

February 2010**Annex to the report****Contents**

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Introduction

A team of auditors from the Quality Assurance Agency for Higher Education (QAA) visited Imperial College of Science, Technology and Medicine (the College) from 8 to 12 February 2010 to carry out an Institutional audit. The purpose of the audit was to provide public information on the quality of the learning opportunities available to students and on the academic standards of the awards the College offers.

Outcomes of the Institutional audit

As a result of its investigations, the audit team's view of Imperial College of Science, Technology and Medicine is that:

- confidence can reasonably be placed in the soundness of the institution's present and likely future management of the academic standards of the awards it offers
- confidence can reasonably be placed in the soundness of the institution's present and likely future management of the quality of the learning opportunities available to students.

Institutional approach to quality enhancement

The audit team found that the College had a significant and continuing commitment to the improvement of learning and teaching, largely directed by its faculties and commensurate with its discipline base.

Institutional arrangements for postgraduate research students

The audit team concluded that the College's arrangements for securing the quality and standards of its research degree programmes are secure, well-understood across the College and are in line with the expectations of the *Code of practice for the assurance of academic quality and standards in higher education (Code of practice): Section 1: Postgraduate research programmes*, published by QAA.

Published information

The audit team found that reliance could reasonably be placed on the accuracy and completeness of the information the College publishes about the quality of its educational provision and the standards of its awards.

Features of good practice

The audit team identified the following areas of good practice:

- the opportunities provided by the programme approval process for the early systematic review of new programmes (paragraph 31)
- the way in which the College draws upon its research excellence for the benefit of student learning (paragraph 70)
- the range and diversity of opportunities provided by the library to encourage and enhance student engagement with learning resources (paragraph 77)
- the increasing recognition of, and encouragement given to achieve, high quality of teaching (paragraph 93)
- the quality of departmental postgraduate research handbooks (paragraph 123).

Recommendations for action

The audit team recommends that the College consider further action in some areas.

Recommendations for action that the team considers advisable:

- ensure that Senate, or the relevant committee reporting to it, is provided with sufficient information on external examiners' reports to discharge responsibility for the oversight of academic standards (paragraph 42)
- consider the appropriateness and use of the Diploma of Imperial College as both an academic award and a 'post nominal' title (paragraph 46)
- expedite its review of assessment procedures to ensure consistency in the management of academic standards within and across its degree structures, and ensure parity of treatment for examination candidates (paragraph 50)
- provide a full and consistent level of student representation in all its deliberative academic committees (paragraph 67)
- review its procedures for the approval and oversight of collaborative provision to ensure that the relevant sections of QAA's *Code of practice* are taken into account (paragraph 109).

Recommendations for action that the team considers desirable:

- extend the existing opportunities for student access to external examiners' reports (paragraph 43)
- strengthen procedures for checking the quality of teaching and learning materials for programmes which have e-learning or blended learning elements (paragraph 73)
- draw more systematically upon the educational developments and good practice evident within its faculties and departments to enhance the support for student learning (paragraph 99).

Section 1: Introduction and background

The institution and its mission

1 Established by Royal Charter in 1907, the College operated within the University of London until 2007, when a supplemental Royal Charter established the College as a full University in its own right. Separate degree awarding powers were granted by the Privy Council in 2003. The College's main campus is in South Kensington where most undergraduate teaching, and all teaching in engineering and physical sciences, is based.

2 The mission of the College is to deliver world-class scholarship, education and research in science, engineering, medicine and business, with a particular regard to their application in industry, commerce and healthcare, and to foster interdisciplinary working internally and collaborate widely externally. It seeks to achieve this by remaining among the top tier of comparable institutions worldwide, by harnessing research capability, attracting the most able students and staff, continuing to meet the changing needs of society, industry and healthcare, and communicating widely the significance and benefits of its activities.

3 The College employs some 1,240 full-time equivalent (FTE) academic staff. In 2009-10 it has 13,994.9 FTE students (13,473 full-time students), of which 61.5 per cent are undergraduates, 19.6 per cent are taught postgraduates and 18.9 per cent research postgraduates. In addition, there are 1,094 part-time postgraduate students; the College has no undergraduate part-time provision. Non-UK nationals compose 49 per cent of the student population, coming from 127 countries. The College has a small number of collaborative partnerships with other institutions,

including joint PhD programmes. The College's academic structure comprises three Faculties of Natural Sciences, Engineering and Medicine, and the Imperial College Business School. The College also has a Department of Humanities which is separate from its faculty structure. The Head of the Department of Humanities reports to the Pro-Rector (Education). The College offers over 100 undergraduate programmes and over 130 postgraduate taught programmes. The applications/admissions ratios for undergraduate and postgraduate taught courses for the 2009 entry were 6:1 and 5.6:1, respectively. The average A-Level score on entry for undergraduates was 29.7, with an average Tariff point score of 357. The College has a strong research profile and is ranked in the top five university institutions worldwide, according to the *Times Higher Education - QS World University Rankings* (October 2009).

The information base for the audit

4 The College provided the audit team with a briefing paper and supporting documentation, including that related to the sampling trails selected by the team. The index to the Briefing Paper was referenced to sources of evidence to illustrate the institution's approach to managing the security of the academic standards of its awards and the quality of its educational provision. Documents referenced in the Briefing Paper were available electronically and some in hard copy; in addition, the team had access to the College's intranet, and the College established a designated information technology (IT) drive for all documents requested by the team.

5 The Imperial College Union produced a student written submission setting out the students' views on the accuracy of the information provided to them, the experience of students as learners and their role in quality management.

6 In addition, the audit team had access to:

- the report of the previous Institutional audit, June 2005
- the report on the College's support for postgraduate research provision made as part of QAA's Review of research degree programmes, 2006
- reports produced by professional, statutory or regulatory bodies (PSRBs)
- the report on the mid-cycle follow up to Institutional audit
- the College's internal documents
- the notes of audit team meetings with staff and students.

Developments since the last audit

7 The audit team noted the major developments in the College since the last audit. Of these, the most significant was the College's secession from the University of London in July 2007. The decision to secede was taken because the College possessed a national and international reputation that befitted the status of a university and also because it did not envisage any adverse effects from leaving the University. The College has also created a formal partnership with the Imperial College Healthcare National Health Service Trust in recent years; in June 2009 the partnership was granted designated Academic Health Sciences Centre status by the Department of Health. The main structural development within the College had been the creation in January 2006 of a Faculty of Natural Sciences from a merger between the previous Faculties of Life Sciences and Physical Sciences. There had also been recent revisions to the academic committee structures concerned with quality assurance matters.

8 The previous Institutional audit in June 2005 resulted in a judgment of broad confidence in the soundness of the College's current and likely future management of the quality of its programmes and the security of its academic awards. The audit report contained two advisable recommendations. Firstly, the report advised the College to 'extend its current survey and review

of variability in Pass/Fail boundaries at postgraduate level to cover the whole of its provision' and 'to establish a common set of Pass marks to be applied to existing programmes' in order to achieve 'early convergence of requirements and consistency of approach and to demonstrate equity of treatment to students'. Secondly, the report advised the College, in the context of *The framework for higher education qualifications in England, Wales and Northern Ireland (FHEQ)*, to review its approach to programme structures to provide assurance of organised academic progression through the curriculum, with particular reference to the balance and scheduling of the H and M-level course elements in years three and four of the undergraduate programmes.

9 The report also identified five areas which would be desirable for the College to consider further: a review of its approach to approval of undergraduate programmes to confirm the purpose, scope and scheduling of each of the two stages; in developing its approach to annual monitoring, to draw on existing good practice in departments to achieve consistency in the extent of the analysis and areas covered in departmental reports, and to take a more evaluative approach to the consideration of reports within studies committees; in refining its approach to the formulation of programme specifications to identify and to draw on good practice within its provision, with particular attention to the specification of intended learning outcomes; to establish a systematic and consistent approach across the College to the coding of course elements to designate levels of study; and to review its approach to checking the accuracy of material produced by departments and intended to be placed in the public domain.

10 The College produced a mid-cycle follow-up report indicating how it had addressed these recommendations and also how it has attempted to enhance what it described as the 'College's student-focussed approach'. In response to the advisable recommendations of the 2005 audit report, the Strategic Education Committee accepted that 'it was no longer possible to defend an undergraduate pass mark of 35 per cent less' and advised the Management Board of its view. Senate in early 2008 approved a proposal to standardise the undergraduate Pass mark in all faculties at 40 per cent for all students registering from the following October. A Pass mark of 35 to 39 per cent previously available for BEng and BSc awards was also removed with effect for students registering from the following October.

11 All departments were asked to ensure that programme specifications explicitly stated the level of each taught course. Departments were also asked to guarantee that, for appropriate courses, sufficient credits under the European Credit Transfer Scheme (ECTS) were available at master's level. The College established a Bologna Task Force, chaired by the Pro-Rector (International Affairs) which analysed existing provision and, in March 2008, reported that all of the College's undergraduate and free-standing master's level courses would be Bologna-compatible for 2009-10 entry. Discussions took place regarding the small number of courses where it remained difficult to assign appropriate European credit and changes were agreed. In 2008 Senate approved course structures for bachelor's, integrated master's and free-standing master's-level programmes to ensure that all first and second-cycle degrees would be Bologna-compatible by October 2009. In scrutiny of documentation, the audit team was able to confirm that relevant departments had reviewed their provision to ensure that sufficient master's-level credits were taught in years three and four of the MSc and MEng programmes to be Bologna-compatible. It also noted that information on Bologna/ECTS compatibility was readily available on the College's website.

12 In response to the desirable recommendations of the 2005 audit, the College's Centre for Educational Development had reviewed the College's programme specification template. The Centre's findings were discussed by the Quality Assurance Advisory Committee and Quality and Academic Review Committee in 2006. It was agreed by those committees that the College's template for programme specifications met QAA's guidelines for such documents, subject to minor adjustments. Further revisions to the programme specification template were approved in September 2009. The audit team noted that the new template required departments to state how they monitor the quality and standards of their awards, and teaching, assessment and personal tutoring arrangements.

13 The audit team inspected a range of programme specifications. These had been compiled for all degree programmes in 2001/02, with some having been very recently updated, and were available online. At the time of the audit, however, the web page which provides the links to specific programmes stated that not all programme specifications were currently accessible. The programme specifications inspected by the team now identify the FHEQ level at which courses are set. Some of the learning outcomes, however, were generic across a range of specific programmes. Students are invited to look in course handbooks or online for 'more detailed information on learning outcomes'. When the team followed the stated links, they were unable consistently to locate detailed, systematic information in the form of course specific learning outcomes. Similarly, although course handbooks supplied to the team provided much practical and useful information for students, they did not always outline detailed learning outcomes. The team concluded that good practice had yet to be consistently drawn upon in the specification and communication of intended learning outcomes.

14 The College introduced a revised annual monitoring template in 2006 in order to facilitate 'a more evaluative approach to the consideration of undergraduate programmes'. A revised, and fuller, version was introduced from the 2009-10 academic year. The College stated that this 'ensures the consistency of departmental returns and assists the faculty studies committees in making a thorough critical review'. The audit team's evaluation of documentation confirmed that appropriate use of this template would give faculty studies committees much more specific information, particularly on personal tutoring, progression data, the use of postgraduate research students in teaching and compliance with the Bologna process. The template also reflected QAA guidance on annual monitoring and review. No cycle for the consideration of annual monitoring reviews at faculty and college levels under this revised system had been completed by the time of the audit, however, so it was not possible to evaluate the system's impact on the College's quality assurance procedures.

15 The College had reviewed its approach to the approval of undergraduate and taught postgraduate programmes. Approval is in two stages, the first of which involves detailed consideration, including input from two external referees (four for postgraduate programmes), and the second a major review to determine how the course has met its initial objectives and progressed (see also paragraphs 28 and 29). The College approved the principle of common course coding in 2006.

16 The College has produced a Code of Practice for Communications and Publications. The aim is to clarify 'where responsibility lies for the provision of content for College publications and communications, and for their authorisation'. The Code is intended to 'protect the College's reputation by defining a framework to achieve consistency and accuracy'. The Code specifies who has responsibility for sign-off on communications of different types. The College's Communications Division is charged with providing advice and guidance in cases of uncertainty. The College was confident that its framework had now achieved consistency and accuracy of published material.

17 The audit team concludes that the College has responded appropriately to the recommendations of the 2005 Institutional audit. Some recommended actions had been ongoing over the interim period and had only recently been completed.

Institutional framework for the management of academic standards and the quality of learning opportunities

18 In its learning and teaching strategy the College stated that it 'embodies and delivers world class scholarship, education and research in science, engineering and medicine, with particular regard to their application in industry, commerce and healthcare'. A new strategy document was in preparation at the time of the audit and likely to be published in summer 2010. In meetings, the audit team learnt that the new document was unlikely to involve any significant departure from existing statements on academic standards and the quality of learning

opportunities. However, the College was likely to give priority to enhancing the learning experience of all students and to helping students to take responsibility for their own learning as part of the transition from school to university.

19 The Council is the College's governing body. The Rector is its principal academic and executive officer and has responsibility to Council. As Chief Executive, the Rector has oversight of the development of College's institutional strategy. The Management Board is chaired by, and supports, the Rector. Its responsibilities are 'to set and review the College's high-level strategy and priorities, and to establish budgets for College activities'. Council has delegated overall authority to the Senate for the academic work of the College. Senate has ultimate responsibility for the regulation, quality assurance and superintendence of the education and discipline of the College's students. It delegates operational responsibility for these areas, however. Each of the three faculties, Science, Engineering and Medicine, has a faculty studies committee responsible for undergraduate programmes.

20 The College has two graduate schools, the Graduate School of Engineering and Physical Sciences and the Graduate School of Life Sciences and Medicine. Both are headed by a senior academic as director. The directors of the graduate schools report to the Pro-Rector (Education). The primary role of the graduate schools is to enhance the quality of postgraduate education, but their remit also covers quality assurance and transferable skills training, networking, special events and open days. Postgraduate students automatically become members of one of the graduate schools upon admission. Each graduate school has a postgraduate quality committee. These committees are responsible for determining the frameworks by which departments operate for postgraduate education, the assurance of standards and the oversight of the processes of quality assurance for taught and research postgraduate degrees. Responsibility for the quality assurance of the Business School's postgraduate programmes lies with the Engineering and Physical Sciences Postgraduate Quality Committee.

21 At the time of the audit, the College's educational committee structure had been very recently revised. The Strategic Education Committee (SEC) set up a Quality Assurance Review Working Party (QARWP) in the autumn of 2008, chaired by the Pro-Rector (Education). The QARWP reviewed the College's existing quality assurance processes and considered their effectiveness and value. SEC had been concerned about the lack of clear reporting lines and there was evidence of some confusion between committees with strategic responsibilities and those with quality assurance functions. The QARWP noted a lack of a 'pro-active Quality Assurance Committee', and it was also concerned about a lack of clarity about where decisions were made. It also found that no clear mechanism existed for the 'downwards transmission' of information and decisions to faculties, departments and individual staff. The QARWP recommended that the College's committee structure be revised to separate strategic decision-making from quality assurance. It also recommended that the College's Quality and Academic Review Committee (QARC) should be disbanded, as the majority of its work could be undertaken more effectively by the faculty studies committees and graduate schools' postgraduate quality committees, and that the Quality Assurance Advisory Committee (QAAC), previously a subcommittee of QARC, should become more proactive in reviewing quality assurance processes and report directly to Senate.

22 SEC advises, and reports to, the Management Board on high-level college-wide strategy relating to the recruitment, education and retention of its undergraduate and postgraduate students, including equality of access and the learning resources available. The committee is chaired by the Pro-Rector (Education) and includes the Pro-Rector (International Affairs), the Dean of Students, Dean of Learning and Teaching and the directors of the graduate schools. The committee includes representatives from academic staff and academic support services but does not include student representatives. It receives reports from four subcommittees: the Graduate Education Strategic Committee, the Recruitment and Admissions Strategy and Policy Committee; the e-Learning Strategy Committee; and the Strategic Humanities Committee.

23 SRC advises the Management Board on high-level, college-wide research strategy, including research integration across the faculties and the development of strategic research relationships with overseas universities and with industry.

24 The College's QAAC advises the Senate on the implementation procedures relating to quality assurance and audit of quality. It also considers proposed changes to academic regulations and maintains an overview of statistics on completion rates, academic offences and complaints and appeals. This committee is chaired by the Pro-Rector (Education) and includes the Dean of Students, the Dean of Learning and Teaching, the Senior Dean and representatives from the three faculties and from the Business School. One student sits on the committee, which also includes the Academic Registrar and the Senior Assistant Registrar with responsibility for quality assurance and data. The Committee's remit also includes advising the Senate on the implementation of necessary arrangements to ensure compliance with national and international standards, including QAA's *Code of practice*. Quality assurance is the primary responsibility of faculty studies committees at undergraduate level and the graduate schools' postgraduate quality committees at postgraduate level. These faculty-level committees report to Senate.

25 Each faculty has a principal who is assisted by a deputy. Faculty management boards (or the Principal's Advisory Group in the Faculty of Medicine) are chaired by the principal and include the deputy principal and all heads of department. Faculty teaching committees (or the Strategic Education Committee in Medicine, and Programme and Quality Committee in the Business School) are concerned primarily with educational strategy and quality enhancement. Two faculty deans for each faculty are elected by academic staff to serve for a three-year period; they have a 'representative' rather than an executive function. A faculty dean sits on each appointment/promotions/award panel, with a primary remit to ensure that the panel pays proper attention to maintenance of academic standards and quality.

26 Heads of department are appointed by the Rector, normally for a period of five years. They have 'overall responsibility for the strategic direction and management' of their department, including its academic portfolio and financial resources. Specific management of teaching for individual programmes is delegated in different ways across departments.

27 Since several components of the University's framework for managing academic standards and the quality of learning opportunities at college level had been recently revised at the time of the audit, the audit team was not able to judge their operational effectiveness over a complete cycle of work. Examination of the minutes of meetings showed that a number of matters had been debated at both the SEC and the QAAC. The team, therefore, was not convinced that the intended operative distinction made between strategic decision-making and quality assurance functions was yet entirely secure. However, the team understood the logic of the new deliberative structure and accepted that it had the potential both to improve lines of communication within the College and to make an effective operative distinction between strategic planning for teaching and learning, and quality assurance processes.

Section 2: Institutional management of academic standards

Approval, monitoring and review of award standards

28 Undergraduate programme approval is a two-stage process: initial scrutiny is by the appropriate faculty studies committee (FSC) and by two external referees (one academic and one from industry or the health service), based on documentation that includes the programme's structure, purpose and rationale, likely audiences and markets, its relationship to the FHEQ and the European Qualifications Framework, and any PSRB accreditation and employer requirements. As noted above, the programme specification includes ECTS assignments and a Bologna template, and also requires admission and progression requirements, assessment methods and information on personal tutoring and student feedback arrangements. The programme proposals and referees' reports are considered by the FSC which then decides whether to recommend approval to Senate.

29 The second stage occurs during the second or third year of the new programme, and is a more detailed review by a subgroup of the FSC, including a student representative. The aim of the review is to confirm that the programme objectives are being achieved and specific criteria met. It covers curriculum design, learning and assessment, recruitment and progression, resources, student support, skills development and career prospects, and involves a meeting with students. Having examined sample review reports, the audit team noted that Stage 2 approval typically resulted in recommendations for further improving the student experience.

30 Proposals for new taught master's programmes require comparable information, including a draft programme specification, summary degree requirements, the ECTS assignment for each course element, and eight potential external referees. Two academics and two referees from industry or the health service selected by the postgraduate quality committee (PQC) chair comment on the proposal, and their comments, together with the department's response, are then considered by the PQC. The committee may recommend approval of the proposals, with or without modification, or may reject them. Once a proposal is agreed it is submitted to Senate for approval. The graduate schools monitor new courses particularly closely in their first year following approval.

31 The audit team reviewed documentation for the programme approval process, and concluded that the process made an effective contribution to the management of academic standards. The team considers that the opportunities afforded by the programme approval process for the early systematic review of newly introduced programmes constitutes good practice.

Annual monitoring

32 FSCs review undergraduate teaching annually. Departments submit programme specifications to the committees, together with a commentary based on the College's 10-part template for annual monitoring. This includes programme structure; examinations, assessment and evaluation of standards, student support, progression and career data, innovative teaching and students' learning and study skills; student feedback; and staff development. External examiners' reports, and departmental responses to the reports, are also included in the annual monitoring forms considered by the FSCs. The review of external examiner reports is incorporated within annual monitoring, so that these reports can inform the process, and departments must also summarise any follow-up actions to assessors' recommendations from external or internal periodic reviews.

33 Similarly detailed information on master's and Certificate of Advanced Study programmes is required for the PQC's internal reviews of postgraduate courses. These occur on a one to three-year cycle, according to a grading (poor, satisfactory or good) assigned by the relevant PQC. A member or nominee of the relevant graduate school PQC reviews and rates material

provided for the programme under review. This includes a course evaluation form requiring details of course aims and objectives, learning resources and other relevant information. The programme documentation, reviewer's report and departmental response are then considered by the committee which confirms or modifies the review judgment and determines the date for the next review. The postgraduate quality committees also review all postgraduate taught course external examiners' reports, on an annual basis.

34 The audit team read submissions and reports for a number of annual reviews. The documentation submitted was comprehensive and the team concluded that, overall, annual monitoring makes an effective contribution to the management of academic standards. However, in the team's view, the recent inclusion of external examiners' reports within the annual monitoring process represents extensive and significant additional information that may make the process unwieldy, with a particular risk of limiting full consideration of external examiners' views and responses to these (see also paragraph 42). The College may wish to review the operation of its annual monitoring process at an early stage with this in mind.

Periodic review

35 The College carries out periodic reviews with the aim of ensuring that programmes are effectively designed to achieve their intended learning outcomes, and are informed by external referents such as the FHEQ and national subject benchmarks. Periodic review also checks the currency and validity of programme content and appropriateness of standards, and the effectiveness of departmental quality enhancement processes. Many aspects of periodic review are common to the programme approval and annual monitoring processes, but in periodic review the opportunity is taken to set them within medium and longer-term strategic contexts.

36 Periodic reviews of undergraduate programmes are overseen on a five-yearly basis by FSCs, with two or three departments reviewed each year. Reviews occur 6 to 12 months after professional, statutory and regulatory body (PSRB) accreditation visits, using similar documentation so as to reduce departmental loads, and with a departmental commentary supported by statistical data as their basis. The periodic review panel includes an internal chairman of standing from a different faculty with knowledge of quality assurance processes, together with three external assessors, drawn from higher education, industry or business. Following a one-day visit to the department, panel members provide independent written reports, aided by a set of 'prompts' relating to standards, quality and student support common to all such College reviews. The FSC then reviews these reports, together with the department's response, and discusses them with departmental representatives, including a student, before reporting to Senate with recommendations for action and instances of good practice. Departments' reports on follow-up actions and panel recommendations are incorporated within subsequent annual monitoring.

37 Periodic reviews of taught postgraduate programmes, again with three external assessors, are conducted at faculty level by the PQC, with clusters of courses reviewed simultaneously, normally every six years. In contrast to the PQC's internal reviews focusing on individual programme details, periodic reviews treat overarching themes such as strategies for teaching, student learning and support, and assurance and enhancement processes assuring award standards. Many aspects of taught postgraduate reviews, including the need to set provision within medium and longer-term strategic contexts, are comparable to reviews of undergraduate programmes. The review process is also similar, with independent reports from the assessors, also guided by prompts relating to standards and quality, following a visit to the department. The panel's reports and departmental response are considered by the PQC, and discussed with departmental representatives, including a student, before reporting with recommendations to Senate. Departments then report follow-up actions to the PQC mid-cycle, unless the review's findings require earlier reporting.

38 The team read several periodic review reports of undergraduate and graduate programmes, and considered the process to be thorough and make an effective contribution to the management of academic standards.

External examiners

39 External examiners are central to the College's monitoring of assessment and academic standards, and have a particular responsibility for ensuring that the standard of its degrees is consistent with that of the national sector. Following nomination by departments, external examiner appointments are approved annually by FSCs or PQCs. An induction day is provided for newly appointed examiners which combines college and departmental/subject briefings. Further general information is made available on a dedicated external examiner website. Course-specific information, including programme specifications, marking and classification schemes, and past examination papers, is provided by the respective departmental examination board.

40 The external examiner report form is comprehensive, allowing examiners to comment specifically on assessment processes and academic standards, and more generally on programme content, teaching, learning opportunities, student achievement and standards in relation to subject benchmarks and the FHEQ. In their final year external examiners also submit an overview report.

41 External examiners' reports are reviewed by the Pro-Rector (Education) and Registry staff who highlight any significant issues. Departments consider reports and respond to them in the case of undergraduate degrees within the annual monitoring process. Reports and responses are then considered by FSCs and PQCs as appropriate, who in turn report to Senate as the body with overall responsibility for academic quality and standards. Following consideration of the reports, the Registry provides feedback to external examiners, and prepares summary reports for the Quality Assurance Advisory Committee (QAAC). External examiner reports are also available for accreditation and periodic reviews, and are consulted during internal reviews of postgraduate taught programmes.

42 The audit team read a number of external examiner reports. These confirmed that the College's use of external examiners was strong at the subject level and that their reports provided an overwhelmingly positive evaluation of the College's standards. The team concluded that the external examiner system was generally robust and effective at departmental level, and meets the expectations of QAA's *Code of practice*. However, the team noted some instances where significant issues of content, standards and process that had been raised by external examiners were not reflected fully in the minutes of FSCs, and still less so in their summary reports to Senate. It was evident that compression, and thus a dilution of information, had occurred along the reporting chain. A similar problem was identified with regard to the summary overview reports received by QAAC. Given the present faculty-based structures and abbreviated reporting, it was not clear to the team how responses with potentially college-wide implications would always be reliably identified and considered. Taking account of the College's statements received in the course of the audit, that oversight and development of quality and standards rests with Senate, and that Senate is actively involved in the monitoring of standards, the team found that significant information relating to the operation of the external examiner system may not reach Senate in sufficiently detailed form for that body to be able to exercise reliably such responsibility. The team accordingly considers it advisable for the College to ensure that Senate, or the relevant committee reporting to it, is provided with sufficient information on external examiners' reports to discharge responsibility for the oversight of academic standards.

43 As a part of the annual monitoring cycle external examiners' reports are seen by student representatives (often sabbatical officers) through their membership of FSCs and PQCs. Departments are responsible for ensuring that external examiner feedback is discussed at staff-student committees. It is intended that external examiners' reports be seen by student representatives, and the College had recently agreed to strengthen its recommendations in this respect.

However, the team was unable to confirm that the reports were yet being routinely referred to departmental staff-student committees or are otherwise readily available to students or their representatives within subjects. The team was told that issues raised by external examiners may be referred by staff to staff-student committees without their provenance necessarily being revealed. However, a scrutiny by the team of a representative sample of departmental staff-student committee minutes over the last three years failed to reveal any items obviously relating to external examiners' reports. On the basis of this evidence, the team was not convinced that student representatives on all programmes could reliably have access to external examiners' reports. The team, accordingly, considers it desirable for the College to extend the existing opportunities for student access to external examiners' reports.

Academic Infrastructure and other external reference points

44 The College uses QAA's *Code of practice* to review and enhance its arrangements for quality assurance. Reference to the *Code* has, for example, guided procedures relating to external examiners and their reports, departmental practices on assessment, course approval and review procedures, and the establishment of collaborative arrangements. The College's undergraduate and taught postgraduate awards accord with the FHEQ's H and M levels respectively. Undergraduate programme specifications relate to relevant benchmark statements while programme approval, annual monitoring and periodic review all require reference to the FHEQ and national subject benchmarks. External examiners are similarly required to confirm that standards achieved are consistent with the FHEQ, and programme content is consistent with subject benchmarks. Integrated master's programmes include at least one academic year's learning outcomes at M level, while postgraduate master's programmes are of 12 months' full-time duration and contain a substantial independent research project. The audit team noted some variability in the degree of detail provided about course learning outcomes in published programme specifications and handbooks.

45 Most undergraduate programmes within the College, and several master's and CAS programmes, are accredited by PSRBs for engineering and science subjects or by the General Medical Council. While accreditation is a departmentally-based process, the College assists with data provision as required, and the Registry maintains a record of the accreditation schedule for all programmes. From 2009-10, accreditation reports on undergraduate programmes are submitted within annual monitoring and for postgraduate programmes are presented to the relevant PQC; accreditation reports are also provided to periodic review panels. The audit team read documentation for several accreditation reviews, found evidence of their thorough consideration, and concluded that the College process for the consideration of PSRB reports makes an effective contribution to the management of standards.

46 The audit team noted one anomaly within the College's award framework: this related to the award of the Diploma of Imperial College (DIC). The College regulations provide for this award to be made to students of the College who have satisfactorily completed a minimum of one year's postgraduate work consisting of research and/or advanced study; this makes the award equivalent to level 7 (level M) of the FHEQ. The College regulations also provide for the same award to be made 'automatically' and additionally to a student registered for the degree of MSc, MRes, MBA, MPH, MEd, MPhil, PhD, MD (Res) and EngD upon the successful award of the particular degree (thus spanning levels 7 and 8 of the FHEQ). The team was informed that the practice of giving an additional distinction attached to higher degrees, specifically identifying the award with the College, was a legacy of the time before the College had its independent degree awarding powers and when awards were made by the University of London. The DIC was initially awarded as a postgraduate qualification and, when the University of London introduced MSc degrees in the mid 1960s, the College's DIC courses were converted to University of London MScs with the DIC retained as a 'post-nominal' to indicate that students had obtained the London MSc from Imperial. This was valued by former students in securing a clear and enduring link with the College. On the assumption of its own degree awarding powers, however, the

status of the DIC award changed. The College's Regulations state that the College makes its own academic award of the DIC as a stand-alone academic qualification at postgraduate level (level M). Since the College has also continued to use the post-nominal distinction the team was concerned that this practice could lead to confusion in the public domain. The team was further concerned that the DIC award was potentially in breach of the fundamental principle that one academic qualification only should be awarded for one body of work. The team, accordingly, considers it advisable for the College, in the context of its degree awarding powers, to consider the appropriateness and use of the DIC as both an academic award and a post-nominal title.

47 With the exception of the DIC, the team concluded overall that the use made by the College of the FHEQ and other external reference points within the Academic Infrastructure makes an effective contribution to the management of academic standards. As noted below (paragraph 109), the College's collaborative arrangements will benefit from further reference to the relevant sections of QAA's *Code of practice*.

Assessment policies and regulations

48 The College aims for consistent standards in assessment through the application of common conventions and has recently made progress towards greater uniformity through, for example, the use of common marking frameworks and a common tariff of penalties for academic offences. However, differences remain between subjects and departments: there is variation in the weightings assigned to levels for calculating final degree marks within closely related three and four-year programmes, and departments differ in the sanctions imposed for late submission of assessed work.

49 The common College marking framework for first degrees includes discretion bands of 2.5 per cent at the upper ends of the provisional class ranges; this approach is also used for taught postgraduate master's courses in respect of pass, merit or distinction awards. Candidates whose performance falls no more than 2.5 per cent below the minimum mark for a higher classification are eligible for review of their final classification; this review can include an oral (viva) examination or practical test or other mechanism appropriate to the discipline. Some departments viva all such candidates in this way, others select within the eligible groups, sometimes on the basis of the overall marks profile, and some select students outside the discretionary bands as a 'benchmark' check on standards. Some vivas involve an internal and external examiner, others externals alone. The audit team was told that students are reminded about the nature and significance of the viva just before the examination session. There are no college-wide assessment criteria for viva examinations. External examiners report verbally to the examination board on viva performance, but there are no written reports.

50 Within the Faculty of Medicine examination boards consider candidates at undergraduate level anonymously, but in other faculties candidates are reviewed by name, which in the view of the College allows consideration of individual circumstances. However, some external examiners had expressed disquiet with this procedure, since in their view it can lead to inequitable treatment between candidates, depending upon whether or not personal tutors with detailed knowledge of individual students attend examination boards, and can also, on occasion, lead to an element of double counting in the assessment process, with particular emphasis placed on performance in a given piece of work, such as a project. It was not clear to the audit team that the College had determined that any change was necessary in view of these points raised by external examiners, which highlighted variability of practice. The team noted these several examples of varying practice across the College in assessment procedures, relating to classification decisions, to vivas, and to examination board procedures. The team concluded that it was advisable for the College to expedite its review of assessment procedures to ensure greater consistency in the management of academic standards within and across its degree structures, and parity of treatment for examination candidates.

Management information - statistics

51 Senate and its subcommittees receive student progression and completion data each year at undergraduate, taught postgraduate and research student levels. In particular, FSCs review undergraduate failure and progression rates annually, both to identify good practice and initiate remedial action where necessary, and PQC's examine data on master's course failures, research degree submission and completion rates, and research council studentship awards. Both committees monitor follow-up actions by departments as appropriate. Other data sources, such as the International Student Barometer and National Student Survey results, as well as several internal surveys, are also considered by the College which is currently implementing Imperial College Analytics, an enhanced management information tool that will improve data access for departments. The audit team saw examples where management information had informed discussion and policy at departmental, faculty and college levels, and concludes that it makes an effective contribution to the management of academic standards.

Section 3: Institutional management of learning opportunities

52 The overarching framework for learning and teaching at the College is provided by its learning and teaching strategy 2006 to 2009 with a subsequent version for 2010 to 2013 currently being developed. Each faculty determines its plans and priorities for learning and teaching compatible with its own discipline base and within the overall College direction. The Pro-Rector (Education) has responsibility for the College's education strategy and the quality of education provided by the College. The Pro-Rector (Education) is supported by the Dean of Students, the Dean of Learning and Teaching and the directors of the graduate schools who, along with the School of Professional Development and the Education Strategy Manager, constitute the Education Office. The latter is responsible for developing, facilitating and supporting the College's strategy for the provision of education and for giving advice on such matters to the Rector and the Management Board. The Pro-Rector (Education) chairs the Strategic Education Committee (SEC). The committee advises the Management Board on high-level, college-wide educational strategy.

Academic Infrastructure and other external reference points

53 Reference to the Academic Infrastructure supports enhancement of learning and teaching at the College in various ways. The sections of the *Code of practice* are used as a gauge for review and improvement of current practice. Changes in sections of the *Code* are scrutinised by the Quality Assurance Advisory Committee (QAAC). Outcomes of deliberations on the *Code* have included the formulation of College guidelines for careers education, information and guidance for postgraduate taught students and a checklist of actions for departments relating to assessment practices. Subject benchmarks are reflected in programme specifications and made explicit in the learning outcomes for individual programmes. From the reading of minutes and discussions with staff, the audit team confirmed the College's view that its processes for managing the quality of students' learning opportunities are well aligned with the Academic Infrastructure.

54 A major part of the College's provision is accredited by professional, statutory and regulatory bodies (PSRBs). The primary locus of contact with such accrediting bodies is the department. Accreditation reports form part of the faculties' monitoring and periodic review process and, as such, provide additional material to support the enhancement of learning opportunities. The audit team read a selection of accreditation reports and noted that these contained several emergent themes of good practice. However, in the absence of any overall College report capturing such instances of good practice, it was not evident to the team how these were effectively disseminated beyond the departments and faculties directly involved.

55 On the basis of the documentation reviewed and discussion in meetings, the audit team concluded that the College makes effective use of QAA's *Code of practice* and other external reference points in managing the quality of the students' learning opportunities.

Approval, monitoring and review of programmes

56 The College's framework for approval, monitoring and review of programmes has been outlined above. The College sees these processes as designed to assure the quality of provision and to enhance the quality of learning opportunities for students. Central to these processes is the need to demonstrate that feedback from students has been sought and considered. The audit team was able to confirm from meetings with students, and from perusal of reporting templates, that arrangements for considering student feedback are in place and are generally effective (see paragraph 58).

57 It is College policy that documentation for new programmes of study must include information pertinent to the quality of student learning opportunities. Specifically, information on the organisation and pattern of teaching, learning outcomes, professional and transferable skills and workload are an integral part of the approval process. The second stage of the approval process (see paragraph 29) pays greater attention to the achievement of the programme objectives, giving consideration of the balance between subject content and student workload and the development of student learning skills. Annual monitoring reports routinely cover a wider range of issues than those associated with programme changes and student progression and achievement. Consideration is given to innovative teaching, research-led teaching and staff development, all of which have the potential to enhance the student learning experience. FSCs receive annual monitoring reports which facilitate a wider oversight of the quality of the student experience and follow up any specific concerns with departments. The periodic review process pays particular attention to the extent to which educational objectives have been met and to the overall student learning experience. Documentation provided by departments concentrates on such issues and is reviewed by a panel of assessors. In their reports, assessors are encouraged to highlight examples of good practice including innovative teaching strategies and research-led teaching which might be worthy of dissemination throughout the College. The audit team read a selection of documents and reports associated with the approval, monitoring and review of the College's programmes, and confirmed that the processes paid due regard to the quality of the student learning experience. Overall, the audit team considers that the procedures set out by the College for the approval, monitoring and review of its programmes are effective for the management of learning opportunities.

Management information - feedback from students

58 The College runs an extensive family of electronic student surveys to gauge student opinion. The Student Online Evaluation survey (SOLE), introduced in 2002-03, contains questions relating to the modules taught on each programme and the lecturers teaching these modules. The Pastoral On-line Evaluation survey (POLE), introduced in 2006, asks all first-year undergraduate students in their first term about their initial experiences at the College. A Master's Online Evaluation survey (MOLE) commenced in autumn 2009 for postgraduate taught students, whilst a Tutorial Online Evaluation survey (TOLE), asking questions relating to the personal tutor system, was introduced in December 2009. Postgraduate research students are asked for their views biennially by the Research Online Evaluation survey and by the Higher Education Academy's Postgraduate Experience Survey. The totality of these surveys enables the College to ascertain opinion across the whole range of its student constituencies.

59 Survey results are considered within the committee structure of the College. QAAC considers an overview from most surveys while disaggregated data is considered at the appropriate faculty and/or departmental level. The audit team read how the SOLE results are used to inform both the annual monitoring and review of programmes. The audit team was able to confirm from its meetings and by reading of committee minutes that survey outcomes were assiduously considered across the College and formed an important source of feedback from students.

60 The results of the National Student Survey (NSS) are considered by the Management Board, SEC and QAAC. Survey results are fed back to departments through heads of department. A summary of the College's annual NSS outcomes is available on the College's website while all the results of internal College surveys can be viewed on the Student Viewpoint database. SOLE and MOLE results for individual members of staff included in the survey are sent electronically to those individuals. The audit team found that the mechanisms for informing academic staff of the feedback from students were well embedded across the College.

61 At departmental level feedback from students is also obtained via staff-student committees. The student written submission alluded to the variability in the effectiveness of these committees and this was also a matter raised by student representatives met by the audit team. In common with many higher education institutions, the College has identified from its surveys, and through staff-student committees, problems with its arrangements for feedback to students on assessment. The audit team saw evidence of a number of initiatives to improve matters in this area. Students highlighted improvements in the timeliness of feedback in certain departments while at college level a good practice guide will be developed to be distributed to departments. The efficacy of these arrangements is to be monitored by the Education Office via staff-student committees and through SOLE, with reports provided to the Student Academic Experience Working Party. The team concluded from its meetings with staff and students that the College did use information from student feedback to improve the student learning experience, although its use and impact was variable across departments. Overall, the team found that there was extensive and effective management information based on feedback from students.

Role of students in quality assurance

62 The College stated that it 'welcomes and actively encourages the participation of students at institutional, faculty and departmental levels, through membership of standing committees concerned with Quality Assurance and Educational Strategy'. The student voice at institutional level is represented on various committees including Senate, the faculty studies committees, the postgraduate quality committees in both graduate schools and the QAAC. The President of the Imperial College Union also sits on the Imperial College Council. Student officers are invited to participate in various project working groups such as the recently formed Student Academic Experience Working Party. From the meetings with students, the audit team also heard that student representation worked effectively through non-formal meetings with senior members of staff. Student representatives expressed satisfaction that their voice was listened to and acted upon within the College's quality assurance processes relating to programmes. In particular, the team noted that an officer of the Imperial College Union had participated in a recent second stage undergraduate programme approval event, and it was informed by senior staff that this method of representation would be repeated in future approval processes.

63 The student written submission drew attention to the fact that there was no student membership of the College's Strategic Education Committee (SEC). As noted above (paragraph 22), this committee is responsible for all matters relating to the educational strategy of the College. The audit team raised this matter in its discussions and heard that students were able to make presentations to the committee and to participate in the annual SEC 'Awayday'. Students may also contribute to the SEC working parties. In meetings with the team, senior staff indicated that the contribution made by students in the annual 15-minute presentation to SEC was highly valued, but they nevertheless took the view that it was not appropriate for students to sit upon strategic committees, and that student membership should be limited to those college committees performing a specific quality assurance function. It was argued that it was important to have the opportunity to discuss sensitive issues openly in SEC without a student representative present.

64 The audit team learnt that Imperial College Union student officers had argued, in a presentation to SEC in May 2008, for representation on the SEC. The team also noted that the minutes of SEC showed that the students had accepted a suggestion that the Pro-Rector (Education) would discuss the agenda and minutes with the Union and would invite the President

and/or Deputy President to attend meetings for specific discussion items. This was in addition to the regular, normally annual, presentation made by students to SEC on key issues. The team also noted that the minutes of SEC showed that this was a sensitive matter within the College. It was also clear to the team, from reading the agendas and minutes of the committee, that part of its business was directly concerned with learning and teaching matters. With regard to the role and remit of the committee, the team noticed that there was a recent decision that there 'must now be a focus in the College on improving student experience and that SEC should take responsibility for this and view it as a close collaboration with the staff and students'. A Student Academic Experience Working Party, including student membership, was established to facilitate this. Notwithstanding the arrangements that had been made to inform students of the work of the committee, and involve them in its working parties, the team took the view that the formal exclusion of student representatives from membership of a major deliberative committee of the College concerned with educational matters was unusual, and potentially deleterious to the management of the quality of learning opportunities. The College may, therefore, now wish to review the membership of SEC, taking into account the committee's range of responsibilities and the extent to which there is a legitimate interest of students in its business.

65 Students are represented at course level by year group and subject representatives, elected on a yearly basis. Course representative training is provided by Imperial College Union. Students are supported in carrying out their role by being given access to email lists for their respective constituencies. The primary interface for student representatives to feed back the view of their peers on the student experience of programmes is through departmental meetings. The audit team noted that the Deputy President (Education) of the Imperial College Union had recently begun to collate feedback from staff-student committees with a view to gaining a general overview of matters discussed. However, the evidence seen by the team showed that staff-student committees operated differently across the College, with considerable variability of practice. The College had introduced good practice guidelines for staff-student liaison committees in 2005, and was currently reviewing these, but it was apparent that these were not being implemented fully in some departments. Students informed the team that committee agendas are arranged in different ways in each department. Timing and frequency of meetings varied considerably, taking place monthly in one department, each term in another. Furthermore, students did not often have the opportunity to take on the role of chair or deputy-chair of the committee, as was recommended in the College's guidelines. These general statements from students were supported by the documentation presented in the audit trails. Students are also members of a variety of departmental and faculty-level committees. Again, there were differences across the College in these arrangements. The student written submission particularly highlighted the lack of student representation on the Engineering Faculty Teaching Committee. The College's briefing paper noted that in Engineering there is an annual meeting with faculty student representatives to identify faculty-wide issues for discussion with the Teaching Committee.

66 The College noted that 'most departments have separate [staff-student] committees for undergraduates and postgraduates'. In general, it appeared that postgraduate representation arrangements were less formalised. However, it became apparent through meetings with both postgraduate students and with staff that the postgraduate voice at the College is strong and is taken into account at various levels. Staff spoke highly of the input of student representatives at postgraduate quality committees in particular. It was noted from the minutes of a number of committees that postgraduate student representative places sometimes remained unfilled. Postgraduate representation had, however, been strengthened in the Imperial College Union; it was hoped that this development would lead to improved postgraduate representation on College committees.

67 As already noted, there are strengths evident in the consultation with student opinion through the various online surveys regularly conducted by the College. However, the audit team reached the conclusion that consistency of student representation on committees and their input into the College's deliberative processes cannot currently be guaranteed. This was demonstrated

by the variability in the operation of staff-student committees at departmental level, the variability of representation on faculty-level committees concerned with teaching, learning and quality assurance, and the lack of formal student membership on a key institutional committee, the SEC. The team therefore considered it advisable that the College now provides for a full and consistent level of student representation on all of its deliberative academic committees.

Links between research or scholarly activity and learning opportunities

68 Students study in a research-rich environment and are taught in most cases by research-active staff. Although new programme documentation does not make specific reference to the research-teaching nexus, it does ask for the proposal to demonstrate how it will take a student to the cutting edge of the discipline. From a careful reading of a sample of programme specifications, it was clear to the audit team that the learning and teaching strategies required students to engage with research findings and undertake research-based project work. Both annual monitoring and periodic review of programmes ask for examples of good practice relating to innovative and research-led teaching methods. Meetings with staff and students confirmed that, typically, students are exposed to research-led teaching, especially in the latter stages of their studies.

69 The College's learning and teaching strategy highlights the opportunities available for students at a research-intensive university to be involved with an active research project. The College has a well-established undergraduate research opportunities programme which enables undergraduate and taught master's students to undertake a funded placement working alongside a member of staff or research group and, hence, acquire direct research experience. The Faculty of Engineering has established EnVision, a teaching and learning development and support group, which works through the faculty teaching committee to deliver world-class education in engineering. It supports innovation in teaching which encourages research-based learning. The audit team identified clear evidence that the students' learning experience was enriched by the research environment in which they were studying.

70 The audit team concluded that the College has successfully developed links between research and teaching. Students met by the audit team were appreciative of the benefits to them of learning in a research-rich environment. The ways in which the College draws upon its research excellence for the benefit of students' learning opportunities was considered by the team to be a feature of good practice.

Other modes of study

71 The College's only involvement with distance learning is through its distance-learning MBA. For this programme the external examiners, in addition to their normal role in reviewing assessment, have access to the online environment and can monitor student discussions. The MBA is also externally accredited. The College makes use of more blended learning with substantial e-learning elements, primarily offered in postgraduate master's programmes, including some modules offered in respect of continuing professional development.

72 Oversight of e-learning provision is provided by the e-Learning Strategy Committee which reports to the SEC. An e-learning strategy also forms part of the College's wider learning and teaching strategy as a tool to supplement, but not replace, face-to-face teaching. Most programmes now contain some element of e-learning, facilitated by greater use of the virtual learning environment. Learning technologists in each faculty support the development and implementation of learning technologies within disciplines. Innovative use of e-technologies is well established across the College. Half of the Business School's teaching on EnVision in the Faculty of Engineering is available online, while the Faculty of Medicine has been commended by its professional accreditation body for making material taught face-to-face available also as online lectures and podcasts. Students met by the audit team commented favourably on the resources available for e-learning and its use in teaching.

73 The quality assurance of e-learning is subsumed within the normal quality assurance framework. The audit team observed that the distance-learning-based MBA had not yet undergone a periodic review since its inception in 2002. No additional guidelines have been developed relating to the approval and review of online materials. The team was of the view that, given the use of e-learning within the College, including the blended learning variants, it would now be appropriate to introduce more specific arrangements for the quality assurance of such technology-supported learning, making reference as appropriate to the expectations of QAA's *Code of practice*. Accordingly, the team considered it desirable for the College to introduce procedures for checking the quality of any online teaching and learning materials used in its programmes.

74 A number of degree programmes include the opportunity for work placements. The College's placement learning policy covers all students at all levels and is in line with QAA's *Code of practice*. The policy outlines the responsibilities of departments, student and placement providers to ensure that students are given the training and support to achieve the learning outcomes provided by the placement. Guidance is provided for the sound management of placements including legal, health and safety and disability considerations. Information read by the audit team confirmed that satisfactory guidance on placements was provided. Students met by the team who had been on work placements were complimentary regarding the support provided by departments and the overall learning experience. The team concluded that the College's arrangements for placements were sound in principle, effective in operation and proportionate to the risks involved.

Resources for learning

75 The College's strategic plan for the College Library, 2006 to 2009, defines the direction and development of the Library, and the next phase of this plan was currently under construction. The library's faculty support services directorate reflects the academic structures of the College and a library learning development team was created in 2008 to implement the library's learning development strategy. Library resources are tailored to curriculum demands, and there is effective liaison between faculty support services and course organisers. Librarian team leaders sit on various faculty and department committees. There are libraries at each College campus but some students expressed concern regarding the variability of learning resources between satellite campuses.

76 Both the briefing paper and the student written submission drew attention to the high level of investment in resources for learning. Since the last audit, the Library has undergone significant redevelopment to create more student-centred spaces. Students rate the library facilities at the College very highly and the NSS 2009 positive rating of 94 per cent indicates widespread satisfaction with the resources available. The Library is responsive to user needs and runs an annual student survey, to which 2,000 students responded in 2009. Furthermore, the Library carries out surveys on specific aspects of its service to attain student opinion on certain issues, for example, the central library study space survey in 2006.

77 Undergraduates have access to the College's online virtual information assistant (OLIVIA) system, which assists them in developing study and research skills. The Library produces a regular newsletter, 'Impact', which informs both undergraduate and graduate students of library developments and opportunities for training. The Library defines its strategic intent as being to connect people to knowledge and provide a focus for student learning. In order to achieve this aim the library communicates with its user group via the use of social media including videos introducing library staff, podcasts and an active twitter feed. Subject-based blogs have been running since early 2008 and are tailored to make students aware of new training resources, journal subscriptions and other library developments. In these different ways, the library website is a rich resource and signposting facility for students. The audit team considered this multifaceted media method of informing students of new resources as distinctive and a feature of good practice at the College.

78 Students have access to campus computer rooms and are supported in using their own computer equipment by the ICT (information and communications technology) Service Desk. IT provision has also been rated highly in the NSS, and students welcomed and valued the rolling replacement programme for desktop computers. The 'My Imperial' portal, which went live in October 2008 but is continually being expanded in terms of the features it offers, provides students and staff with a web gateway which enables students to access support resources and learning resources. Some students complained of lack of availability of computers at particularly busy times on-campus. The postgraduate students that met with the audit team expressed some concerns regarding the availability of individual workspace and access to personal computing.

79 Students confirmed to the audit team that the College's physical teaching facilities were satisfactory and some rated their laboratory and workshop provision very highly. In general, students benefit from excellent learning resources at the College.

Admissions policy

80 Since the last audit, the College has undertaken a wide-ranging review of its admissions procedures and a new electronic system was introduced in October 2009. The Recruitment and Admissions Strategy and Policy Committee (RASPC) considers all matters relating to the recruitment and admissions of European Higher Education Area and overseas students, and reports to SEC. RASPC replaced the Recruitment and Admissions Policy Committee in October 2009. The Undergraduate Admissions Committee (UAC), which reports to Senate, provides a monitoring and quality assurance role and draws a wide cross-sectional membership from the College. Postgraduate recruitment activities and admissions are monitored by the graduate schools' management Committees.

81 The College states that its intention is to attract and develop the most able students worldwide. Admission to all of its courses is competitive. On average five students apply for each available place. Registry receives applications and assesses them for academic appropriateness and for fee status before they are sent to departmental undergraduate admissions tutors who make decisions about the qualifications and suitability of individual applicants. Since the last audit, the College has introduced additional admissions tests (the Bio Medical Admissions Test and the UK Clinical Aptitude Test) for some courses. The College is also currently considering introducing entrance examinations but these are subject to pilot data analysis and committee approval. Most students are interviewed or invited to visit the College prior to a place being offered. Undergraduate admissions tutors are responsible for the management of the admissions process at departmental level, and targeted training is provided for them. At postgraduate taught level, a first degree of a British university at Second class honours, or its overseas equivalent, is normally required, with many courses requiring an Upper Second class honours as a minimum entry requirement. All postgraduate applications are considered by Registry admissions staff who use a wide range of resources in making their assessment. This assessment is then communicated to the admitting department via the electronic e-Admissions process. If an application is considered to be below the minimum standard it is marked as 'not qualified'. If a department wishes to admit such an applicant it must put forward a written special case to be taken to the appropriate graduate school panel for consideration and approval.

82 The College's widening participation strategic assessment focuses upon raising the aspirations of, and providing financial support to, undergraduate students from lower socio-economic groups and communities, including those from ethnic minorities. A wide portfolio of widening participation projects comes under the title of 'Imperial Outreach'. This umbrella title embraces the Imperial Volunteer Centre, the Student Associates Scheme and the Pimlico Connection Student Tutoring scheme, which together involve large numbers of students. Of particular note is the College's engagement and use of postgraduate students in access initiatives. The INSPIRE (Innovative Scheme for Post-doctoral staff in Research and Education)

programme, the Outreach Postgraduate Ambassadors Scheme, and the Reach-Out Laboratory, were considered by the audit team to be original and valuable in the ways in which they involved this section of the student population.

Student support

83 Management responsibility for student welfare and support lies with the post of Dean of Students, established in 2007, a development which was particularly welcomed by student representatives. The Dean chairs the Student Welfare Committee which considers all issues relating to the wellbeing of the College's students. The Dean also chairs the Student Welfare Seminar, an annual event that aims to disseminate good practice and share common experiences.

84 In October 2008 the College created a 'Student Hub' to act as a focal point for student services. It also launched a website for new students in 2009. This aims to help with transition issues and academic induction, and has been well received. Wardens provide pastoral support in the residential context. All hall wardens have additional areas of responsibility on the Warden's Committee and, in October 2009, one hall warden was given the responsibility for maintaining an overview of the support available for non-residential students. College tutors are based within academic departments and have a supra-departmental role in the welfare of all College students.

85 Personal tutors are a source of both academic and personal support for students. They are expected to be in regular face-to-face contact with students and maintain an overview of their tutees' academic progress. The student written submission highlighted personal tutoring as an area of ongoing concern. Students have expressed reservations about the personal tutoring system in recent years, particularly drawing attention to the quality of personal tutor relationships and the regularity of contact. The POLE results from first-year students in 2009 showed that 68 per cent of students completing the survey had confirmed that the support provided by their personal tutor was either good or very good, indicating some dissatisfaction in other respondents. Data from the NSS also suggested that students would like more advice and support from staff. Imperial College Union carried out a survey of student opinion on the personal tutor system in 2008-09, and this also supported these findings.

86 The Quality Assurance Review Working Party recommended in a report to the Strategic Education Committee in April 2009 that the College 'review and improve the personal tutoring system' with a target date of December 2009. In June 2009 the Strategic Education Committee established a Student Academic Experience Working Party (SAEWP) tasked with considering the issue, one commonly considered a challenging area in many institutions across the sector. The SAEWP had at the time of the audit met three times. The audit team observed that the working party on which the students were represented by the Deputy President (Education), was established by, and reported to, SEC on a matter clearly of central interest to students.

87 The audit team noted a number of initiatives which had recently been introduced to address this issue. These included Rector's Awards for Excellence in Pastoral Care, further personal tutoring training within the context of the Certificate of Advanced Study in Learning and Teaching, and a Tutorial Online Evaluation Survey (TOLE) to provide more information about the student experience of tutorial support. A recent document produced from the work of the SAEWP gave details of examples of good practice in this area. The initial results of the TOLE survey looked to show positive results. The team discussed the quality of personal tutor support with the students that it met. There were varying views, with some students suggesting the problems were continuing and that improvement had been slow; others expressed satisfaction with their personal tutor relationship. The team concluded that the College's systems had been effective in identifying an area where improvement was desirable, and that it had begun working to address the concerns. The team noted that some progress had already been made in this area of student support.

88 Support for international students is provided by the International Office and is rated highly by the International Student Barometer survey participants. International students are able to participate in the English language support programme if English is not their first language, and this programme is free to the students. Students with whom the audit team met spoke positively of their experience of orientation and welcome, particularly praising the 'student-led' activities in their first few weeks at the College.

89 The Student Counselling Service offers short-term counselling to students. The Service has recently benefited from increased staff provision. This was welcomed by student representatives who considered the provision currently to be sufficient to need. The College's Careers Service offers a range of activities and events aimed at giving current and former students the information, advice and guidance they require in gaining graduate employment. The service has received positive feedback in its latest survey of users in Spring 2009 and has also achieved Matrix accreditation. The Disability Service is available to students from the point of admission onwards. Departmental disabilities liaison officers work with the Disability Service and assist students in their subject area. The College anticipates increased disability disclosures over the coming years and is therefore investing in additional staff for the service while initiating a review of disabilities support in 2010.

Staff support (including staff development)

90 A College strategic objective underpinning its research and education themes is to attract, reward, develop and retain staff of the highest calibre. The College Human Resources strategy (2008 to 2011) aims to leverage the attraction, reward and development of staff. There is comprehensive guidance on recruitment and selection of staff which has been developed to ensure rigorous assessment at interview of the level of commitment to, and skills in, teaching. Induction days are run for new staff and the audit team confirmed that full information is available on all human resources policies, procedures and benefits on the Human Resources web pages.

91 The Educational Development Unit (formerly the Centre for Educational Development) supports learning, teaching and educational development across the College. It runs the accredited postgraduate Certificate in Advanced Study in Learning and Teaching (CASLAT) which is compulsory for probationary lecturers without prior equivalent training or experience. It also runs a workshop on assessment and marking skills for research students who teach. This is compulsory for graduate teaching assistants who assess students. The audit team was told by the College that these courses were oversubscribed and that departments also run similar, alternative, instruction courses for their graduate teaching assistants. Most staff complete the CASLAT course within their three-year probationary period and probationary lecturers are always given priority access to the course. Graduate teaching assistants are not allowed to teach before attending a training course, provided either by their department or by the Educational Development Unit. Credits from CASLAT can be used towards a MEd in University Learning and Teaching. College staff who support student learning, but who are not part of the full-time academic staff of the institution can take a blended, non-credit bearing programme in supporting learning and teaching. Staff and graduate teaching assistants met by the team were appreciative of the training and developmental opportunities available to them. The team concluded that these were tailored well to the needs of the College.

92 The College's appraisal system, the personal review and development plan (PRDP), is mandatory on an annual or biennial basis for all academic and academic related staff. Normally conducted by a head of department, the review discusses individual performance and future objectives and culminates in a personal development plan which highlights the skills and knowledge needed to meet these objectives. The process enables consideration of teaching and of pastoral care activities which are formally captured on the PRDP form. Human Resources receive copies of completed PRDP forms and review these to identify staff development needs. From discussions with staff, it became apparent to the audit team that, although priorities differed in the agenda at the review and development discussion, the range of its coverage made a valuable contribution to supporting staff in their teaching role.

93 The College has continued to raise the profile of teaching. While it adopts a flexible approach to routes for promotion, one route relates to teaching and associated activities such as programme development and leadership. Additionally, there are college and faculty awards for excellence in learning and teaching, several of which allow nomination by students. In 2009, 27 staff were recognised for their excellence in teaching, pastoral care or research supervision, with seven of the staff being awarded college teaching fellowships. The audit team was able to confirm from discussions with staff that the College was taking effective steps to enhance the recognition of teaching at the College. The importance accorded to the quality of teaching and the various ways in which its profile was being enhanced commended itself to the team as an instance of good practice.

94 The overall conclusion reached by the audit team is that confidence can reasonably be placed in the soundness of the College's present and likely future management of the quality of learning opportunities for students.

Section 4: Institutional approach to quality enhancement

95 The Strategic Education Committee (SEC) provides the overall direction for the College's quality enhancement strategy. It is supported in this role by three key subcommittees, focusing specifically on strategic aspects of graduate education, e-learning and student recruitment. Faculty teaching committees are responsible for faculty-level learning and teaching developments and, from October 2009, these committees had reported formally to the SEC via their representatives on that committee. The minutes of the SEC and its subcommittees provided evidence to the audit team that issues concerning quality enhancement were regularly considered. For example, the Student Academic Experience Working Party established by the SEC draws on surveys to consider how assessment and feedback can best be improved. The Pro-Rector (Education) chairs the SEC and has overall responsibility for the strategic leadership of teaching and learning opportunities. The Pro-Rector is supported in this role by the Dean of Students whose responsibilities primarily concern the oversight of student welfare, and the recently established post of Dean of Learning and Teaching who has particular responsibility for the quality and timeliness of information provided to students. The Educational Development Unit, the School of Professional Development and the Learning Development Centre work across the College to provide support for academic practice. The team considered that the organisational and governance structures were appropriate and indicative of a strategic commitment to the enhancement of student learning opportunities.

96 The College takes a multifaceted approach to the development and management of quality enhancement. Quality enhancement is regarded by the College as the deliberate intent to encourage and manage improvements in learning opportunities for its students, including developments in teaching, student support and services. The culture of academic excellence emanating from a research-rich environment encourages continual development of learning opportunities at faculty and departmental level. This approach was embodied in the College's learning and teaching strategy 2006 to 2009. This outlined the vision of each faculty for learning and teaching as well as major cross-institutional themes. The latter included the expanding use of e-learning and technologies to complement existing teaching; the research-teaching nexus; support for students with diverse needs; and the support and reward of academic staff involved in teaching, student support and welfare. The next stage of the College learning and teaching strategy was currently being developed for 2010 to 2013. The learning and teaching strategy is supported in its objectives by the Human Resources strategy, the e-learning strategy and the library strategy. The audit team was able to see evidence of the effective implementation of these strategically-led enhancement developments within the College, a number of which could be seen to flow directly from the learning and teaching strategy. These included, in addition to the initiatives mentioned above, a number of faculty-based initiatives such as EnVision, and the work of the graduate schools in training research students.

Management information - quality enhancement

97 The College has undertaken regular student evaluation of its programmes and the staff who teach on them (see paragraphs 58-61). A working party, chaired by the Dean of Learning and Teaching, was set up by the Quality Assurance Advisory Committee in Summer 2009 to review all College surveys. This led to changes in the questions asked in the survey for the academic year 2009-10. Information from these internal surveys, as well as the National Student Survey, the International Student Barometer and the Postgraduate Research Experience Survey, is discussed at various committees with faculties and in college committees. The Student Academic Experience Working Party set up by the Strategic Education Committee is investigating how assessment and feedback can best be improved. The audit team considered that information useful for improving the quality of student learning opportunities was being captured by the relevant committees, but it found that not all staff met by team were fully familiar with the information stemming from the student surveys. The College will derive the greatest benefit from the richness of survey information regarding the student experience if it can strengthen the availability of that information to all those involved in the deliberation of issues on quality enhancement.

98 Overall, however, the audit team found the College had a significant and sustained commitment to the improvement of learning and teaching, largely directed by its faculties and commensurate with its discipline base.

Good practice

99 The College recognises the value in disseminating good practice. This assumes particular importance in an institution where each faculty is allowed to define its own plan and priorities for learning and teaching, albeit within broad parameters set by the College. The outcomes of the periodic review process (see paragraph 36) enable the identification and sharing of examples of good practice for inclusion in the undergraduate and postgraduate Good Practice Guides. From a close reading of these guides the audit team formed the opinion that they were primarily compendiums of information pertaining to programme management rather than instruments for dissemination of good practice. The College has run an inaugural Education Day, an e-Learning Day and a welfare seminar. One of the aims of these staff conferences is to promote new ideas and good practice and to share expertise among practitioners. Staff met by the team confirmed that such days provided a useful forum to highlight learning and teaching at the College. Educational development coordinators in each department meet once a term as a group to discuss and share ideas about teaching and learning. They are able to place information regarding College learning and teaching developments in a local context and have a formative function in gradually changing departmental attitudes to learning and teaching. A number of departmental initiatives, such as the Communicating Maths module in the Faculty of Natural Sciences and the 'Flexi-Friday' scheme in Engineering, have been more widely taken up across their respective faculties. From meetings with staff, reading of committee meetings and examination of the Educational Development Unit website, the team was able to confirm many instances of good practice. These are welcome developments across the College, but the team nevertheless found that there was a lack of any systematic arrangement for the identification, collection, consideration and wider dissemination of innovative developments within the various separate parts of the institution. The team considered it would be desirable for the College to draw upon the various educational developments and good practices evident within its faculties in a more systematic way to enhance the opportunities for effective student learning.

Staff development and reward

100 The College has taken considered steps to enhance the profile of teaching and supervision within a strong research environment. Promotion to senior lecturer and above includes consideration of the quality of teaching and contributions to pastoral support. Improved status has been given to learning technologists and teaching fellows through a new four-grade job

family entitled 'Learning and Teaching Specialists'. All new probationary staff are assigned an experienced academic adviser to offer guidance on good teaching practice. Teaching excellence is recognised by a number of College and faculty awards, whilst the College's personal review and development plan appraisal system includes, for relevant staff, a significant section relating to teaching. From review of documentation and discussions with staff, the audit team formed the opinion that teaching was an important part of academic career progression and the College's Human Resources' policies support this assertion.

Section 5: Collaborative arrangements

101 The College aims to collaborate with a small number of high quality institutions with comparable reputation, mission statements and ethos. Its modest collaborative portfolio is almost exclusively at postgraduate level. The majority of the provision is either joint or double award master's, joint PhD programmes, or programmes in which students have the opportunity to undertake research or specialised options at another institution.

102 Each programme is supported by a signed agreement; most have been drafted since the college received degree awarding powers. The agreements vary in detail but define the responsibilities of both partners and arrangements for review. A central register of collaborative provision is maintained by the Registry and this is available on the College website. Programme specifications are available for all collaborative taught programmes.

103 The College has clear guidelines for establishing collaborative arrangements which include reference to the relevant section of QAA's *Code of practice*. Proposals for such programmes are sent for preliminary review to the Pro-Rectors (Education and International Affairs), the relevant faculty principal, the Director of Planning and the Academic Registrar. They are then sent for consideration and approval by the Strategic Education Committee (SEC) and then by the relevant faculty or graduate school committee before being submitted to Senate for final approval. Collaborative provision is generally subject to the same approval, monitoring and review procedures as internal programmes, although there is a provision for alternative approaches to monitoring and review to be agreed at the time of programme approval. Responsibility lies with departments or divisions to monitor and review the programmes. Departments must be able to satisfy the College that staff at partner institutions/organisations are able to deliver the programme, sufficient resources are available and the partner is able to monitor the proficiency of its staff. However, the audit team was informed that it was not College policy to formally approve external staff; reliance is placed on the reputation, and general experience and quality of staff at the partner institution. It was not the routine practice in the College to carry out a formal site visit as a part of the approval process for partner institutions.

104 The College had recently entered into an innovative partnership agreement with a multinational company, with which there were already well-established links, to accredit a Certificate of Advanced Study. This had received thorough scrutiny through internal College committees, which had led to appropriate modifications before approval. The majority of the programme involves work-based learning within the industrial organisation, which may take place at a site outside the UK, supplemented by distance learning provided by the College. Although this approach to programme delivery was implicit in the documentation, the audit team found no evidence of reference to the expectations for quality assurance of such provision outlined in the section of QAA's *Code of practice* relating to work-based learning. Formal processes did not appear to be in place for approving staff from the partner organisation.

105 External examiners are appointed by, and report to, the College and are asked to comment specifically on the collaborative arrangements. Where the opportunity exists, the same external examiner is used for the internal and collaborative programme, and is able to compare the standards and experience of the two groups of students. The annual monitoring form introduced for 2009-10 includes specific reference to collaborative provision, including an explicit

reference to student feedback. However, it was too early for the audit team to consider the effectiveness of the revised monitoring arrangements.

106 The College has recently introduced a report form for the strategic review of collaborative partnerships for completion and submission to SEC at least six months before a collaborative agreement is due to expire. The form includes a short description of the collaboration, key strengths of the partnership, any difficulties encountered and how the collaboration is monitored. It is completed by the host department and approved by the faculty principal before submission to SEC. There is, however, no provision for a formal review of the partner or of its staff. The only agreement that required a review since the last audit, but before the introduction of the new form, had not been undertaken; this had recently been recognised by the College and the necessary form completed.

107 The College has recently placed emphasis on developing strategic partnerships at PhD level with high-quality institutions abroad. Building upon strong existing research relationships and the experience of split PhD and partner research institution programmes in Singapore and Malaysia, on which students are registered only for Imperial College awards, the College has approved joint PhD programmes in Singapore and Hong Kong. Successful students will receive a joint award from both institutions contributing to the programme. Students registered for split and joint degrees have to fulfil all the requirements for a College PhD in the same way as internal candidates (see also paragraphs 112-113).

108 Departments managing a collaborative course are required to ensure that they have approved all information produced by the partner institution relating to the arrangement. Such responsibility falls to the International Office for those collaborative PhD programmes with overseas institutions which involve more than one academic department. The International Office also plays an important role in the liaison between the College and the overseas institution. By checking partner institutions' websites and other documentation provided the audit team concluded that the information provided by both the College and the partners was full and accurate.

109 The audit team noted that the College had reviewed its procedures for the approval and review of collaborative programmes in 2009, and this had included consideration of QAA's *Code of practice*. The team found that the programme approval, monitoring and review processes are generally effective and take place within the normal internal college processes. However, the arrangements for the approval and review of the partner organisation were less rigorous and relied mainly on a consideration of departmental documentation relating to general knowledge and reputation of the partner. The team also had concerns about the lack of a formal process, including scrutiny of relevant documentation, for the approval of partner staff. Furthermore, the team noted that the review of a partnership is undertaken primarily by the host department or joint programme board, and so does not contain an independent element. The College has recognised in its review of quality assurance processes that it would benefit from a more coordinated approach to the oversight of its collaborative arrangements. The team therefore considers it would be advisable for the College to review its procedures for the approval and review of collaborative provision to ensure that the relevant sections of QAA's *Code of practice* are taken into account, in particular, the recommended procedures for the approval of academic partners, and work-based learning.

Section 6: Institutional arrangements for postgraduate research students

110 The College stated that 'research students are vital to the research effort of the College and the essential first step in an academic or scientific career'. In meetings the audit team learnt that, since the previous audit, the College has been placing greater emphasis on its postgraduate education programmes and particularly on the provision of research training. The team also learnt that the new College strategic plan, due to be published in the summer of 2010, would continue to stress the importance of postgraduate education within its overall portfolio.

111 The range of the College's postgraduate research provision is extensive and the number of its research students large. At the beginning of the 2009-10 academic year there were 2,806 enrolled research students (excluding those writing up) and a further 311 writing up their dissertations. Eighty three per cent of those enrolled were full-time and 28 per cent were overseas students. The number of postgraduate research students has increased by 27 per cent over the past five years. A distinctive feature of the College's provision is the work of seven centres for doctoral training: five doctoral training centres (DTCs) and two industrial doctorate centres (IDCs). DTCs offer four-year PhD courses with a first year containing both a taught element for interdisciplinary skill development and a research element, to allow exploration of the PhD level projects that will follow; IDCs provide a four-year technical and management programme with an EngD jointly supervised by a company.

112 The two graduate schools (see paragraph 20) have operational responsibility for research training. Each graduate school has a postgraduate quality committee (PQC). The terms of reference of the PQCs include responsibility for determining the standards and framework by which departments operate for postgraduate education and for overseeing the processes of quality assurance. The two PQCs report to Senate. The College has recently established a Graduate Education Strategic Committee, chaired by the Pro-Rector (Education). It is designed to help shape graduate education and advises the Strategic Education Committee (SEC) and the Strategic Research Committee (SRC) on all matters relating to graduate education and student recruitment. It maintains a strategic overview of the coordination of research training. The committee has identified interdisciplinary postgraduate and research training, perhaps with closer links to industry as immediate priorities.

113 College procedures and practice for the operation of international joint PhDs are set out in the Guidelines for Establishing Collaborative Programmes. Senate, in approving joint degrees at PhD level, confirmed that the College only expected to receive applications for joint degrees where the programmes offered an innovative and exciting collaborative approach to doctoral studies. Collaborators must be institutions 'whose quality, mission, strategy and ethos were comparable with that of Imperial'. The audit team inspected memoranda of agreement for joint degree programmes with collaborative partners. Students must complete a rigorous programme incorporating all the key features of monitoring, progress and review required for students based at the College. The team judged that the College's guidelines and processes for the approval of these programmes were appropriate and had the potential to sustain joint programmes of high quality. The team's conclusion on the College's procedures for the approval of partner institutions is noted above (paragraph 109).

114 From its scrutiny of documentation, and in meetings with relevant staff, the audit team concluded that the College's institutional arrangements for the academic standards and quality of its postgraduate research provision were appropriate. It found that the graduate school academic training and postgraduate quality committees were working effectively. The team noted, however, that several components of the College's framework for managing academic standards and the quality of learning opportunities at postgraduate level had recently been revised at the time of the audit, and the team was not, therefore, able to judge operational effectiveness over a cycle of work.

115 The College participated in QAA's Review of research degree programmes in 2006, the report of which confirmed that the College's ability to secure and enhance the quality and standards of provision was appropriate and satisfactory. It also considered as examples of good practice the introduction of an online feedback mechanism for research degree students, the comprehensive assessment of research-student training needs and the programmes which the College provided to satisfy these. The Review encouraged the College to give further consideration to providing guidance to students and supervisors about the importance of keeping appropriate records of all meetings and related activities. In response to this review, a definitive statement of higher degrees procedures was endorsed by Senate in 2006. This draws all relevant regulations

and QAA guidelines together and also includes 10 precepts governing the admission, induction, support and progress monitoring of research students which departments are required to follow.

116 All postgraduate research students automatically become members of either the Graduate School of Engineering and Physical Sciences or the Graduate School of Life Sciences and Medicine as soon as they start their studies. Membership of a graduate school helps students to become part of a wider community of students and thus helps to broaden and enrich their academic experience. Each department has a postgraduate committee that includes, as a minimum, the director of postgraduate studies, in the chair, the postgraduate tutor and one other member. Its remit is to oversee the format and quality of the higher degree programme, including admissions, induction, transfer, training and completion rates. This committee reports to the head of department.

117 Since 2007-08, departmental compliance with the College's procedures for higher degree registration is reviewed biennially by the graduate schools. A nominated reviewer who will be a member of the school's PQC not affiliated to the department, evaluates how, and to what extent, a department's research degree procedures comply with the College's Precepts for higher degrees. This process is also designed to capture and highlight examples of good practice. The audit team was able to scrutinise examples of this process and considered it to be thorough and scrupulous. It was not, however, apparent to the team how instances of good practice which were identified would be systematically disseminated across the College. The team noted that follow-up to periodic review would now be considered by the PQCs in parallel with the biennial review documentation. The team concluded that periodic review follow-up reports were normally both full and appropriately self-critical.

118 The periodic review of research training, a process which includes members both internal and external to the College, was introduced in 2002. The intention of these department-level reviews, normally conducted every six years, is to ensure that departmental strategies for research training support the wider strategies in place at faculty and college levels, and ensure compliance with the College's precepts and procedures, and also identify and disseminate good practice. The process had been recently revised and was now monitored by the relevant graduate school PQC.

119 The audit team examined the periodic review procedures as part of an audit trail. The panel members were two assessors external to the College and two external to the department. The review process was comprehensive, comprising a review of admission and induction, the appropriateness of the research section to which research students were admitted, training and transferable skills, resources and completion rates, and making appropriate recommendations for development. The reviewers made recommendations in respect of procedures for change of registration from MPhil to PhD and also to the department's completion rates, which were judged to be rather low. In accordance with procedures then in place, the review report was considered by the Quality and Academic Review Committee (QARC). QARC also considered the department's responses at a follow-up meeting and confirmed to Senate that the department had satisfactorily addressed the issues raised in the original report. The team considered the review process to be both constructive and thorough, although it noted that the follow-up process had extended well beyond the recommended 12 months.

120 Applications for postgraduate research study are first considered by experienced Registry staff who make a preliminary assessment which is then forwarded to the admitting department. Departments must make a special case to the Assistant Registrar (Admissions) if they wish to admit a student identified by Registry as below the minimum standards. All students must be interviewed (including remotely where necessary) before admission. The College runs recruitment and selection workshops and requires inexperienced staff to attend these before participating in the process. Partly in order to be aligned with the European Union Bologna policy, and partly in order to enhance its PhD training programmes, the College had recently amended its entry requirements. These now stated that, with effect from entry in 2010, the College 'normally expects a master's, or equivalent, qualification or relevant postgraduate experience'.

121 In meetings the audit team was able to confirm that postgraduate students considered the general support and level of information which they received on entry to be strong. Specifically, postgraduate research students receive a copy of 'Learning to Research'. This booklet, the idea for which came from a student representative, was written both by postgraduate students and staff from across the College. It includes the College's 10 'precepts' covering selection, induction and progression arrangements and provides guidelines on the writing of a research dissertation. The booklet also incorporates the College's Code of Practice outlining the duties and responsibilities of both research supervisor and research student.

122 An induction day or other programme for incoming postgraduate research students is offered at departmental level. The two graduate schools also organise a 'welcome event' at the beginning of the academic year. Minimum criteria for appropriate induction arrangements are specified and these include provision for those who do not begin their studies at the beginning of the academic year. The audit team considered these arrangements to be adequate. In meetings with research students, the team learnt that induction was a generally successful process, although students were aware of considerable departmental variations. The team also gained the impression that students beginning their studies later in the year did not always receive the same amount of initial support as did others.

123 Departments produce their own postgraduate research student handbooks. These outline local procedures, academic requirements and support systems. The audit team inspected a number of handbooks and found that each provided a wide range of academic and pastoral information in accessible form. They are intended to support students from registration through to graduation and are informative, comprehensive and accessible. The team considered the high quality of departmental research handbooks to be a feature of good practice.

124 Research students are expected to complete a transferable skills programme before transfer to PhD status. They should also attend formal training courses run by their own department. The graduate schools run a series of short workshops targeted on key aspects of the research-student experience. These include guidance on effective communication and the management of research. Attendance at these workshops is monitored and evaluated by the schools. Each graduate school has an academic training committee responsible for setting the programme for transferable skills and for monitoring its delivery. The graduate schools run a two-day workshop entitled 'Your PhD: Finishing Up and Moving On', which is designed both to help research students in the last stages of the dissertations and also to set their sights on career development and the use of leadership and entrepreneurial skills. Through the study of documentation the audit team was able to confirm that student evaluations of training workshops were overwhelmingly favourable.

125 The College states that the key principle underpinning the supervision of research students is that all students 'should have adequate and regular access' to supervisors who should be appropriately qualified to supervise the work in hand. Its booklet on research supervision indicates that regular contact should incorporate 'a minimum of one hour per week on average for consultation' with each student. Supervisors are required to comply with the requirements of the Senate-approved paper, Eligibility for Research Degree Supervision. The College does not require all supervisors themselves to hold a PhD, believing that 'the possession of a PhD is no guarantee of good supervision just as the lack of PhD does not mean that the member of staff is not a successful supervisor'. Similarly, the College does not specify limits on the number of students being supervised by an individual at any one time, although it indicates that 'few academic staff would be likely to have more than six research students at any one time'. It is College policy that all new non-clinical lecturers attend the College's workshop, 'Supervising Research Students', which is organised by the Educational Development Unit.

126 The audit team found no evidence that research students were being disadvantaged either by excessive supervisor workloads or by a supervisor's lack of a doctoral degree. However, difficulties could occur for some heavily-loaded supervisors in meeting all the expectations of the College's Code of Practice with regard to the duties required of them in maintaining regular student-supervisor contact. The College might, therefore, wish formally to consider information about supervisor workloads as part of its normal monitoring processes.

127 All postgraduate research students are assigned to a supervisory team. This includes at least one supervisor and an 'academic mentor' whose main role is pastoral, together with the departmental director of studies and the postgraduate tutor who maintain oversight of progress. Additional 'academic assessors' (academics with detailed knowledge of the research area) may be assigned to give additional support in individual cases. The College's Code of Practice specifies that, in the case of difficulties in the relationship between supervisor and research student, the student should raise the matter first with the student's academic mentor, the department's postgraduate tutor or director of studies, and then, if necessary with the head of department or college tutor.

128 In meetings, the audit team learnt that while research students noted what they acknowledged to be inevitable variation in the nature and effectiveness of supervision, especially on split sites, they were complimentary both about the overall quality of supervision and the support provided by research teams. The College's Postgraduate Research Experience Survey in 2008 supported this view. It indicated that 83 per cent of students were satisfied with the quality of their supervision and that 90 per cent would recommend the College to others considering research there.

129 Students must produce an initial plan of study within three months to be reviewed no later than 6 months by an independent internal assessor. Progress reports are completed by student and supervisor and the student has the right to complete a separate, confidential, report. They are then examined by the director of postgraduate studies and/or the postgraduate tutor. Transfer from registration for MPhil to PhD is determined by 'a transfer examination' held no earlier than nine and no later than 15 months after the date of initial registration. A student's performance is assessed normally by two, but at least by one independent internal assessor. A recent review of the College's quality assurance processes queried the appropriateness of the current progression system of initial MPhil registration for PhD students. The College is concerned that its current system of specific reporting every six months may not be 'the most effective means of monitoring student progress'. Its working party noted instances of poor supervision during this period. In scrutinising documentation, the audit team discovered a number of instances in which College policy on regular six-monthly progress reports had not been observed. At the time of the audit, the College was debating whether it would be more effective to register students directly as doctoral students while maintaining a process of rigorous monitoring in the first 12 months of that registration.

130 The graduate schools arrange 'informal open meetings' twice a year, the purpose of which is to provide an opportunity for academics and administrators to discuss developments and issues affecting research programmes and students. Each faculty has a postgraduate student representative, elected by the Graduate Students' Association. It is not a requirement that this representative should be a research student. Student representatives sit on all graduate school committees. The College requires departments to hold a regular forum, in which students are represented, for discussion of postgraduate issues. In its scrutiny of documentation the audit team noted that while most departments had established a postgraduate committee, a discussion forum, or similar arrangement for considering student views, others were less sure that a regular forum was necessary since postgraduate issues were regularly brought directly to the director of postgraduate studies or the member of a student's postgraduate team. Both in meetings and in study of documentation, the team learnt that postgraduate committees and staff-student forums were the norm, although they operated variably. The College may wish to ensure that all departments provide for a regular forum.

131 The College's own research online evaluation for postgraduate research students has been operative since 2005. The College has also participated in the national Postgraduate Research Experience Survey. These surveys are analysed centrally and the key points forwarded to the relevant head of department and director of postgraduate studies. Overviews derived from the survey data are considered by the Quality Assurance Advisory Committee (QAAC) and the graduate school PQCs. In its scrutiny of documentation, the audit team confirmed that research student surveys were carefully considered at faculty and college levels. A carefully evaluative and reflective approach was adopted to all the findings, including those which were favourable, as most were.

132 Assessment of postgraduate research students is based on criteria set out in the College's Academic and Examination Regulations. The criteria for award of the PhD require a thesis to 'form a distinct contribution to the knowledge of the subject and afford evidence of originality' in the context of a coherent argument including a critical assessment of relevant literature. The doctoral dissertation should be of a standard which merits publication in whole or in part. The successful candidate should also be able to place the thesis into an appropriate wider context.

133 Nominations for examiners of a research degree are approved by a departmental panel including at least three people, normally including the director of postgraduate studies and the postgraduate tutor, before submission to the Registry. Examination of each research degree candidate is normally by two examiners, one internal and one external to the College. The external examiner is expected to be a recognised international expert normally with experience of examining a research student at a leading university. The internal examiner should have had no direct involvement with the candidate or their research. Internal examiners are seen as operating essentially as custodians of the College regulations and standards. The audit team confirmed that the College's assessment arrangements were consonant with the relevant section of QAA's *Code of practice*.

134 Senate has recently approved changes to the appeal procedures which transfer responsibility for deciding on the appropriateness of the grounds for appeal from the Rector alone to the Pro-Rector (Education), in consultation with the Dean of Students and the Academic Registrar, thus broadening the area of decision-making responsibility. In meetings, the audit team learnt that postgraduate students understood how to make complaints because the relevant information was included in postgraduate handbooks. Most issues were handled informally at departmental level, however, and were resolved without need to make use of the formal College procedures. The team found that regulations concerning complaints and appeals were clear, comprehensive and regularly updated.

135 The audit team concludes that the College's arrangements for maintaining academic standards and the quality of provision of postgraduate research programmes are clearly documented and appropriate. They meet the requirements of QAA's *Code of practice, Section 1: Postgraduate research programmes*.

Section 7: Published information

136 The College publishes a wide range of information in hard copy and electronic format. The College's mission statement, strategic plan, statement of quality assurance policies and procedures, learning and teaching strategy and policy documents are published on the College website. The College website, redesigned in December 2007, offers extensive information on the College's activities aimed at a range of internal and external audiences. The framework for ensuring accuracy of the information is provided in the Communications and Publications Code of Practice prepared by the Communications Division. This identifies three levels of approval required for publications: firstly, self-approval; secondly, review and approval by Communications; and finally, full College control, requiring approval by the responsible officer of the Communications Division.

137 The Communications Division is responsible for maintaining accuracy of the top-level College web presence and works closely with faculty web editors. A Content Forum has recently been established to raise the importance and professionalism of website content management. The College Web Management Board (WMB) meets at least once a term. Its responsibilities are to develop and articulate a vision for the web as the College's foremost communication vehicle and point of access to information and services; oversee the web development work programme and endorse any changes or additions to the programme; and to authorise and oversee the progress of specific projects. The WMB develops College policy on all web-related matters and aims to ensure that the ongoing College web presence retains currency of content. All College websites must have a named 'site owner' who is identified as soon as a new site is requested. Site owners are ultimately responsible for the quality and accuracy of the material on their site. Each faculty has a web officer who acts as 'communication conduit' between the WMB and the departments.

138 It is also the responsibility of the Communications Division to publish the undergraduate and postgraduate prospectuses. It liaises with a nominated departmental 'editor', normally an admissions tutor or a course director. Factual changes are checked with the Registry and queries resolved with the departmental editor. It was reported in the student written submission and confirmed by students who met the audit team that admission and induction information was full and accurate, as were handbooks. The Good Practice Guides (see paragraph 99) provide a list of the essential information to be included in handbooks. The team examined examples of handbooks and concurred with the view expressed by the students.

139 It is the departments' responsibility to ensure that programme specifications are kept updated and are displayed on the departmental web pages. The Registry also holds a central record of all programme specifications available online on the Registry web pages, although the team found that there was no obvious direct link to them from the top levels of the College website. However, prospective and present undergraduate students are directed on the College website to course syllabuses detailing content and course structures but without learning outcomes or links to assessment methods.

140 The Registry web pages provide information on the College committee structure, including committee terms of reference and membership, and the minutes, but not supporting papers, of those committees dealing with quality assurance and educational strategy. These were found generally to be up-to-date and provide an historical record over recent years, including those of former committees, but there were minor instances of missing and incomplete records.

141 The Registry is responsible for ensuring that Teaching Quality Information is publicly available, drawing on advice from QAAC. The Registry web pages are the key reference points for all academic and examination regulations. Although the relevant information is available it is often not easy to find. There are no explicit links for staff to find information on teaching and learning; a commercial search engine is available on the College website but the audit team was informed that there are developments in hand to reduce the reliance on this. The team was also informed that there are sometimes problems with version control which the College is

attempting to address. External examiner report summaries, which identify overarching themes emerging from their reports and highlight examples of good practice, and reports of periodic reviews are available on the Registry web pages. The team found these to be very brief and, particularly for the external examiners' reports, very general in nature.

142 The College publishes the results of both internal and external student surveys. Results of internal surveys may be seen by staff and students on the My Feedback page of the Student Viewpoint database. Although the College stated in its Briefing Paper that actions taken in response to surveys are publicly available on the Registry web pages, this did not appear to be the situation at the time of the audit. A summary of the results of the National Student Survey is published on the Planning Division web pages and is available to staff and students.

143 The College has embraced the use of social media tools to convey news and information and engage with audiences. The Communications Division manages two Twitter accounts on behalf of the College: 'imperialcollege' which has over 2,000 followers and offers a flow of news from the College community, and 'ImperialSpark' which gives insight into the research discoveries and innovations at the College. The Communications Division has also set up a 'flickr' group, making it easy for anyone to locate and share images of the College, a Facebook page where College events and news will be promoted, and an Imperial YouTube channel incorporating over 100 videos, featuring aspects of life at the College, for example student accommodation and events such as graduation ceremonies and the student ball. News about the College is available on the news page of the College website and via the Imperial RSS news-feed and news-emails issued by the Communications Division, including the weekly Imperial-News email available to internal and external audiences. In addition, details of College events are issued via the weekly events bulletin and posted to the events page of the website. The Communications Division also works with the Science Communications Group to produce a monthly downloadable podcast that, through interviews with staff and students, gives insight into the College's research and campus life. These various social networking communication routes were verified by the audit team and considered to be an effective addition to the College's communication strategy.

144 The audit team confirmed that the externally available information required by the Higher Education Funding Council for England guidelines is published on the College website, and the Teaching Quality Information on the Unistats website appears to be accurate and complete.

145 The audit team found that reliance can reasonably be placed on the accuracy and completeness of the information the College publishes about the quality of its educational provision and the standards of its awards.

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