being used increasingly in other countries. It has also fed into curriculum development projects and evaluations of, for example, the introduction of problem-based learning (PBL).

In the UK context an important series of studies by John Richardson and his collaborators examines distance education using the CEQ (e.g. Lawless and Richardson 2004; Price and Richardson 2003; Richardson 2005; Richardson, Long, and Woodley 2003). Students' responses to the CEQ in these and other studies exhibit a multidimensional nature similar to that found in US studies about student evaluations of individual instructor effectiveness. At the same time, student responses to the CEQ point to 'a single overarching construct that can plausibly be construed as perceived academic quality' (Lawless and Richardson 2004, 370). The work of Richardson and collaborators reveals a significant positive relationship between a graduate's final degree classification and their scores on the CEQ. Experience of appropriate assessment, good teaching, clear goals and standards, good materials and good tutoring were all positively associated with increased attainment for these distance learning students. These findings are echoed

in studies of campus-based students (e.g. Lizzio, Wilson, and Simons 2002; Wilson, Lizzio, and Ramsden 1997).

The CEQ, often used in conjunction with an approaches to study inventory instrument, has also been used to compare the impact of different types of learning environments, for example subject or problem based (e.g. Lyon and Hendry 2002; Saldo and Richardson 2003). In Lyon and Hendry's (2002) study, students rated their PBL medical education programme more highly than an earlier group of learners participating in a more traditional medical education programme in the same university.

Trigwell and Ashwin's research (Trigwell 2005; Trigwell and Ashwin 2003, 2006) on undergraduate learning at Oxford stands as an exemplar of what can be achieved using inventory-based approaches combined with qualitative research. This research assesses the presage, process, product model of learning and estimates the strength of association between different elements in the model. This study indicates a strong link between approaches to study and contextual factors. More studies of this sort, which also take into account affect as a key factor in the student learning experience, are needed.

Summary

The increasing use of these inventories is linked to the perceived need to monitor academic quality and teaching effectiveness for both curriculum development and quality assurance purposes. There is therefore likely to be a strong political commitment to this type of work in the future. The research provides a developing and potentially useful assessment technology. However, it is less clear that the findings from such studies are being used to change or improve the student learning experience. One can argue that perceptions of learning environment demands and academic quality are likely to make a difference to the student learning experience and learning outcomes. However, there is little evidence about how changes in the teaching–learning environment might change student perceptions, or of how changed perceptions might change the student learning experience. There are exceptions to this conclusion. But, generally speaking, more longitudinal and evaluation studies, linked to intervention, are needed to produce such an evidence base. Such research needs to take due account of a students' disciplinary, institutional and wider socio-cultural setting. In so doing a useful link could be forged to socio-cultural views of learning and ideas about learning conceived of as ways of practising in a subject.[2]

Assessment and feedback

Twenty-seven studies pertaining to assessment and feedback were reviewed and we report on an indicative selection here. These studies are mostly small-scale, relating to one course and one institution, using descriptive or evaluative research designs and often conducted by module leaders. Most involve student self-report in some form, often alongside the views of academic staff. Some studies also include assignment marks and module grades. A constructivist framework is evident in some research, most obviously in the emphasis on empowering students through peer and self-assessment methods, with traditional methods such as the unseen examination not receiving the same attention. The better studies in this section, though small-scale, are often sensitive to ambiguities in student attitudes to assessment, and to how assessment fits into the broader institutional environment.

Two main emphases can be identified within this set of studies:

(1) forms of assessment; and
(2) student experiences and perceptions of assessment and feedback.

Forms of assessment

In this set of studies the focus is on the practitioner designing and introducing different forms of assessment. Peer assessment and self-assessment were prominent among the different forms of assessment examined in the literature and are discussed here.

Peer assessment. Studies examining student perceptions of peer assessment (Langan et al. 2005; Macdonald 2004; Smyth 2004) reveal common findings. Students initially lack confidence in their ability to judge or critique the work of fellow students, but with appropriate guidance and scaffolding active learning can be enhanced and students can develop the ability to evaluate and think critically. Langan et al. (2005), however, question the validity of peer assessment. They found that the grades awarded by student assessors were on average 5% higher than those awarded by tutors, but that the difference was less for those students who were involved in developing the assessment criteria.

Self-assessment. Research on student attitudes to self-assessment reveals similar issues to those found with peer assessment: unease at evaluating their own work, and insecurity, even where students had previous experiences of self-assessment (Fitzpatrick 2006; Somervell and Allan 1995). Fitzpatrick's discussion of self-assessment in the context of a third-year communications module in a community nursing degree reveals not only student insecurity and resistance, but also initial resistance from faculty colleagues and clinical practice staff, and tension with norms of tutor assessment and concerns about plagiarism in the HEI as a whole. Fitzpatrick also found that providing appropriate support materials and guidance required considerable tutor time and effort. Nonetheless, students reported improved critical thinking skills and assertiveness, and a greater sense of responsibility for their own learning and practice, benefits also noted by tutors and clinical practice staff.

Student experiences and perceptions of assessment and feedback

In this set of the studies the focus is on students' perceptions of assessment and feedback and how it relates to their learning more generally. Studies in this section use qualitative methods only.

One common finding is that assessment can dictate to a considerable extent how students approach their learning, and that students focus on what is assessed. Thomson and Falchikov (1998) used both qualitative interviews and the Approaches to Study Inventory (ASI) with first-year students on three degree courses at Napier University, UK: social and management sciences, engineering, and publishing. Whilst ASI scores suggested that students were aware that if they managed their time effectively they could deal with assessment in a way that would help their learning, students commented in interviews that they often ended up rushing and therefore approached their assessment superficially. This study also shows complex and contradictory attitudes to assessment on the part of students, with examinations seen as a hurdle of no value to be overcome in order to complete the course, but also a helpful indicator of achievement and learning.

A sub-set of this research focuses on how students perceive and use feedback intended for formative purposes (e.g. Higgins 2000; Hinett 1998; Orsmond, Merry, and Reiling 2005; Pitts 2005; Weaver 2006). Consensus emerges around what students want out of feedback: timely, clear, constructive, positive in tone (including when critical points are made), with detailed and individualised comments. However, researchers indicate obstacles to meeting students' expectations. Pitts' (2005) case study in a music department reveals issues of departmental procedures (whereby written feedback was frequently not passed on to the student but placed 'on file'), time constraints on tutors, and also tutor perceptions of feedback as a bureaucratic process rather

than part of student learning. She describes mild 'underlying dissatisfaction' with the current situation among students, and to a lesser extent among staff, but 'little impetus for change' (225). Weaver (2006) notes that students have limited opportunities to act on feedback in a modular system when most coursework is summatively assessed and modules completed before feedback is received.

This body of research also reveals complexities and difficulties around students' use of feedback. Detailed guidance and advice (Weaver 2006) and opportunities for spoken dialogue (Macdonald 2004) are required to help students engage effectively with feedback and build on it in future work, but are obviously resource intensive. Research also points to deeper issues that go beyond resources. Pitts (2005) found that students were often unable to articulate what they wanted to their tutors, and also that feedback comments were open to a range of (sometimes contradictory) interpretations from students. Other research (Higgins 2000; Rust, O'Donovan and Price 2005), drawing on 'academic literacy' approaches (e.g. Ivanic 1998; Lea and Street 1998), suggests that students may struggle to understand tutors' comments which are based on tacit subject-specific discourses into which the student is not yet initiated.

Summary

The research examined here highlights the centrality of assessment and feedback to the student learning experience. However, potential obstacles may lie in the way of ensuring that assessment and feedback enhance that experience. The innovative assessment practices described in studies and the forms of feedback that students say they want are often resource intensive. Second, other institutional priorities, notably the use of 'objective' summative assessment measures for quality assurance purposes, might be in tension with utilising assessment and feedback in a way that can benefit student learning. Third, students' understandings, motivations and actions in relation to assessment and feedback can be complex and sometimes contradictory, relating to discourses and power relations in the HEI and also the way that students set their priorities. These factors together could account for the difficulty in facilitating meaningful change noted in a number of studies.

Teaching, curriculum and learning environments

The student learning experience has also been researched through studies examining approaches to teaching, curriculum and resource development, and the construction of learning environments. As there was much overlap between these topics we addressed all these studies in one section, reviewing a total of 72 studies. An indicative selection is discussed here.

As with assessment and feedback, many studies in this thematic area are small-scale, and focused on one course or module, often conducted by the module leader. Most are unfunded, and most that acknowledge any funding – often a small grant from the HEI – are in the area of e-learning. Methods are predominantly descriptive and evaluative, with one experimental study and three reviews. It is common to use self-report evidence from students, either from standard course evaluations or specially designed evaluation instruments. Many of these studies could be categorised as reflections on, or accounts of, practice. There is, in contrast with the US and European literature (Dochy, Segers, and Sluijsmans 1999; Dochy et al. 2003), an absence of large-scale studies connecting across courses, and/or longitudinal designs.

Many of the developments and innovations discussed fit within a broadly constructivist framework, with the underlying assumption that students should take an active role in constructing knowledge and creating learning environments, though this is often not discussed explicitly and has to be inferred from the text. Studies often favour approaches to teaching and

curriculum and resource development that encourage active and experiential learning and democratic learning environments that enable learning to build upon student experience. Some research seems to assume that such approaches automatically benefit student learning (e.g. Healey 2005; Shah and Treby 2006). Others note resistance from students and other staff and difficulties in relating innovations to other more traditional approaches and modules (Bourner, Hughes, and Bourner 2001; Gibbs 1992; Smith et al. 2004).

There are two main foci in this body of literature:

(1) strategies to promote learning; and
(2) constructing learning environments.

Strategies to promote learning

A number of teaching strategies, often drawing on constructivist concepts of learning, are examined in the literature. Studies were grouped under common approaches including group work, peer learning, project work, problem-based learning, learning on placements, though these approaches are defined differently in different studies. We discuss group work and problem-based learning as examples here.

Group work. Evaluations of cooperative group work have focused more on affective than cognitive outcomes and have therefore drawn more on student self-reports than measures of cognitive gain. These studies suggest that benefits to students include: emotional engagement and a sense of belonging (Cartney and Rouse 2006); active engagement in learning, thereby promoting students' sense of autonomy and responsibility for learning (Bourner, Hughes, and Bourner 2001; Clarke and Lane 2005; Garvin et al. 1995); and enhanced student motivation. It is useful to report on three indicative studies here.

Clarke and Lane (2005) report a typical small-scale study, examining tutorials designed to promote critical thinking skills in a core second-year module for education studies students. Fifteen students volunteered to take part in these tutorials and subsequent focus group discussions. Students identified benefits in small group working including taking responsibility for learning, and clarifying ideas through discussion, but pointed to the need for tutor-led information and guidance, particularly in the early stages of the module. The researchers also found that Level 2 (end of year) results were better for students who took part in the seminar, suggesting possible cognitive benefits.

Two related studies report on group projects. Garvin et al. (1995) surveyed two cohorts of first-year bioscience students at Queen's University, Belfast, to examine their perceptions of a two-week group work project. Students reported high levels of motivation, challenge, understanding of the areas covered, and learning teamwork skills. They also reported a sense of ownership of the work, and, in a project with elements of peer assessment and self-assessment, wanting not to let the team down. Bourner, Hughes, and Bourner (2001) evaluated a group project for first-year accounting and finance students at Brighton University, UK, developing the questionnaire used by Garvin et al. Teams of students spent two terms working in external organisations away from the HEI. Students reported positive outcomes of motivation and learning important skills of teamwork and time management, but, on a long project, also reported difficulties in sustaining commitment and group members who did not pull their weight.

Problem-based learning. There is a considerable literature on PBL, particularly in medical and health education (Davis and Harden 1999; Newman 2003) and increasingly in other fields (e.g. Gibbs 1992; Savin-Baden 2000; Savin-Baden and Wilkie 2004). Student satisfaction is prominent

among the benefits identified in a number of studies, but knowledge gains are often less clear (Ibrahim et al. 2006; Newman 2003).

PBL is also seen as resource intensive. Roberts et al. (2005) examined the student experience of a larger-scale version of PBL offered through a curriculum 'spine of problem, case and patient-based integrated learning activities' (527). The integrated learning activities were supported by a web-based curriculum management system. Students who experienced the larger-scale version were compared with those randomly assigned to smaller PBL groups. There were no significant differences in learning outcomes between the two experiences, but students preferred the smaller groups.

Constructing learning environments

Studies in this area tend to focus on information and communications technology (ICT) and web-mediated learning and fall into two broad categories: those which focus on developing technology to support student learning, and those which see new resources as an opportunity to rethink how student learning experiences can be enhanced.

Technology-focused studies. Some studies discuss how resources can be tailored to create flexible and broad-based support for students. For example, Brooksbank et al. (1998) report on the introduction of the WinEcon computer-assisted learning package into a first-year micro-economics module. From 200 questionnaires completed by students who followed the course, the authors conclude that the package is resource intensive (it needs customising to the course and there are no gains in staff time), but that the demands of the package may encourage students to become more active seekers of knowledge. However, the evaluation focused on the package rather than students, so it is difficult to gauge how it contributed to students' development.

Crook and Barrowcliff (2001) investigate the use that students make of computing facilities and usefully, in contrast with the other studies reviewed, link academic study with other uses of computing technology. They examine the use of networked computers in students' bedrooms for a random sample of 34 campus resident students through system monitoring logs and self-report interviews. They report a 'mobile and multitasking style of engagement' with students combining academic study with more playful uses. Crook and Barrowcliff conclude that while computers can empower study and research, they also empower recreational activities, and challenge the user's capacity to focus on particular academic tasks.

Enhancing student learning through technology. Laurillard (e.g. 1998) is among the authors who investigate how ICT can be used to develop and improve student learning. Drawing on a theoretical framework from Gordon Pask, she divides the teaching–learning process into a sequence to examine how different media might support different stages in that process and evaluates a teaching programme based on this analysis: a course on Homer, poetry and society.

Other studies look to notions of communities of practice to underpin the development of an interactive learning environment. Hall (2003) is typical of these, but stands out as a rare funded study that looks at a number of institutions. Hall reports on a Higher Education Funding Council for England-funded evaluation of online learning in history, examining the extent to which the Web can promote learners' engagement in learning communities. The evaluation involved 14 history departments and other academic departments, 1500 students and 75 staff. The evaluators found that setting ground rules at the outset of courses was crucial. They also found that expectations for the course need to be connected with wider institutional values, and that – with proper focus – students can help shape those expectations.

Summary

The research base in this area is compartmentalised, and few studies connect courses or institutions. It is difficult to get a picture of how the innovations discussed here impact on the student learning experience as a whole, or how that experience might change over time. Nonetheless, we can identify common themes and findings. First, it appears that collaborative modes of learning and opportunities for discussion appear to enhance the learning experience for at least some students, promoting motivation and self-sufficiency, and enabling them to acquire transferable skills. Second, both tutors and students need guidance and support in introducing pedagogical innovations that might differ from their previous experience and challenge expectations. The sort of innovations discussed here might, therefore, prove resource intensive. Third, these studies indicate clearly the difficulty of altering individual courses while institutional environments, norms, and power relations stay the same.

Discussion and implications

The review approach

The methodological approach adopted in this review produced a workable map of research in this broad and ill-defined area. Although not exhaustive, it gives an indication of dominant and less dominant methodological approaches and thematic areas. Through the mapping process we were able to consider the methodological approaches and conceptual underpinnings of research on student learning experience, which was one of the main aims of this project.

There were limitations to this project's version of a systematic approach to identifying literature. It proved difficult to identify search terms that captured all the relevant literature, a difficulty compounded by the partial coverage of relevant journals in the major databases. Hand-searching and following recommendations were therefore essential supplementary strategies, but could only be pursued to a limited extent in the time available. The systematic and electronic database-centred approach to searching relevant items also made it difficult to identify researchers or methodologies opposed to the dominant conceptual and methodological approaches. Alternative voices – as represented, for instance, by the work of Sue Clegg (2004), Sarah Mann (2001) and Stephen Rowland (2000) – might, arguably, be hard to find in a systematic literature search of this kind because they deliberately use different concepts and language.

The research base

This project's approach to searching for literature on the student learning experience yielded a large number of items relevant to this area of research, but reviewing this literature identified a broad, heterogeneous and somewhat scattered research base. The analytical map developed therefore reveals a variety of research approaches applied to investigating a wide range of aspects of student learning experience.

Inventory methods, often within the dominant approaches to learning research paradigm, are prominent in the literature reviewed. Some studies using this approach are large-scale projects employing relatively sophisticated statistical methodologies. This kind of research has contributed valuable insights into the links between teaching, students' and teachers' perceptions of learning, and students' approaches to studying. The best of these studies have made systematic connections between students' previous experience, input factors, processes and outcomes of learning processes and their influence on the student learning experience. Many others, however, tend to replicate and endorse, rather than question or develop, dominant assumptions and approaches to conducting research within this tradition.

Small, localised and sometimes impressionistic studies are dominant in the research literature, often conducted by practitioners researching their own subject areas. These studies may be highly useful for course development purposes, but their dominance is problematic for constructing and evaluating a research base. There are relatively few examples of rigorous evaluation methods, experiments, or longitudinal designs. There is a tendency not to discuss conceptualisations of learning in detail, and also to follow rather than question dominant paradigms. However, well-funded systematic research, such as current Teaching and Learning Research Programme projects, has the potential to provide strong challenges to the dominant traditions identified in this review, developing different conceptualisations of learning and innovative research methods in large-scale, cross-institutional, longer-term studies.

Recommendations

Our recommendations for improving the research base include more emphasis on discipline-based studies of student learning experience, more cross-institutional research, and focused studies on particular student groups. Future research needs to make use of methodological frameworks that capture the mediated and contextualised nature of learning, as well as social and organisational aspects of learning. Also needed are studies that look at student experience in a holistic manner, linking academic learning with other aspects of student life.

Longer-term and collaborative research programmes would allow researchers to develop further existing methodological frameworks. In particular, they would enable the interaction of different methodological approaches missing in current research on student learning experience. Longitudinal and cumulative research is also required for developing, implementing and evaluating ways of improving the student learning experience in an iterative manner.

There are clear implications for research funding regimes. Increased external funding would act as a valuable supplement to the small, short-term internal institutional grants often used for this form of research. Large-scale, long-term and cumulative research could also contribute to capacity-building across subjects and could enable collaboration between subject specialists and researchers with expertise in the field of education.

Acknowledgements

We thank the co-authors of the project report, Geoff Hayward, Anne Edwards, Ingrid Lunt, David Mills and Kai Yu, for their contribution to this paper.

Notes

1. Susannah Wright was at the University of Oxford, Department of Education during this project.
2. Principal Components Analysis (PCA) is a statistical technique for simplifying a data set by reducing multidimensional data sets to lower dimensions for analysis.
3. An obvious pitfall to be avoided here is a shift to over-reliance on metaphors of community and practice as providing an adequate model of student learning in this paradigm (see Edwards 2005).

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References

Bourner, J., M. Hughes, and T. Bourner. 2001. First-year undergraduate experiences of group project work. *Assessment and Evaluation in Higher Education* 26, no. 1: 19–39.

Brooksbank, D.J., A. Clark, R. Hamilton, and D.G. Pickernell. 1998. Views from the trenches: Lessons from the introduction of WinEcon into a first year undergraduate programme. *Computers in Higher Education Economics Review* 12, no. 1: 13–18.

Byrne, M., and B. Flood. 2003. Assessing the teaching quality of accounting programmes: An evaluation of the Course Experience Questionnaire. *Assessment and Evaluation in Higher Education* 28, no. 2: 135–45.

Cartney, P., and A. Rouse. 2006. The emotional impact of learning in small groups: Highlighting the impact on student progression and retention. *Teaching in Higher Education* 11, no. 1: 79–91.

Clarke, K., and A. Lane. 2005. Seminar and tutorial sessions: A case study evaluating relationships with academic performance and student satisfaction. *Journal of Further and Higher Education* 29, no. 1: 15–23.

Clegg, S. 2004. Critical readings: Progress files and the production of the autonomous learner. *Teaching in Higher Education* 9, no. 3: 287–98.

Clegg, S., and M. David. 2006. Passion, pedagogies and the project of the personal in higher education. *Twenty First Century Society* 1, no. 2: 149–65.

Coffield, F., D. Moseley, E. Hall, and K. Ecclestone. 2004. *Learning styles and pedagogy in post-16 learning. A systematic and critical review.* London: Learning and Skills Development Agency.

Committee on Higher Education. 1963. *Higher education: Report.* London: Her Majesty's Stationery Office.

Crook, C., and D. Barrowcliff. 2001. Ubiquitous computing on campus: Patterns of engagement by university students. *International Journal of Human–Computer Interaction* 13, no. 2: 245–56.

Davis, M.H., and R.M. Harden. 1999. AMEE medical education guide no. 15: Problem-based learning: A practical guide. *Medical Teacher* 21: 130–40.

Dochy, F., M. Segers, and D. Sluijsmans. 1999. The use of self-, peer and co-assessment in higher education: A review. *Studies in Higher Education* 24, no. 3: 331–50.

Dochy, F., M. Segers, P. Van-den-Bossche, and D. Gijbels. 2003. Effects of problem-based learning. A meta-analysis. *Learning and Instruction* 13, no. 5: 533–68.

Edwards, A. 2005. Let's get beyond community and practice: The many meanings of learning by participating. *Curriculum Journal* 16, no. 1: 49–65.

Ertl, H., G. Hayward, S. Wright, A. Edwards, I. Lunt, D. Mills, and K. Yu. 2008. The student learning experience in higher education. Literature review report for the Higher Education Academy. Higher Education Academy. http://www.heacademy.ac.uk/assets/York/documents/ERTL_HAYWARD_LR.pdf.

Fitzpatrick, J. 2006. An evaluative case study of the dilemmas experienced in designing a self-assessment strategy for Community Nursing students. *Assessment and Evaluation in Higher Education* 31, no. 1: 37–53.

Garvin, J., A. Butcher, L. Stefani, V. Tariq, M. Lewis, N. Blumson, R. Govier, and J. Hill. 1995. Group projects for first-year university students: An evaluation. *Assessment and Evaluation in Higher Education* 20, no. 3: 273–88.

Gibbs, G. 1992. *Improving the quality of student learning.* Bristol, UK: Technical and Educational Services.

———. 2003. Ten years of improving student learning. In *Improving student learning. Theory and practice, 10 years on,* ed. C. Rust, 11–22. Oxford: Oxford Centre for Staff and Learning Development.

Hall, R. 2003. Forging a learning community? A pragmatic approach to cooperative learning. *Arts and Humanities in Higher Education* 2, no. 2: 155–72.

Healey, M. 2005. Linking research and teaching to benefit student learning. *Journal of Geography in Higher Education* 29, no. 2: 183–201.

Higgins, R. 2000. 'Be more critical!': Rethinking assessment feedback. Paper presented at British Educational Research Association conference, September 7–9, in Cardiff, UK.

Higher Education Academy. 2005. *Strategic plan 2005–2010.* York, UK: HEA.

———. 2006. Invitation to tender. Academy reviews of research literature. http://www.heacademy.ac.uk/research/InvitationToTender2006.doc.

———. 2007. *Our work.* http://www.heacademy.ac.uk/ourwork.

Hinett, K. 1998. The role of dialogue and self assessment in improving student learning. Paper presented at British Educational Research Association conference, August 27–30, in Belfast, UK.

Ibrahim, M., S. Ogston, I. Crombie, D. Alhasso, and S. Mukhopadhyay. 2006. Greater knowledge gain with structured than student-directed learning in child health: Cluster randomized trial. *Medical Teacher* 28, no. 3: 239–43.

Ivanic, R. 1998. *Writing and identity: The discoursal construction of identity in academic writing.* Amsterdam: John Benjamins.

Kell, C., and R. Van Deursen. 2002. Undergraduate curricula facilitate student learning profile development. Paper presented at British Educational Research Association conference, September 12–14, in Exeter, UK.

Langan, M., P. Wheater, E. Shaw, B. Haines, R. Cullen, J. Boyle, D. Penney et al. 2005. Peer assessment of oral presentations: Effects of student gender, university affiliation and participation in the development of assessment criteria. *Assessment and Evaluation in Higher Education* 30, no. 1: 21–34.

Laurillard, D. 1998. Multimedia and the learner's experience of narratives. *Computers and Education* 31, no. 2: 229–42.

Lawless, C., and J.T.E. Richardson. 2004. Monitoring the experiences of graduates in distance education. *Studies in Higher Education* 29, no. 3: 353–74.

Lea, M., and B. Street. 1998. Student writing and staff feedback in higher education: An academic literacies approach. *Studies in Higher Education* 23, no. 2: 157–72.

Lizzio, A., K. Wilson, and R. Simons. 2002. University students' perceptions of the learning environment and the academic outcomes: Implications for theory and practice. *Studies in Higher Education* 27, 27–52.

Lyon, P., and G. Hendry. 2002. The use of the Course Experience Questionnaire as a monitoring evaluation tool in a problem-based medical programme. *Assessment and Evaluation in Higher Education* 27, no. 4: 339–52.

Macdonald, J. 2004. Developing competent e-learners: The role of assessment. *Assessment and Evaluation in Higher Education* 29, no. 2: 215–26.

Mann, S. 2001. Alternative perspectives on the student experience: Alienation and engagement. *Studies in Higher Education* 26, no. 1: 7–19.

Marsh, H.W. 1987. Students' evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research* 11, no. 3: 253–388.

Meyer, J. 1995. Gender group differences in the learning behaviour of entering first year university students. *Higher Education* 29, no. 1: 201–15.

National Committee of Inquiry into Higher Education. 1997. *Higher education in the learning society: Report of the national committee.* London: NCIHE.

Newman, M. (2003) *A pilot systematic review and meta-analysis on the effectiveness of Problem Based Learning.* LTSN 01 Special Report 2. Newcastle upon Tyne: Learning and Teaching Support Network/Economic and Social Research Council. http://www.ltsn-01.ac.uk/resources/features/pbl.

Orsmond, P., S. Merry, and K. Reiling. 2005. Biology students' utilisation of tutors' formative feedback: A qualitative interview study. *Assessment and Evaluation in Higher Education* 30, no. 4: 369–86.

Pitts, S. 2005. 'Testing, testing…': How do students use written feedback? *Active Learning in Higher Education* 6, no. 3: 218–29.

Price, L., and J. Richardson. 2003. Meeting the challenge of diversity: A cautionary tale about learning styles. In *Improving student learning: Theory and practice, 10 years on,* ed. C. Rust. Oxford: Oxford Centre for Staff and Learning Development.

Ramsden, P. 2003. *Learning to teach in higher education,* 2nd ed. London: RoutledgeFalmer.

Richardson, J.T.E. 2000. *Researching student learning: Approaches to studying in campus-based and distance education.* Buckingham, UK: Society for Research into Higher Education/Open University Press.

———. 2005. Students' perceptions of academic quality and approaches to studying in distance education. *British Educational Research Journal* 31, no. 1: 7–27.

Richardson, J.T.E., G.L. Long, and A. Woodley. 2003. Academic engagement and perceptions of quality on distance education. *Open Learning* 18, no. 3: 223–44.

Roberts, C., M. Lawson, D. Newble, A. Self, and P. Chan. 2005. The introduction of large class problem-based learning into an undergraduate medical curriculum: An evaluation. *Medical Teacher* 27, no. 6: 527–33.

Rowland, S. 2000. *The enquiring university teacher.* Buckingham, UK: Society for Research into Higher Education/Open University Press.

Rust, C., B. O'Donovan, and M. Price. 2005. A social constructivist assessment process model: How the research literature shows us this could be best practice. *Assessment and Evaluation in Higher Education* 30, no. 3: 231–40.

Saldo, G., and J.T.E. Richardson. 2003. Approaches to studying and perceptions of the academic environment in students following problem-based and subject-based curricula. *Higher Education Research and Development* 22, no. 3: 253–74.

Savin-Baden, M. 2000. *Problem-based learning in higher education: Untold stories.* Buckingham, UK: Society for Research into Higher Education/Open University Press.

Savin-Baden, M., and K. Wilkie, eds. 2004. *Challenging research in problem-based learning*. Maidenhead, UK: Society for Research into Higher Education/Open University Press.

Shah, A., and E. Treby. 2006. Using a community based project to link teaching and research: The Bourne Stream partnership. *Journal of Geography in Higher Education* 30, no. 1: 33–48.

Smith, K., S. Clegg, R. Lawrence, and M.J. Todd. 2004. Fostering autonomy through work-based experiences: Challenges for university educators and students. *LATISS – Learning and Teaching in the Social Sciences* 1, no. 3: 189–204.

Smyth, K. 2004. The benefits of students learning about critical evaluation rather than being summatively judged. *Assessment and Evaluation in Higher Education* 29, no. 3: 369–78.

Society for Research into Higher Education. 2007. Student experience network. http://www.srhe.ac.uk/networks.sen.asp.

Somervell, H., and J. Allan, J. 1995. Self-assessment in two education studies modules at level 2/3 at the University of Wolverhampton. In *Approaches to learning in higher education,* J. Allan, M. Cook, J. Dudley, L. Dunning, J. Roberts, and H. Somervell, 6–12, Wolverhampton, UK: University of Wolverhampton, Educational Research Unit.

Thomson, K., and N. Falchikov. 1998. 'Full on until the sun comes out': The effects of assessment on student approaches to studying. *Journal of Assessment and Evaluation in Higher Education* 23, no. 4: 379–90.

Tight, M. 2006. Higher education research: A citation analysis. *Higher Education Review* 38, no. 2: 42–59.

Trigwell, K. 2005. Teaching–research relations, cross-disciplinary collegiality and student learning. *Higher Education* 49, no. 3: 235–54.

Trigwell, K., and P. Ashwin. 2003. *Undergraduate students' experience of learning at the University of Oxford.* Oxford: Institute for the Advancement of University Learning, University of Oxford.

———. 2006. An exploratory study of situated conceptions of learning and learning environments. *Higher Education* 51, no. 2: 243–58.

Trow, M. 1974. Problems in the transition from elite to mass higher education. In *Policies for higher education. General report on the conference on the future structures of post-secondary education,* ed. Organisation for Economic Co-operation and Development, 55–101. Paris: OECD.

Trow, M. 2006. Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In *International handbook of higher education,* ed. J. Forest and P. Altbach, 243–80. Dordrecht, The Netherlands: Springer.

Weaver, M. 2006. Do students value feedback? Students' perceptions of tutors' written responses. *Assessment and Evaluation in Higher Education* 31, no. 3: 379–94.

Wilson, K.L., A. Lizzio, and P. Ramsden. 1997. The development, validation and application of the Course Experience Questionnaire. *Studies in Higher Education* 22, no. 1: 33–53.