

First Year Experience Audit.

First, the over-arching questions: Is student retention and progression an issue within your department? Would you like retention and progression rates to be better?

We suspect that for the majority of departments the answers to both of these questions are 'YES'. All the evidence suggests that but for a few exceptions all departments in all disciplines would also answer 'yes'. However, for some disciplines, retention rates are lower than for others – and in fact, the problem has reached quite startling proportions. Engineering is one such discipline, where a combination of factors including difficulty of the subject and mismatching of student and academic expectations, have resulted in higher drop out than for most other subjects.

Working on the principle that retention can be improved in almost every institution, we have developed an audit designed to aid in assessing how teaching and learning strategies within your department may assist. All the questions are based on activities used within one or more engineering departments in response to a concern about retention and in which adoption of that practice has resulted in an improvement in retention. These activities are therefore worthy of consideration as possible “good practice” within your own departments.

We hope that the audit will not only support departments as a whole but that individual lecturers and tutors reflect on their own knowledge and understanding of retention issues. For example, there is ample evidence to demonstrate that retention can be improved by addressing employability issues early in a student's programme. The simple question “Does your department have a clear employability strategy for first year students that supports retention?” is often answered with a resounding “Yes!”. The department may very well have such a strategy, however when asked, “What is it and how do you incorporate it into your teaching?”, individual faculty members often have difficulty in answering.

It is suggested that each academic is offered the audit to determine the extent of the knowledge throughout the department. If some staff members are unaware of the existence of a particular policy or strategy, this may be time and opportunity for them to be made aware.

The questions require a variety of answers: those that ask questions about the department require a “yes/no/not sure” response, while those that ask questions about an academic's own course offer “yes/no”. A few questions are multiple choice, while others require a free answer with no prompt.

Comparison of the answers to the questions among staff may provoke discussion and this is intended. For example if some staff members consider knowledge of learning styles as irrelevant or not important to their teaching, while others strongly believe of its relevance and important, a healthy discussion should follow.

The questions are by no means all inclusive. Many more could be formulated and indeed suggestions for other questions are encouraged.

There are no marks assigned to the answers – rather the questions are intended to provoke a response. Some responses are intended to promote consideration of whether the activity may be incorporated into your programme to facilitate retention. The question “why is this question being asked” should be considered. In other words, the audit is designed to help teachers consider the activities that may support progression.

The audit is divided into the following sections.

1. Defining the problem
2. Identification of at-risk students
3. Induction and Transfer
4. Pastoral Care, Tutoring, Mentoring and PAL
5. Learning styles
6. Attendance
7. Mathematics
8. PDP, Student-centred learning,
9. Assessment
10. Key skills
11. e-learning
12. Employability

Also included are general references, resources, links and, at the end of each section, background material.

Reports on Retention and Progression

- UK government commissioned report by Sir Howard Newby, 2001; <http://www.publications.parliament.uk/>
- HEFCE performance indicators in higher education; <http://www.hefce.ac.uk/learning/perfind/>
- Scottish Higher Education Retention Forum (SHERF); <http://www-sherf.paisley.ac.uk/about.htm>
- Action on Access; <http://www.hlst.ltsn.ac.uk/resources/link4/link4.pdf>
- Institute for Access Studies; http://www.staffs.ac.uk/schools/graduate_school/access/

General literature and bibliographies.

- Edward, N. 2003. Design to Progress, Progress Guide No1. – A bibliography on attrition from engineering and other courses; <http://www.hull.ac.uk/engprogress/>.
- Learning and Skills Development Agency (LSDA). A variety of publications on student retention including a guide to successful strategies. Search for “retention” at <http://www.feda.ac.uk/pubs/>
- Ideas and resource website for retention; <http://www.wpsw.co.uk/>

Projects supporting retention and progression

- PROGRESS1, - the FDTL project investigated the causes of attrition and sought effective countering measures; <http://www.hull.ac.uk/engprogress/>
- STAR (Student Transfer and Retention) – <http://www.ulst.ac.uk/star/>
- Higher Education Academy resources –
 - Resources available from the Academy; <http://www.heacademy.ac.uk/1007.htm>
 - Information and Computing Science; http://www.ics.ltsn.ac.uk/resources/student_retention/
 - Physical Sciences; <http://www.physsci.ltsn.ac.uk/Resources/WideningParticipation.aspx>
 - History, Classics and Archaeology; http://www.hca.heacademy.ac.uk/resources/student_retention/index.php
 - Health, Leisure, Sport and Tourism; <http://www.hlst.ltsn.ac.uk/resources/link4/link4.pdf>
 - Engineering Subject Centre– a variety of information and resources on retention. <http://www.engsc.ac.uk/er/retention/index.asp>

Defining the problem

Question	Answer
1. How do retention, continuation and drop-out rates differ?	
2. Are retention and progression issues ever on the agenda in departmental meetings?	Yes/No
3. Does the department collect figures for retention and progression?	Yes/No/Not sure
4. If no, is this a central administration activity?	Yes/No/Not sure
5. What is the departmental progression rate for first year students in your department?	
6. How does engineering compare to other subject areas within your institution for progression and retention of students?	Same/Better/Worse
7. Are engineering students any different from the student population at large?	Yes/No/Not sure
8. If "yes", what characteristics do they have that make them different?	
9. Are retention and progression rates the same for each course within your department?	Yes/No/Not sure
10. If they are not the same, which courses have the highest and lowest retention rates?	
11. What are the causal factors of these differences?	
12. Has the department reviewed activities at other institutions with respect to their strategies towards retention and progression?	Yes/No/Not sure
13. Has the department incorporated any strategies from other institutions?	Yes/No/Not sure
14. If yes, what were they?	
15. Have these made any difference?	Yes/No/Not sure

Identification of at-risk students

Question	Answer
1. Do you know which students within the classes you teach are at risk?	Yes/No
2. What are the characteristics of these students that make them 'at risk'?	
3. Does the department undertake risk assessment of students at entry?	Yes/No/Not sure
4. If "yes", is this undertaken by interview or questionnaire?	Interview/Questionnaire
5. If "questionnaire", is it voluntary or mandatory?	Voluntary/Mandatory
6. What risk factors are considered (employment, first generation, age, entry qualifications, friends, etc.)?	
7. Is interaction with student support offices/centres part of departmental practice?	Yes/No/Not sure
8. If risk assessment is undertaken, is this exercise repeated throughout the year?	Yes/No/Not sure
9. What actions are taken once identification of at risk students is made?	
10. Have changes been made to the timetabling to accommodate employment, travel etc?	Yes/No/Not sure
11. What are they?	
12. Can students change courses if they need to?	Yes/No/Not sure

Background material:

- Higher Education Academy; <http://www.heacademy.ac.uk>
- Institute for Access Studies;
http://www.staffs.ac.uk/schools/graduate_school/access/
- Ideas and resource website for retention; <http://www.wpsw.co.uk/exit.htm>

Induction and Transfer

Question	Answer
1. Does the course publicity clearly indicate what students may expect from the course?	Yes/No/Not sure
2. Does the course information clearly provide material on content, learning outcomes, and employability prospects?	All of these/Some of these/Not sure
3. Are the expectations required of students clearly emphasised?	Yes/No/Not sure
4. Is the written and verbal publicity course-specific rather than departmental or even university generalised?	Yes/No/Not sure
5. Does your department interview every student who has applied?	Yes/No/Not sure
6. Does your department have a clear induction strategy for students?	Yes/No/Not sure
7. Has your induction strategy practice changed in the last five years?	Yes/No/Not sure
8. Does your department integrate students into both the social and academic framework of the university?	Yes/No/Not sure
9. In what ways does it do this?	
10. Are measures taken to match the expectations of the course with the actual experience, e.g. determination at an early stage in the course if students are satisfied that they have taken the correct course?	Yes/No/Not sure
11. Can students change courses if they need to?	Yes/No/Not sure
12. Are existing students involved in the induction process?	Yes/No/Not sure
13. Are measures taken to identify whether students from under-represented groups e.g. women or ethnic minorities, are comfortable in the environment created within the department?	Yes/No/Not sure
14. Is explanation given to students of the timetable, and the module, semester and credit system?	Yes/No/Not sure
15. Do student receive an induction pack?	Yes/No/Not sure
16. Does the department offer a pre-entry web site providing information on timetables, induction etc?	Yes/No/Not sure

17. Are academics teaching first year selected for their empathy towards new students?	Yes/No/Not sure
18. Are measures taken to encourage students to interact through a group or social activity in the first few days of the course; e.g. do the students undertake an engineering task or are they offered lunch?	Yes/No/Not sure
19. If group work is involved, have various ways of team selection been considered?	Yes/No/Not sure
20. Are induction strategies confined to the first week of classes or do they continue throughout the first semester/year?	First week/At other times/Not sure
21. Are departmental staff involved with induction to the ancillary services, e.g. to the library and computing facilities?	Yes/No/Not sure
22. Do students meet their personal tutors in the first week?	Yes/No/Not sure
23. Is this meeting in a group or on an individual basis?	Group/Individual
24. Are induction activities evaluated by the students?	Yes/No/Not sure
25. Is the feedback discussed in an open forum with the students?	Yes/No/Not sure
26. Have changes been made to induction practice because of feedback?	Yes/No/Not sure
27. Are students transferring from FE or other HE institutions at years other than year one given pre-entry and induction?	Yes/No/Not sure
28. Does the department run a family open day during the first semester/first year?	Yes/No/Not sure
29. How many of the following functions do your department's student motivation activities incorporate - academic integration, social integration, goal commitment and institutional commitment?	All of these/Some of these/Not sure

Background material:

- Sarah Shobrook, 2003. The Role of Pre Entry Practices and Induction Strategies in Relation to Student Retention. Progress Guide No 10. Contextualising the problem and case studies in induction strategies; <http://www.hull.ac.uk/engprogress/> .
- SPAT (Student Progression and Transfer) – FDTL project that has produced a good practice guide to support progression; <http://www.SPAT.ac.uk> .
- STAR (Student Transfer and Retention) – an FDTL project producing resources; <http://www.ulst.ac.uk/star/>

Pastoral Care

Question	Answer
1. What is pastoral care?	
2. Are there elements of pastoral care built into your department's teaching strategy?	Yes/No/Not sure
3. What are they?	
4. Have these changed in the last few years?	Yes/No/Not sure
5. If so, how?	
6. What has changed in the student population to warrant this concern on retention?	
7. Are a student's family, personal, financial, travel or other issues of any concern of the department?	Yes/No
8. Are you aware of the relevance of pastoral care within your own teaching?	Yes/No
9. Are you encouraged to offer pastoral support in addition to subject specific academic support?	Yes/No
10. If "no" is this the responsibility of designated faculty members?	Yes/No/Not sure
11. Does the department have personal tutors?	Yes/No/Not sure
12. Are personal tutors financially rewarded for this activity?	Yes/No/Not sure
13. How do you encourage students within your own teaching to communicate their extra curricular activities or problems?	
14. Have you been offered staff training on pastoral care?	Yes/No
15. Are you aware of university policy regarding the dispensing of advice?	Yes/No
16. Is mentoring to students offered within the department?	Yes/No/Not sure
17. Is this peer or academic mentoring?	Peer/Academic

18. Is mentoring to academics offered?	Yes/No/Not sure
19. Are female students supported differently than male students in your department?	Yes/No/Not sure
20. Does the department offer female mentoring programmes?	Yes/No/Not sure
21. Has the department encouraged the formation of a WES group?	Yes/No/Not sure
22. Do you encourage female students to join WES?	Yes/No/Not sure

Background material:

- Donard de Cogan, 2003. Towards a Blueprint for Pastoral Care. Progress Guide No 11. Aspects of student care with particular reference to engineering students; <http://www.hull.ac.uk/engprogress/>
- Peer Assisted Learning (PAL) - is a system of student-to-student support in Higher or Further Education; <http://www.peerlearning.ac.uk/>
- M-Power - project to help people reach their work and learning goals and become more confident; http://www.futureprospects.org.uk/site2/teams/teams_mpower.htm
- Balance; An FDTL project offering educator guides to mentoring; <http://www.balance.ac.uk/>

Learning Styles

Question	Answer
1. Are you aware of learning style theory?	Yes/No
2. Do you consider that learning style is of importance to your teaching?	Yes/No
3. Have you changed your teaching style in response to your knowledge of learning styles?	Yes/No
4. Have you been offered training in learning styles?	Yes/No
5. Are first year students introduced to theory on learning styles?	Yes/No/Not sure
6. Do you know what thinking style assessment (TSA) and psychometric testing (PT) are?	Yes/No/Not sure
7. How many of these tests can you name?	
8. Does your department use them?	Yes/No/Not sure
9. How are the results used?	
10. How do academics benefit from students undertaking TSAs or PTs?	
11. How do students benefit from taking TSAs and PTs?	
12. How can they assist retention?	
13. Are you aware of areas of preference?	Yes/No
14. Are areas of preference the same for each discipline?	Yes/No/Not sure
15. What are the preferences of engineers and mathematicians?	
16. Has use of PT in your department resulted in any changes?	Yes/No/Not sure
17. What does PT say about positive and constructive feedback?	

18. Has feedback from students on how their knowledge of learning styles been taken?	Yes/No/Not sure
19. Has feedback resulted in any modification of activities?	Yes/No/Not sure

Background material:

- Engineering Subject Centre Learning and Teaching materials – easy to read papers prepared by Dr. Warren Houghton outlining the background to learning styles; <http://www.engsc.ac.uk/er/theory/index.asp>
- Alison Halstead, 2003. Engaging Students with Learning and Personal Development by Using a Thinking Styles Questionnaire, Progress Guide No 6. – An overview and case study on use of thinking styles for engineering students of different disciplines, and how use of this technique improves retention. Contains useful references on thinking styles; <http://www.hull.ac.uk/engprogress/>. See also <http://www.thinkingstyles.co.uk>

Attendance

Question	Answer
1. Does the department have any absence management practice?	Yes/No/Not sure
2. Does the department monitor attendance?	Yes/No/Not sure
3. Is it a self-declaration of attendance by the student?	Yes/No/Not sure
4. Is the recording mandatory?	Yes/No/Not sure
5. Is it a paper based or electronic tracking system?	Paper/Electronic
6. Does the student or staff member enter the data?	Student/Staff
7. Does the system include attendance for classes, labs, tutorial groups?	Yes/No/Not sure
8. Does the system provide feedback to the student if they don't attend?	Yes/No/Not sure
9. Does the system monitor assignments and deadlines with extensions?	Yes/No/Not sure
10. Does the system include assignment marks?	Yes/No/Not sure
11. Is non-attendance penalised by mark reduction?	Yes/No/Not sure
12. Does the system predict final marks?	Yes/No/Not sure
13. Does the system automatically identify "at risk"?	Yes/No/Not sure
14. Does the system provide information back to the students?	Yes/No/Not sure
15. What format does this take?	
16. Have alternative formats been considered?	Yes/No/Not sure
17. Do the students have access to their own information?	Yes/No/Not sure

18. Have the students provided feedback on the system?	Yes/No/Not sure
19. Have any amendments been made in response to that feedback?	Yes/No/Not sure
20. Does the department provide administrative support for this retention strategy in terms of a dedicated responsibility?	Yes/No/Not sure

Background material:

- Walter Middleton, 2003. Communication for Retention, Progress Guide No 2. – provides case studies from several universities on how student tracking and intervention is undertaken, and some useful references;
<http://www.hull.ac.uk/engprogress/>

Mathematics

Question	Answer
1. Are prospective students made fully aware of the mathematics component of the course?	Yes/No/Not sure
2. Does the department offer maths support?	Yes/No/Not sure
3. Is maths support a feature of course advertising?	Yes/No/Not sure
4. Do new students undertake a maths diagnostic test?	Yes/No/Not sure
5. If support is offered, is it through individual contact or on-line resources?	Individual/On-line
6. Are you aware of multi-media maths support resources?	Yes/No
7. Are your own students made aware of these?	Yes/No
8. Are remedial maths courses offered?	Yes/No/Not sure
9. Are the maths courses subject-specific?	Yes/No/Not sure
10. Are maths tutorials offered?	Yes/No/Not sure
11. Is maths taught in-house or as a service?	In-house/service

Background material:

- Edward Reed, 2003. A Review of Mathematics Strategies in Engineering Education. Progress Guide No 7. A review of strategies employed in 15 institutions; <http://www.hull.ac.uk/engprogress/>
- Jim Stevenson and David Saunders. 2003. Multi-media Self-study for Learning Support in Mathematics. Progress Guide No 8. A review of strategies employed in 15 institutions. Case studies of maths support; <http://www.hull.ac.uk/engprogress/>.
- Higher Education Academy MathsTEAM Project Resource Booklets - available from the Engineering Subject Centre at <http://www.engsc.ac.uk/er/engmath/index.asp>
- Mathwise, TransMATH, Shotlist, OpenCourseWare (MIT), Maths Help, HELM – project resources to support the teaching of mathematics within engineering. See http://www.engsc.ac.uk/an/fund_projects/index.asp for web sites.
- Higher Education Academy MSOR at <http://mathstore.ac.uk/>
- The Higher Education Academy Guide for Busy Academics No 1 - PDP; http://www.heacademy.ac.uk/resources.asp?process=full_record§ion=generic&id=66

Personal Development Planning

Question	Answer
1. Is PDP introduced in induction?	Yes/No/Not sure
2. Does the department offer advice on PDP or is this service provided?	Department/service
3. What PDP activities are offered by the department (rather than student services)?	
4. Is PDP timetabled throughout the first year?	Yes/No/Not sure
5. Are students encouraged to complete goal or target sheets and to reflect on them?	Yes/No/Not sure
6. Does the department follow up on these goals?	Yes/No/Not sure
7. If so how?	
8. Have other follow up strategies been considered?	Yes/No/Not sure
9. Are you familiar with Student-Centred learning?	Yes/No

Background material:

- Elaine Smith, Barry Beggs, Alan Robinson and Walter Middleton, 2003. Personal Development Planning for Student Retention and Progression in Engineering. Progress Guide No 9. A review of PDP in induction and first year to support retention strategies; <http://www.hull.ac.uk/engprogress/>.
- PADSHE ('Personal and Academic Development for Students in Higher Education'); <http://www.nottingham.ac.uk/padshe/>
- RAPID – project offering resources and courses supporting PDP; http://www.engsc.ac.uk/an/fund_projects/index.asp
- CRA – Centre for Recording Achievement; <http://www.recordingachievement.org/>

Assessment

Question	Answer
1. Are measures taken for students to understand their own academic performance, e.g. through self or formative assessments?	Yes/No/Not sure
2. Does the type of assessment undertaken within a department influence on retention rates?	Yes/No/Not sure
3. What formative assessment strategies do you employ in your classes to improve retention.	
4. What summative assessment strategies do you employ in your classes to improve retention?	
5. Within the modules you teach are assessment criteria written to identify how work may be improved rather than how marks are lost?	Yes/No
6. Are targets set by the department for module success rates?	Yes/No/Not sure
7. What is the managerial response to failure to meet the targets?	
8. Are exams marks distributed according to a pre-determined model?	Yes/No/Not sure
9. Plagiarism – what strategies are in force?	
10. In your modules do you use computerised forms of assessment with automatic marking and feedback?	Yes/No
11. Do you use commercial virtual learning environments (e.g. Blackboard, Questionmark Perception) for assessment purposes?	Yes/No
12. How often do you give tests in your module?	
13. How are poor test results followed up?	
14. What percentage of the final year marks are the formative assessment practices worth?	
15. Are competence-based interviews undertaken by the department?	Yes/No/Not sure
16. What follow up is offered e.g. remedial classes?	
17. Do you gather feedback from students on assessment methods within your module?	Yes/No

18. Has feedback resulted in any recent changes?	Yes/No
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Background material:

- Steve Littlewood, 2003. Formative Assessment Strategies. Progress Guide No 4. – Case studies of how formative assessment may be used to motivate students and in turn improve retention rates; <http://www.hull.ac.uk/engprogress/>
- John Rowe, 2003. Assessment Strategies and Progression Progress Guide No 5 – paper outlining background theory supporting change and case studies describing effective assessment strategies for retention; <http://www.hull.ac.uk/engprogress/>.
- Higher Education Academy– many resources on assessment. <http://www.heacademy.ac.uk/resources.asp>

Key skills

Question	Answer
1. Is the importance and relevance of key, transferable or lifelong skills stressed to prospective students?	Yes/No/Not sure
2. Are skills such as note taking, essay structure and writing, resource searching and report writing incorporated into your own teaching?	Yes/No
3. Are presentation skills developed through a structured, timetabled activity?	Yes/No/Not sure
4. Is project work and group working a component of the first year?	Yes/No/Not sure
5. Are information sessions or skills development workshops offered?	Yes/No/Not sure
6. Is PBL used for first year?	Yes/No/Not sure
7. Introduction of design projects in the first year has been demonstrated as a successful retention strategy. Do you incorporate design projects in your module?	Yes/No

Background material:

- Samir Parikh, 2003. Key Skills for Progression, Progress Project Guide No 12; <http://www.hull.ac.uk/engprogress/>
- Transend. – This FDTL project developed an educator guide for the teaching and assessment of key skills; http://www.engsc.ac.uk/an/fund_projects/index.asp
- Norrie Edward, 2003. Design to Progress. Progress Guide. – A comprehensive review and presentation of ten case studies of how design projects can be a successful component of a retention strategy; <http://www.hull.ac.uk/engprogress/>.

e-Learning

Question	Answer
1. Is e-learning a methodology employed by the department for its part time and/or full time students?	Yes/No/Not sure
2. Are students made aware of the extent of this format prior to enrolment?	Yes/No/Not sure
3. Are your modules posted on-line?	Yes/No
4. Once you have produced the content is a service provided to you or do you develop and post your own web pages?	Service provided/Self developed
5. How is tutorial support offered for on-line courses?	
6. Is technical support available full time?	Yes/No/Not sure
7. Do you use discussion boards?	Yes/No
8. Do you offer assessments on-line?	Yes/No

Background material:

- Glow Project – developed simple templates for developing web pages;
<http://www.glow.ac.uk>

Employability Strategies for Progression.

Question	Answer
1. Are the opportunities for future employment a marketing strategy for recruitment?	Yes/No/Not sure
2. What is employability?	
3. Is the teaching of employability issues advertised as being part of the curriculum?	Yes/No/Not sure
4. Does the department have a clear strategy for supporting employability of students?	Yes/No/Not sure
5. What is it?	
6. Are you encouraged to demonstrate the relevance of learning outcomes to employability?	Yes/No
7. What key skills are, and are not, stressed in the first year?	
8. Are skills that allow a smooth transition from HE to industry included in the first year curriculum?	Yes/No/Not sure
9. Are students made aware of both subject specific and transferable skills that will result from the degree programme?	Yes/No/Not sure
10. Are student made aware of any potential mismatches between the skills they will acquire from the degree programme and the expectations of industry?	Yes/No/Not sure
11. Are students encouraged to recognise and develop skills that will support a broad career that may not be in engineering?	Yes/No/Not sure
12. Do students receive presentations from employers in the first year?	Yes/No/Not sure
13. Do students from later years support early year activities in a "consultancy" role?	Yes/No/Not sure
14. Are new students encouraged and supported to develop a resume?	Yes/No/Not sure
15. Are students tutored in CV preparation, application letters and interview techniques?	Yes/No/Not sure
16. Is personal and professional development tutoring integrated into the programme in a timetabled and structured manner?	Yes/No/Not sure
17. What reflective learning practices are employed with the programme?	

18. Does the department request feedback from students on employability issues?	Yes/No/Not sure
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Background material:

- Littlewood, S. 2003. Employability Strategies for Progression, Progress Project Guide – provides case studies of how employability is integrated into the engineering programmes; <http://www.hull.ac.uk/engprogress/>.
- Higher Education Academy/ESECT – The Higher Education Academy has a number of resources on employability issues; <http://www.heacademy.ac.uk/resources.asp>