Institutional audit

Imperial College of Science, Technology and Medicine

FEBRUARY 2010

Preface

The Quality Assurance Agency for Higher Education's (QAA) mission is to safeguard the public interest in sound standards of higher education qualifications and to inform and encourage continuous improvement in the management of the quality of higher education. To this end, QAA carries out Institutional audits of higher education institutions.

In England and Northern Ireland, QAA conducts Institutional audits, on behalf of the higher education sector, to provide public information about the maintenance of academic standards and the assurance of the quality of learning opportunities provided for students. It also operates under contract to the Higher Education Funding Council in England and the Department for Employment and Learning in Northern Ireland to provide evidence to meet their statutory obligations, to assure the quality and standards of academic programmes for which they disburse public funding. The audit method was developed in partnership with the funding councils and the higher education representative bodies and agreed following consultation with higher education institutions and other interested organisations. The method was endorsed by the then Department for Education and Skills. It was revised in 2006, following recommendations from the Quality Assurance Framework Review Group, a representative group established to review the structures and processes of quality assurance in England and Northern Ireland, and to evaluate the work of QAA.

Institutional audit is an evidence-based process carried out through peer review. It forms part of the Quality Assurance Framework established in 2002, following revisions to the United Kingdom's (UK) approach to external quality assurance. At the centre of the process is an emphasis on students and their learning.

The aim of the Institutional audit process is to meet the public interest in knowing that universities and colleges of higher education in England and Northern Ireland have effective means of:

- ensuring that the awards and qualifications in higher education are of an academic standard, at least consistent with those referred to in *The framework for higher education qualifications in England, Wales and Northern Ireland* (FHEQ) and are, where relevant, exercising their powers as degree awarding bodies in a proper manner

- providing learning opportunities of a quality that enables students, whether on taught or research programmes, to achieve those higher education awards and qualifications

- enhancing the quality of their educational provision, particularly by building on information gained through monitoring, internal and external reviews and on feedback from stakeholders.

Institutional audit results in judgements about the institutions being reviewed. Judgements are made about:

- the confidence that can reasonably be placed in the soundness of the institution's present and likely future management of the academic standards of awards

- the confidence that 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.

Audit teams also comment specifically on:

- the institution's arrangements for maintaining appropriate academic standards and the quality of provision of postgraduate research programmes

- the institution's approach to developing and implementing Institutional strategies for enhancing the quality of its educational provision, both taught and by research

- the reliance that can reasonably be placed on the accuracy and completeness of the information that the institution publishes about the quality of its educational provision and the standards of its awards.

If the audit includes the institution's collaborative provision the judgements and comments also apply unless the audit team considers that any of its judgements or comments in respect of the collaborative provision differ from those in respect of the institution's 'home' provision. Any such differences will be reflected in the form of words used to express a judgement or comment on the reliance that can reasonably be placed on the accuracy, integrity, completeness and frankness of the information that the institution publishes, and about the quality of its programmes and the standards of its awards.

Explanatory note on the format for the report and the annex

The reports of quality audits have to be useful to several audiences. The revised Institutional audit process makes a clear distinction between that part of the reporting process aimed at an external audience and that aimed at the institution. There are three elements to the reporting:

- the **summary** of the findings of the report, including the judgements, is intended for the wider public, especially potential students

- the **report** is an overview of the findings of the audit for both lay and external professional audiences

- a separate **annex** provides the detail and explanations behind the findings of the audit and is intended to be of practical use to the institution.

The report is as concise as is consistent with providing enough detail for it to make sense to an external audience as a stand-alone document. The summary, the report and the annex are published on QAA's website.

Summary

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 that the College offers.

To arrive at its conclusions, the audit team spoke to members of staff from across the College and to current students, and read a wide range of documents about the ways in which the College manages the academic aspects of its provision.

In Institutional audit, an institution's management of both academic standards and the quality of learning opportunities are audited. The term 'academic standards' is used to describe the level of achievement that a student has to reach to gain an award (for example, a degree). It should be at a similar level across the UK. The term 'quality of learning opportunities' is used to describe the support provided by an institution to enable students to achieve the awards. It is about the provision of appropriate teaching, support and assessment for the students.

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.

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 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.

Features of good practice

The audit team identified the following areas as being good practice:

- the opportunities provided by the programme approval process for the early systematic review of new programmes

- the way in which the College draws upon its research excellence for the benefit of student learning

- the range and diversity of opportunities provided by the library to encourage and enhance student engagement with learning resources

- the increasing recognition of, and encouragement given to achieve, high quality of teaching

- the quality of departmental postgraduate research handbooks.

Recommendations for action

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

The team advises 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

- consider the appropriateness and use of the Diploma of Imperial College as both an academic award and a 'post nominal' title

- 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

- provide a full and consistent level of student representation in all its deliberative academic committees

- review its procedures for the approval and oversight of collaborative provision to ensure that relevant sections of QAA's *Code of practice* are taken into account.

It would be desirable for the College to:

- extend the existing opportunities for student access to external examiners' reports

- strengthen procedures for checking the quality of teaching and learning materials for programmes which have e-learning/blended learning elements

- draw more systematically upon the educational developments and good practice evident within its faculties and departments to enhance the support for student learning.

Reference points

To provide further evidence to support its findings, the audit team investigated the use made by the College of the Academic Infrastructure which provides a means of describing academic standards in UK higher education. It allows for diversity and innovation within academic programmes offered by higher education. QAA worked with the higher education sector to establish the various parts of the Academic Infrastructure, which are:

- the *Code of practice*

- the frameworks for higher education qualifications in England, Wales and Northern Ireland, and in Scotland

- subject benchmark statements

- programme specifications.

The audit found that in general the College took due account of the elements of the Academic Infrastructure in its management of academic standards and the quality of learning opportunities available to students. The College should make further reference to the *Code of practice, Section 2: Collaborative provision and flexible and distributed learning (including e-learning)*.

Report

1   An Institutional audit of Imperial College of Science, Technology and Medicine (the College) was undertaken during the week commencing 8 February 2010. The purpose of the audit was to provide public information on the College's management of the academic standards of the awards that it delivers and of the quality of the learning opportunities available to students.

2   The audit team comprised Professor A Bilsborough, Ms A-M Canning, Dr K R F Elliott, Professor (Emeritus) E J Evans and Professor P Periton, auditors, and Dr K Hodgson, audit secretary. The audit was coordinated for QAA by Dr P J A Findlay, Assistant Director, Reviews Group.

Section 1: Introduction and background

3   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. The College has a long and distinguished history of teaching and research in science and engineering subjects. More recently, the provision for undergraduate medical education evolved from a series of mergers between 1988 and 2000. At the time of the audit, the College was reviewing its strategic plan. The audit team learnt that a new learning and teaching strategy, in preparation at the time of the audit, was unlikely to involve 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 for all students and to helping students to take responsibility for their own learning as part of the transition from school to university.

4   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 first students to register for an Imperial College (rather than University of London) degree were postgraduates beginning their course in 2007-08, with the first undergraduates enrolling for an Imperial degree in 2008-09. In recent years the College has continued to expand significantly. In 2009-10 the College has 13,994.9 full-time equivalent (FTE) registered students. The student body is composed of 61.5 per cent undergraduates, 19.6 per cent taught postgraduates and 18.9 per cent research postgraduates. The total number of non-UK students is 6,790 FTE, these students coming from 127 different countries and constituting 49 per cent of the student population, making the College a strongly international institution.

5   The College's main campus is in South Kensington where most undergraduate teaching, and all teaching in engineering and physical sciences, is based. Other London campuses are at Charing Cross, Chelsea and Westminster, Hammersmith, Northwick Park, Royal Brompton and St Mary's Hospitals, where clinical (delivered in association with the National Health Service) and some non-clinical MBBS/BSc Medicine is taught. Further clinical teaching takes place in general practice and in other partner hospitals. Some postgraduate research and taught courses are delivered at the Charing Cross, Chelsea and Westminster, Hammersmith, Royal Brompton and St Mary's Hospitals, and at the College's Silwood Park Campus in Ascot. The College has also recently purchased a new 'Woodlands' Campus in west London. The main structural development within the College since the last audit was the creation in January 2006 of a Faculty of Natural Sciences from a merger between the previous Faculties of Life Sciences and Physical Sciences. The College has five academic departments in its Faculty of Natural Sciences; nine academic departments in the Faculty of Engineering; six academic departments in the Faculty of Medicine; a Business School; a Department of Humanities and a number of cross-disciplinary institutes and

centres. The College offers over 100 undergraduate programmes and over 130 postgraduate taught programmes. It has only a relatively limited number of academic partnerships with other institutions. The College is recognised for its strong research profile and is ranked high among university institutions worldwide.

6   The audit team found that the College had responded constructively to the recommendations of the previous Institutional audit, held in June 2005. It had reviewed its approach to programme structures to ensure an organised progression through the curriculum. Relevant departments had reviewed their provision to ensure that sufficient master's-level credits were taught in years three and four. In 2008 the College introduced a standard pass mark of 40 per cent for undergraduates in all faculties. Some recommended actions had therefore only been completed relatively recently.

7   Since the last audit, there have been evolutionary developments in the College's quality assurance arrangements. Three changes are of particular note. In 2009 a revised educational committee structure was introduced with the aim of giving greater clarity to the distinction between strategic and quality assurance functions and their reporting lines. New terms of reference were given to the Quality Assurance and Advisory Committee. As a part of this development, the College wished to address the absence of a clear mechanism for the downward transmission of information and decisions to faculties, departments and individual staff. In terms of procedures, the College revised its process of annual monitoring to facilitate a more evaluative approach to the consideration of undergraduate programmes and provide more consistency between departments. The College has also reviewed its approach to the approval and review of both undergraduate and taught postgraduate programmes.

8   The Council is the College's governing body and the Rector its principal academic and executive officer with responsibility to Council. The post was vacant at the time of the audit and an Acting Rector was discharging these responsibilities. Educational committee work at the College falls under two broad headings: quality assurance and educational strategy. Council delegates overall responsibility for the former to the Senate which is thus responsible for the regulation, education and discipline of the College's students. Overall responsibility for educational strategy is delegated to the College's Management Board. The Strategic Education Committee advises the Management Board and reports to it on high-level strategy, including the recruitment, education and retention of students, equality of access and learning resources. The Strategic Research Committee similarly advises, and reports to, the Management Board on research-related matters, including research integration across the faculties and the development of strategic research relationships with overseas universities and with industry.

9   Since many components of the framework for managing academic standards and the quality of learning opportunities at college level were being significantly revised at the time of the audit, the audit team was not able to judge their operational effectiveness over a complete annual cycle of work. In particular, it lacked the necessary evidence to confirm that the College's operative distinction between strategic decision-making and quality assurance functions was yet entirely secure. Nevertheless, the team understood the rationale for the new deliberative structure, found its implementation clearly established, and agreed that it should have the potential to achieve the purposes for which it was intended.

Section 2: Institutional management of academic standards

The College's framework for managing academic standards

10   The College's Quality Assurance Advisory Committee advises and reports to the Senate on all matters relating to academic quality assurance. It also considers proposed changes to academic regulations and maintains an overview of statistics on completion rates, offences, complaints and appeals. The Committee advises Senate on arrangements to ensure compliance with national and international standards, including QAA's *Code of practice*. Senate discharges its

oversight of standards through the faculty studies committees for undergraduate programmes and for its postgraduate awards through the postgraduate quality committees of its two graduate schools. These committees report to Senate. The audit team examined the work of both faculty studies committees and postgraduate quality committees. It found that they maintained effective oversight of quality assurance processes at departmental level.

Approval, monitoring and review of award standards

11   Undergraduate programme approval is a two-stage process. There is initial scrutiny by a faculty studies committee in which a programme specification and other information is considered, aided by two external referees' reports. The committee then decides whether to recommend approval to Senate. Stage Two approval occurs during the second or third year of the programme and is a more detailed review by a subgroup of the faculty studies committee, including a student representative, to confirm that the programme objectives are being met. Stage Two typically results in recommendations for further improving the student experience. Proposals for new taught master's programmes require comparable information, with advisory comments from four external referees, and are considered by the relevant postgraduate quality committee, which recommends approval or otherwise to Senate, and monitors new courses closely in their first year. The audit team considers that the College's programme approval process makes an effective contribution to the management of academic standards, and that the opportunities the process provides for the early systematic review of new programmes constitutes an instance of good practice.

12   Faculty studies committees review undergraduate teaching in an annual monitoring procedure. Departments submit programme specifications and an associated 10-part commentary. External examiner reports are also reviewed within annual monitoring and considered by the committees, as are follow-up actions to any periodic review recommendations. Comparable information on master's and Certificate of Advanced Study programmes is required for reviews undertaken by postgraduate quality committees, conducted on a one to three-year cycle, depending on course evaluation. The postgraduate quality committees also review all postgraduate taught course external examiners' reports on an annual basis. The audit team concluded that the annual monitoring makes an effective contribution to the management of academic standards. However, it considered that there was some risk that the recent inclusion of external examiners' reports in undergraduate annual monitoring may make the process unwieldy, limiting full consideration of external examiners' views and the responses to them. The College may wish to review the operation of its annual monitoring process with this in mind.

13   The College also carries out longer-term periodic reviews of its programmes. Undergraduate programmes are reviewed on a five-yearly basis by faculty studies committees. A review usually takes place 6 to 12 months after an accreditation visit from the relevant professional, statutory and regulatory body, and the report from that visit will inform the internal review process. The review takes the form of a one-day visit to the department by a panel which includes three external assessors. These provide independent reports relating to standards, quality and student support. The faculty studies committee then reviews these reports together with the department's response, before itself reporting to Senate. For the College's postgraduate provision, clusters of taught postgraduate programmes are reviewed by postgraduate quality committees on a six-year cycle following a similar process; departments report follow-up actions to the appropriate committee at mid-cycle, or earlier if required. The audit team read several periodic review reports of undergraduate and postgraduate programmes and judged that the process made an effective contribution to the management of academic standards.

External examining

14   External examiners are approved annually by faculty studies committees or postgraduate quality committees. An induction day is arranged for the external examiners which combines college and departmental/subject briefings; further information is made available on a dedicated website. The College's standard report form allows examiners to comment specifically on assessment processes and academic standards, and more generally on programme content, student learning and achievement. External examiners' reports are reviewed by both the Pro-Rector (Education) and by the Registry, with significant issues identified and highlighted. Reports and departmental responses to them are considered by the relevant faculty studies committee, and/or the postgraduate quality committee, which then reports to Senate. The Registry provides feedback to external examiners and prepares summary reports of examiners' comments for the Quality Assurance Advisory Committee.

15   While the external examiner reports read by the audit team were overwhelmingly favourable in their assessment of the College's programmes, the team identified some instances of significant issues raised by external examiners that were not reflected fully in the minutes of faculty studies committees, and were still less evident in their summary reports to Senate. A similar pattern was evident with the summary overview reports from faculties that are received by the Quality Assurance Advisory Committee. Given the strongly faculty-based structures and abbreviated reporting, it was unclear to the team how external examiner reports and the departmental responses which had potentially college-wide implications would be identified or considered. 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.

16   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 audit team was unable to confirm that reports are routinely referred to departmental staff-student committees or are otherwise available to student representatives within subjects. A review of representative staff-student committee minutes failed to reveal any items obviously relating 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

17   The College uses the *Code of practice* to review and enhance current practice, and its undergraduate and taught postgraduate awards accord with *The framework for higher education qualifications in England, Wales and Northern Ireland* (FHEQ) H and M levels. Undergraduate programme specifications refer to subject benchmark statements, while programme approval, annual monitoring and periodic review all require reference to the FHEQ and national subject benchmarks. External examiners must also confirm that standards achieved match the FHEQ and programme content is consistent with subject benchmarks. The College's programme specifications, required for all course programmes, now specify the level at which the courses and awards are set, following the descriptors in the FHEQ. The audit team noted, however, that some of the associated learning outcomes were generic across a range of specific programmes, and insufficiently detailed to be fully informative for students following the programme.

18   The audit team noted one anomaly within the College's range of awards. Students awarded postgraduate degrees also receive a Diploma of Imperial College, a legacy of the time when awards were made by the University of London. This award has been made both as an academic title and as a 'post-nominal' to identify postgraduate awards completed in the College. The team concluded that given the history and the current use of this award title there was the potential for confusion regarding its status. The team accordingly found it advisable for the College to consider the appropriateness and use of the Diploma of Imperial College.

19   Most undergraduate, and several master's and Certificate of Advanced Study programmes, are accredited by professional bodies. From the academic year 2009-10 undergraduate programme accreditation reports are considered within annual monitoring and, for postgraduate programmes, are presented to the relevant postgraduate quality committee; accreditation reports are also provided to periodic review panels. The audit team concluded that the College's process for consideration of reports from professional bodies was thorough and made an effective contribution to the management of standards.

20   The College has established a Bologna Task Force which has produced a series of recommendations. All the College's first and second-cycle degree programmes are compatible with Bologna guidelines: undergraduate programmes typically have 60 European Credit Transfer Scheme (ECTS) credits per academic year, and postgraduate courses 90 ECTS credits per calendar year. Programme approval requires completion of a Bologna template with ECTS allocations, and these are reviewed during undergraduate annual monitoring and postgraduate internal course reviews.

21   With the exception of the matter of the Diploma award, the audit team concluded that, overall, the use made by the College of the Academic Infrastructure and other external reference points makes an effective contribution to the management of academic standards. As noted below (paragraphs 46 and 47), the College's collaborative arrangements will benefit from further reference to the relevant sections of QAA's *Code of practice*.

Assessment policies and regulations

22   The College has recently made progress towards achieving consistent standards in assessment across the institution through the use of common marking schemes and common penalties for academic offences. However, some inconsistency of practice remains between its subject areas: there is variation in level weightings when calculating final degree marks within closely related programmes, and there are differences in the sanctions imposed for late submission of assessed work.

23   The common college framework for first degrees includes discretion bands; this approach is also used for taught postgraduate master's courses in respect of pass, merit or distinction awards. Candidates within the bands are eligible for review of their final classification; this review can include a viva oral examination or practical test or other mechanism appropriate to the discipline. With regard to viva examinations, the audit team found that some departments viva all such candidates, and others select candidates within the eligible groups. Some departments hold vivas which involve an internal and external examiner, in others externals alone carry out the viva.

24   Within the Faculty of Medicine examination boards consider candidates anonymously at undergraduate level, but in other faculties candidates are reviewed by name, a practice which, the audit team was told, allows fuller consideration of individual circumstances. A number of external examiners had expressed disquiet with this procedure since, in their view, it can lead to inequitable treatment between candidates, and may also result in double counting in the assessment process by placing additional informal emphasis on particular work, such as the project.

25   In view of these differing approaches to assessment, the audit team considers it advisable for the College to expedite its review of assessment procedures so as to ensure consistency in the management of academic standards, within and across its degree structures, and ensure parity of treatment for examination candidates.

Management Information (including progression and completion statistics)

26   The College considers a wide range of statistical data relating to student achievement and student satisfaction. Senate and its subcommittees receive student progression and completion data each year at undergraduate, taught postgraduate and research student levels. Faculty studies committees review undergraduate failure and progression rates, both to identify good practice and initiate remedial action where necessary, and postgraduate quality committees

examine data on master's course failures, research degree submissions and completion rates, and studentship awards. Other sources of information, such as the International Student Barometer and National Student Survey results, together with a number of internal surveys, are also considered by the College which was implementing an enhanced management information tool, Imperial College Analytics, to improve data access for departments. The audit team saw examples where management information had informed policy at departmental, faculty and college levels, and concluded that the use of data made an effective contribution to the management of academic standards.

27   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 academic standards of its awards.

Section 3: Institutional management of learning opportunities

28   The policy framework for learning and teaching at the College is provided by its Learning and Teaching Strategy. At the time of the audit, the latest version of the strategy, for 2010 to 2013, was currently being developed. The Strategic Education Committee, chaired by the Pro-Rector (Education), advises the Management Board on college-wide educational strategy. The College utilises external reference points, such as subject benchmark statements and QAA's *Code of practice*, in the development of its programmes and in support for learning provided for its students. The audit team concluded from its scrutiny of documentation, and from evidence provided in meetings, that the quality of the students' learning opportunities is well aligned with the national Academic Infrastructure. As noted above, a major part of the College's provision is accredited by professional, statutory and regulatory bodies, and accreditation reports form part of the faculties' monitoring and periodic review processes. The team read a selection of accreditation reports and shared the view that emergent themes of good practice arising from such reports could be better disseminated beyond the faculty involved.

29   The College's procedures for the approval, monitoring and review of programmes enable due regard to be given to the development of the student learning experience. Specifically, annual monitoring identifies and recognises innovative teaching, while periodic review assesses the extent to which educational objectives have been met. The College runs an extensive family of electronic student surveys to gauge student opinion. These, along with the results from the National Student Survey, are assiduously considered across the College committee structure and together provide important feedback from students on their learning experiences. The College had identified from these surveys, and from staff-student committees, some problems with feedback given to students on their assessed work and the audit team saw evidence of initiatives taken to improve matters in this area. The team concluded that the College had in place effective procedures, including feedback from students, for the management of learning opportunities on its programmes.

30   Students are members of most key committees at the College. Officers of the Imperial College Union felt that their input was valued in both formal and informal meetings with the management of the College. However, student representation at departmental and faculty level was found to be more variable. Each department engages student input through elected representatives who participate in staff-student committees, but the organisation, frequency and involvement of students at these committees was found to be varied. The student written submission drew particular attention to the fact that there was no student representative on one faculty teaching committee, while students were represented on all others. The audit team also observed that there was no formal membership status for a student representative on a key educational strategy committee. These points led the team to the view that the consistency of student representation and contribution could not be guaranteed across the College. The team therefore considers it advisable for the College to provide a full and consistent level of student representation in all its deliberative academic committees.

31   The College's Learning and Teaching Strategy highlights the opportunities for students that are available at a research intensive university. The curricula of the College require students to engage with research findings and undertake research-based project work. Of particular note is the 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. EnVision, a teaching and learning development and support group in the Faculty of Engineering, sponsors awards for innovatory teaching which encourages research-based learning. The College captures such examples of innovatory and research-led teaching methods in its annual monitoring and in the periodic review of programmes. In meetings with the audit team students were very appreciative of the benefits they derived from learning in a research-rich environment. The team considers that the ways in which the College utilises its research excellence for the benefit of students' learning opportunities constitutes a feature of good practice.

32   The College's only major involvement with distance learning is through its distance-learning MBA programme. Most programmes contain some element of e-learning to support face-to-face teaching; this is facilitated by greater use of the virtual learning environment. Learning technologists in each faculty support the development and implementation of learning technologies within disciplines. The audit team learnt of many examples of innovatory use of computer-assisted learning, including those in the Faculty of Medicine whose accreditation body had commended it 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. The quality assurance of e-learning is subsumed within the normal quality assurance framework and, therefore, is not given special consideration. Given the current extent and likely expansion of all forms of e-learning, the team considered it desirable for the College to strengthen procedures for checking the quality of teaching and learning materials used in such programmes through its approval, monitoring and review processes.

33   Students at the College benefit from a range of high-quality learning resources including computer rooms, the college-wide virtual learning environment, and specialist workshops and laboratories. Students rate the library facilities of the College very highly and the National Student Survey 2009 rating of 94 per cent satisfaction indicated widespread approval of the resources available. The library surveys and focus groups gather student feedback and suggestions for improvement. The library communicates with its user group through the use of innovative social media technology, including videos which introduce library staff, and regular podcasts. Subject-based blogs and a lively twitter feed make students aware of new training resources, journal subscriptions and other library developments. The library website is a rich signposting resource for students. The audit team considers the range and diversity of opportunities provided by the library, which encourage and enhance student engagement with learning resources, to be a feature of good practice.

34   The College has developed a substantial portfolio of widening participation projects. Such projects are housed under the umbrella title of 'Imperial Outreach'. 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 recognised by the audit team as being original and valuable in the ways in which they involved this section of the student population.

35   The College created a 'Student Hub' in October 2008 to act as a focal point for student services and a 'new students' website, which aims to support students in their transition from school and to support academic induction, was launched in 2009. Working alongside the College's central support services, the personal tutor system is a source of both academic and personal support for students. Tutors 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, one which was

recognised by the College. The College had worked to introduce new initiatives to address the identified weaknesses, and the audit team noted the progress made in this often challenging area of student support.

36   The College identifies as a major objective the need to attract, reward, develop and retain staff of the highest calibre. Its human resources strategy supports this objective through extensive documentation and procedures to recruit, train and develop its staff. All probationary lecturers without prior equivalent training or experience are required to complete the College's Certificate of Advanced Study in Learning and Teaching. Courses are also run for graduate teaching assistants and other non-academic staff who support teaching. Appraisal of academic staff takes place within a personal review and development plan which includes consideration of teaching, pastoral care and research student supervision. These aspects of staff responsibility are formally recognised as eligible routes for promotion within the College. The profile of teaching has similarly been raised by the introduction of college and faculty awards for excellence in learning and teaching. The audit team was able to confirm from discussions with staff that the College was taking effective steps to enhance the recognition of the quality of teaching, and the team commends these developments as an example of good practice.

37   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

38   The College's Learning and Teaching Strategy is one of the main driving forces of quality enhancement. The strategy outlines the vision of each faculty for learning and teaching and establishes major college-wide themes. These include the expanding use of e-learning and technologies to complement existing teaching; the research-teaching interface; support for students with diverse needs; and the support and reward of staff involved in teaching, student support and welfare.

39   The Pro-Rector (Education) has overall responsibility for the strategic leadership of teaching and learning opportunities, and chairs the Strategic Education Committee. The Committee sets the direction for the College's quality enhancement strategy and provides sound governance and oversight of quality enhancement. The Pro-Rector (Education) is supported by a Dean of Learning and Teaching and a Dean of Students; a number of central departments also provide support for academic practice.

40   The College undertakes regular student evaluation of its programmes and the staff who teach on them. Such surveys inform the deliberations of the committees discussing learning and teaching. The College uses a wide range of measures to disseminate good practice in learning and teaching. These include good practice guides, education days and a number of departmental initiatives, some of which have been more widely taken up within the respective faculties. From its meetings with staff, reading of committee meetings and web-based evidence, the audit team was able to confirm many instances of good practice but it found that the culture for the coordinated dissemination of such practices was relatively underdeveloped. The team therefore considers 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.

41   The College has taken considered steps to enhance the profile of teaching and supervision within a strong research environment. From discussions with staff at all levels of the College, the audit team formed the opinion that high quality teaching is valued and recognised, is an important part of academic career progression, and is well supported by the College's human resources policies. The team considers that this approach by the College constitutes good practice.

42   Overall, the audit team found the College has demonstrated a significant and continuing commitment to the improvement of learning and teaching which is largely directed by its faculties and in line with its discipline base.

Section 5: Collaborative arrangements

43   It is the policy of the College to collaborate with a small number of high quality institutions with comparable reputation, mission statements and ethos. The College's modest collaborative provision portfolio is almost exclusively at postgraduate level, the majority of partnerships comprising 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.

44   Each collaboration is supported by a signed agreement recorded in a publicly available central register of partnerships maintained by the Registry and available on the College's website. The College has clear guidelines for establishing collaborative programmes which are normally subject to the same monitoring and review procedures as internal programmes. The College has recently introduced procedures for the strategic review of any collaborative partnership to take place at least six months before the collaborative agreement is due to expire. External examiners for partnerships are appointed by, and report to, the College; where appropriate, the same external examiner is used for internal and collaborative provision and is therefore able to compare the standards and experience of the two groups of students. In this way the College seeks to ensure that the standards of the awards it makes in the context of collaborative provision are equivalent to those of the campus-based provision.

45   The College has approved a number of international joint PhD programmes with partner institutions which it considers to have a quality, mission, strategy and ethos comparable with its own, and which also offer innovative and exciting collaborative approaches to doctoral studies. Building upon the experience of split and partner research institution PhD programmes in Singapore and Malaysia, on which students were registered only for Imperial College awards, the College has approved joint PhD programmes with institutions in Singapore and Hong Kong; successful students will receive a joint award from both institutions. The audit team, in examining these programmes, found that students on them are required to complete a rigorous programme of study in which progress is monitored and reviewed in the same way as for students registered on the College's internal PhD programmes. The College's guidelines and processes in this context were considered to be appropriate and have the potential to sustain joint programmes of high quality.

46   An innovative programme had recently been developed in collaboration with a multinational company with which the College already had well-established links. The programme is designed around work-based learning, supplemented by distance learning provided by the College. Although the process for approval for this programme was found to be rigorous, the audit team was unable to find sufficient reference to the section of QAA's *Code of practice* concerned with placement and work-based learning.

47   The audit found that the College's processes for assuring the academic standards and quality of collaborative provision had, in general, been informed by the expectations of the *Code of practice*. Programme approval, monitoring and review processes are generally rigorous and follow those for internal programmes. However, the audit team considered the evidence seen indicated that some aspects of the College's procedures for the approval and review of partners and their staff would benefit from further development. It would therefore be advisable for the College to review these procedures to ensure they take into account the relevant sections of QAA's *Code of practice*.

Section 6: Institutional arrangements for postgraduate research students

48   The College states that 'research students are vital to the research effort of the College and the essential first step in an academic or scientific career'. The range of the College's postgraduate research provision is extensive and the number of its research students large. A distinctive feature of the College's provision is the work of its seven specialist centres for doctoral training.

49   The College participated in QAA's Review of research degree programmes in 2006. The Review concluded that the College's ability to secure and enhance the quality and standards of provision for postgraduate research students was appropriate and satisfactory. In response to this Review the College produced a definitive statement of higher degrees procedures. This draws all relevant regulations and QAA guidelines together and includes 10 precepts governing the admission, induction, support and progress monitoring of research students which departments are required to follow. The two graduate schools have operational responsibility for research training. Each graduate school has a postgraduate quality committee. These committees are responsible for determining the standards and framework by which departments operate for postgraduate education and for overseeing the processes of quality assurance. Each department has a postgraduate committee which oversees the format and quality of its higher degree programmes, including admissions, induction, transfer, training and completion rates.

50   Applications for postgraduate research study are administered by the College Registry. Registry staff make a preliminary assessment which is then communicated to the relevant department. It is a requirement that all applicants be interviewed (including remotely where necessary). The College runs recruitment and selection workshops and requires inexperienced staff to attend these before participating in admissions work. The audit team concluded that this process was clear and transparent. Induction sessions are provided at both graduate school and departmental levels. Departments produce their own postgraduate research student handbooks that outline local procedures, academic requirements and support systems and provide a wide range of academic and pastoral information in accessible form. The team considered the support provided by these high-quality departmental research student handbooks to be a feature of good practice. The team learnt that students considered induction arrangements to be generally successful although they were aware of considerable departmental variations. Before transfer to PhD status, all research students must complete a graduate school-level transferable skills programme devised and monitored by the Graduate School's Academic Training Committee. Students are encouraged to attend relevant training workshops and should also attend formal training courses run by their own department. The team noted that student evaluations of training workshops were overwhelmingly favourable.

51   The College states that all research students should have adequate and regular access to appropriately qualified supervisors. Research students are assigned to a supervisory team that includes at least one supervisor and an 'academic mentor' whose main role is pastoral. The departmental director of studies and postgraduate tutor maintain oversight of progress. The audit team noted that the College's Code of Practice outlining the duties and responsibilities of both research supervisors and research students was well understood and observed. The team received evidence directly from research students that although there was some variation in the nature and effectiveness of supervision, especially on split sites, they had found the general quality of supervision and the support provided by research teams to be very high. This evidence was supported by the Postgraduate Research Experience Survey of 2008.

52   The College stated that student progress is closely monitored both at departmental and graduate school levels. Students and supervisors must complete regular progress reports and the student has the right to complete a separate, confidential, report. Progress reports are examined at departmental level by the director of postgraduate studies and/or the postgraduate tutor. Upgrading a registration from MPhil to PhD is determined by a 'transfer examination' held no later than 15 months after the date of initial registration. A student's performance is assessed

normally by two independent internal assessors. The audit team, in its scrutiny of documentation, noted some deficiencies in this process; in a number of instances, College policy on regular six-monthly progress reports had not been observed. While submission rates were generally very high, the team noted that the College had under review the submission rates for dissertations in certain subject areas.

53 Postgraduate research students are assessed according to criteria set out in the College's Academic and Examination Regulations. Assessment is on the basis of the quality of a student's research and their performance in a viva voce examination. The audit team noted that nominations for research degree examiners are vetted by a departmental panel before submission to the Registry for appointment. The team considered that arrangements for assessment are both appropriate and satisfactory and are in line with the precepts of the *Code of practice, Section 1: Postgraduate research programmes.*

54 The College has a number of means, both formal and informal, of acquiring feedback from postgraduate research students. The College requires departments to hold a regular forum at which postgraduate students are represented. The audit team noted that while most departments had established a postgraduate committee, a discussion forum, or some similar arrangement for considering student views, practice was variable and regular scheduled meetings were not always in place. In its scrutiny of documentation, the team confirmed that the outcomes of both College and national surveys of research students were carefully considered at faculty and college levels. The College is, however, aware of the extent of variability in receiving feedback from its research students.

55 Detailed complaints and appeals procedures are published on the College's website. A recent change to appeal procedures has transferred responsibility for deciding on the appropriateness of grounds for research degree appeals from the Rector, acting alone, to the Pro-Rector (Education) in consultation with the Dean of Students and Academic Registrar, thus broadening the area of decision-making responsibility. The audit team considered these arrangements to be appropriate and satisfactory. It also noted that postgraduate research students understood how to make complaints because the relevant information was available in accessible form in their postgraduate handbooks.

56 The audit team concluded that the College's arrangements for maintaining the academic standards and quality of provision of postgraduate research programmes are clearly documented, appropriate and soundly implemented. The team considers that postgraduate research represents a notable area of strength in the College's provision.

Section 7: Published information

57 The College publishes a wide range of information in hard copy and electronic format. The framework for ensuring accuracy of the information is provided in the Communications and Publications Code of Practice, prepared by the Communications Division.

58 The Communications Division is responsible for maintaining accuracy of the top-level College web presence and works closely with faculty web editors. The College Web Management Board has responsibility for the oversight and development of the College website. It is also the responsibility of the Communications Division to publish the undergraduate and postgraduate prospectuses, produced in liaison with departmental contacts.

59 The Registry is responsible for ensuring that teaching quality information, including programme specifications, is publicly available; its web pages are the key reference point for all academic and examination regulations and provide information on committee structures along with minutes. The pages also include summaries of external examiners' reports and periodic reviews, although the audit team found these to be very general in nature.

60   The audit team found that information for both prospective and current students was full and accurate, a view confirmed by students. Results of internal student surveys are made available to students and staff, and a summary of the results of the National Student Survey is also available on the College's website.

61   The College has recently embraced the use of social media tools to convey news and information and engage with various audiences. This comprises two Twitter accounts, a flickr group, a Facebook page and a YouTube channel. These, along with an RSS newsfeed and monthly podcasts, provide a significant amount of information about the work and life of the College.

62   The audit team found that the externally available information required by the Higher Education Funding Council for England guidelines was published on the website, and the Teaching Quality Information on the Unistats website appeared to be accurate and complete.

63   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.

Section 8: Features of good practice and recommendations

Features of good practice

64   The audit team identified the following areas as being good practice:

- the opportunities provided by the programme approval process for the early systematic review of new programmes (paragraph 11)

- the way in which the College draws upon its research excellence for the benefit of student learning (paragraph 31)

- the range and diversity of opportunities provided by the library to encourage and enhance student engagement with learning resources (paragraph 33)

- the increasing recognition of, and encouragement given to achieve, high quality of teaching (paragraphs 36, 41)

- the quality of departmental postgraduate research handbooks (paragraph 50).

Recommendations for action

65   Recommendations for action that is 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 15)

- consider the appropriateness and use of the Diploma of Imperial College as both an academic award and a 'post nominal' title (paragraph 18)

- expedite its review of assessment procedures so as to ensure consistency in the management of academic standards within and across its degree structures, and ensure parity of treatment for examination candidates (paragraph 25)

- provide a full and consistent level of student representation in all its deliberative academic committees (paragraph 30)

- review its procedures for the approval and oversight of collaborative provision to ensure that relevant sections of QAA's *Code of practice* are taken into account (paragraph 47).

66   Recommendations for action that is desirable:

- extend the existing opportunities for student access to external examiners' reports (paragraph 16)

- strengthen procedures for checking the quality of teaching and learning materials for programmes which have e-learning/blended learning elements (paragraph 32)

- draw more systematically upon the educational developments and good practice evident within its faculties and departments to enhance the support for student learning (paragraph 40).

Appendix

Imperial College London's response to the Institutional audit report

Imperial College London welcomes the positive outcome of the Institutional audit, which clearly confirms that confidence can reasonably be placed in the soundness of the College's present and likely future management of both the academic standards of its awards and the quality of the learning opportunities available to its students.

The College is pleased that the audit team has highlighted several of the many features of provision at Imperial which we regard as good practice. As noted by the team, Imperial's research excellence informs our teaching at all levels. The College also places great importance on high quality teaching and is pleased that this is recognised in the report, which also highlights several of our innovative approaches to engaging with students and commends the quality of the information we provide.

We also welcome the audit team's praise of our programme approval process. Imperial was one of the first institutions to have a student auditor, an arrangement which appeared to work well.

The College's quality assurance committees will consider how best to take forward the recommendations of the audit team in order to enhance further the excellence of our educational provision.

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