University College Cork
National University of Ireland, Cork

Quality Improvement/Quality Assurance

Peer Review Group Report

Department of Chemistry

Academic Year 2001/02

10 April 2002

Members of Peer Review Group

Prof. T. Cotter, Department of Biochemistry, UCC, Chair

Prof. B. Twomey, Department of Mathematics, UCC

Prof. H. Vos, School of Chemical Sciences, DCU

Prof. C. Ramsden, School of Chemistry and Physics, Keele University, UK

Timetable for conduct of Peer Review Group Site Visit

Department of Chemistry

Monday 25 March 2002

18.00 – 19.30	Meeting of members of the Peer Review Group in Suite 1, Business Centre, Kingsley Hotel, Cork Briefing by Director of Quality Promotion Unit, Dr. N. Ryan. Group agrees final work schedule and assignment of tasks for the following 2 days. Views are exchanged and areas to be clarified or explored are identified.
20.00	Dinner for members of the Peer Review Group and Head of Department and representatives of staff (Brian Jennings, Clare Smyth, Eileen O'Callaghan, John Sodeau, Trevor Spalding, John Wenger).

Tuesday 26 March 2002

08.30 – 09.00	Convening of Peer Review Group in Science Faculty Meeting Room, 3rd Floor, Kane Building
09.00 – 13.00	Consideration of Self-Assessment Report and other inputs along with all department staff, including administrative / technical / support staff.
09.00 – 09.30	All staff of Department of Chemistry Venue: G2, Kane building
09.30 – 10.00	Professor John Sodeau, Head of Department
10.00 – 10.30	Departmental co-ordinating committee
10.30 – 10.45	Tea/coffee
10.45 – 13.00	Meetings with individual members of staff

10.45 Professor Trevor Spalding
11.00 Professor Gerry Guilbautl
11.15 Professor Brian Jennings
11.30 Dr. Michael Morris
11.45 Dr. Fergus Lawlor
12.00 Dr. John Wenger
12.15 Dr. Justin Holmes
12.30 Dr. Clare Smyth
12.45 Mr. Derry Kearney

13.00 – 14.00 Working private lunch for members of Peer Review Group

13.30 – 13.45 Dr. Anita Maguire

14.00 – 14.30 Visit to core facilities of Department

14.30 – 14.50 Dr. Pat Kelleher, Pfizers
Ms. Elaine O'Keeffe, recent graduate

14.50 – 15.30 Meeting with representatives of undergraduate students
Frank Dillon, 4th Year
Sarah O'Keeffe, 4th Year
Blaithin Boland, 3rd Year
Orna Bennett, 3rd Year
Coleman Carroll, 3rd Year CPC
John O'Callaghan, 2nd Year

15.30 – 16.00 Meeting with representatives of postgraduate students
John Hanrahan
Norma Kelly
Edel Collins
Melissa Whelan

16.00 – 16.30 Meeting with representatives of postdoctorals
Kirk Ziegler
Liam Healy
Sebastian Papot
Lars Thuener

16.30 – 17.00 Professor Brian Harvey, Vice-President for Research Policy & Support

18.30 Meeting of Peer Review Group to identify remaining aspects to be clarified and to finalise tasks for the following day.
Working private dinner for members for the Peer Review Group

Wednesday 27 March 2002

08.30 – 09.00 Convening and meeting of Peer Review Group in Science Faculty Meeting Room, 3rd Floor, Kane Building

09.00 – 10.00	Meetings with individual members of staff
09.00	Dr. Dan McCarthy
09.15	Professor Jeremy Glennon
09.30	Eileen O'Callaghan
09.45	Dr. Matthias Jauch
10.00 – 11.00	Visit to Q+2, Boole Library. Meeting with Ms. Margot Conrick, Head of Information Services and Ms. Una Ni Chonghaile, Subject Librarian
10.30 – 11.00	Visits to facilities such as lecture theatres and Computer Services, etc. as appropriate
11.00 – 11.30	Coffee/Tea
11.30 – 12.30	Drafting of report of PRG
12.30 – 13.00	Professor John Sodeau, Head of Department (to clarify any outstanding issues)
13.00 – 14.00	Working Lunch for members of the Peer Review Group
14.00 – 14.30	Professor Paul Giller, Dean, Faculty of Science
14.00 – 17.00	Preparation of first draft of final report
17.00 – 17.30	Exit presentation, to be made to all staff of the Department by the Chair of the Peer Review Group or other member of Peer Review Group as agreed, summarising the principal findings of the Peer Review Group Venue: Council Room, North Wing
18.30	Working private dinner for members of the Peer Review Group to complete drafting of report and finalisation of arrangements for speedy completion and submission of final report.

Thursday 28 March 2002

Externs depart

Time Table of site visit

The Peer Review Group assembled on Monday 25th March and carried out the review process on the following two days, making an exit presentation to the Department of Chemistry on the Wednesday evening. In addition a written report was prepared, outlining the views and recommendations of the group.

The Peer Review Group was happy with the overall time table as prepared by Dr. N. Ryan of the Quality Promotion Unit in consultation with the Chemistry Department.

Both staff and students in the Department were well represented during the review process. It would be helpful if there were less last minute alterations to the timetable, but we understand that this may not always be possible.

The report of the review group was a collaborative effort with each individual member making contributions in the areas in which they had particular expertise. The content of the report is the view of all members of the review group.

Comments on Self-Assessment Report.

The review group were in general happy with the content of the self-assessment report, but found that accompanying supporting documentation was unnecessarily detailed. If necessary these supporting documents could have been available on the day to the group without the need of circulation. It is clear that a considerable amount of effort was made by the staff of the chemistry department in the preparation of the report and the peer review group were appreciative of this.

Departmental details

Management structures

At present the key administrative responsibilities in the chemistry department rest with the head of department and the host group supported by various departmental committees. The head of department is a rotating 2-year position that moves between the full professors of the department. In practice this means that the head of each section in turn becomes head of Department. This system of appointing the Head of Department is different (for historical reasons) from that operated in other Departments and it is the opinion of the review group that the method of appointing the Head of Department should be brought into line with that of other departments. The review group proposes that selection of the Head of Department be brought in line with current college practise, including a three year appointment, and that consideration is given to the view of the departmental staff.

For the development of the department we strongly recommend that the chair of analytical chemistry be filled as quickly as possible.

Work Loads

The Peer Review Group are of the opinion that a more equitable and transparent method should be found to distribute teaching-loads in the department. At present working loads seem to be disproportionately distributed across sections. In doing this cognisance should be taken of the amount of administration and the size of research groups of individual staff members.

Undergraduate Teaching

The review group, staff and students were generally happy overall with the quality and level of undergraduate teaching but the following reservations were noted. Students who took a main-stream chemistry degree programme were anxious to have

industrial placements, similar to that taken by those students doing the Degree in the Chemistry of Pharmaceutical Compounds. In addition, all students were anxious that appropriate credits be given for such placements. We noted that this was in agreement with the department's strategic plan. Proper access to computer facilities and the regulation of such facilities was an issue raised by undergraduate students. There was also the perception that final year chemistry students had a higher lecturing/laboratory load when compared to students taking degrees in allied subjects. This is something that may be worth looking at. The review group noted the current rather high failure rates in second year and that the Department will address this issue. It was also brought to our attention that the interactions between students and staff were obviously excellent.

Post graduate teaching

Its quite evident that the post-graduate programmes operated by the Chemistry Department are successful as measured by numbers of students doing higher degrees and their subsequent success at gaining employment. These programmes can be split into both taught and research based categories. In the case of the former, M.Sc. programmes both full time and part-time are available. While these programmes are clearly successful the teaching component could be improved by giving dedicated lectures to the students taking such courses. This will improve course identity that in turn will help attract a higher quality student. It is recognised that this will of course involve a higher level of teaching for staff of the department and appropriate resources would need to be provided for this. It may also be worthwhile to rationalise some of the MSc courses. In the case of students pursuing Ph.D. programmes the peer review group thought that the Ph.D. experience would be enhanced by the provision of special topics courses in areas relevant to the research project being pursued. The department should also consider providing a general induction course for all new students covering such topics as safety, use of literature, departmental organisation, computer aided databases and presentation skills. This will be particularly useful for students who have not come through the UCC system. The department should ensure as far as possible that completion times for PhDs. take no longer than 4 years. Post-graduate students should be further encouraged to present their work at international conferences, at least one conference during the Ph.D. programme.

Research

The department is research active in all the main areas of chemistry producing significant numbers of M.Sc. and Ph.D. students on an ongoing basis. This success can be furthermore illustrated by their output of research publications and attraction of significant research funding to support the research activities of the department. In particular the funding for some projects has come from highly competitive sources such as the EU. However, this is not uniform across all academic staff. Staff/students should be further encouraged to publish their research in high profile journals.

External relations

The department has ongoing collaborations with several companies in particular The Pfizer Chemical Corporation. The arrangement with this company will lead to the refurbishment of two of the departments teaching laboratories. In addition it will strengthen the links between the pharmaceutical sector and the department, something the peer review group believe will aid in the development of the department and the employment of its students in the longer term. This development may also catalyse the location of some R & D from these companies to Ireland and in the context of the current document to the Cork area. Under the PRTLI and other programmes staff of the department have formed additional research links with others research groups both national and international and this development should be further encouraged.

Infrastructure and safety

The design and layout of most of the laboratories in the chemistry department falls well below modern safety standards. This is nor only serious from the safety point of view but also acts a s disincentive to attracting contract R&D investments and it also limits the department in attracting good undergraduate and research students. The number and quality of fume hoods is inadequate, in addition the positioning of benches and fume hoods in laboratories is in the opinion of the peer review group dangerous and does not provide easy exit in case of emergency. The main thoroughfare in laboratories is usually in front of fume hoods which is both bad practice and potentially dangerous. In addition student desks and write up areas should not be adjacent to research benches as a matter of safety. These are items that need serious attention at college rather than departmental level.

There are some general house keeping safety issues that can be dealt with at the departmental level and these include proper storage of solvents, chemical and other clutter in some laboratories should be removed. In additional the disposal of chemical and solvent waste needs to be seriously addressed as storage at present is inadequate and is a potential accident in waiting. Appropriate resources must be provided by college to resolve this ongoing problem. In summary there is evidence of a lack of appreciation of modern European standards of laboratory safety and good laboratory practice.

Staff development

The Department should continue and perhaps be a little more pro-active in encouraging staff at all levels to avail of existing university staff development programmes that they may not be fully aware of. In particular support staff should be encouraged to participate in such courses.

Space issues

The peer review group noted that in the near future new research space will become available under several research themes under PRTLI 2 and 3 supported programmes. This will ease the pressure on the current research space requirements. However, we recommend that the Department moves away from the traditional segmentation of space between sections. There should be a thematic assignment of laboratory space

based on need. We regard this as a key issue for the future success and management of the Department; furthermore this is in line with trends elsewhere. In the current academic environment it is imperative that the department functions as an integrated unit in both teaching and research rather than as the 4 discrete sections that currently operate as largely separate entities.

Recommendations

As a result of the analysis given above our recommendations are as follows:

Management.
The establishment of three-year Headship from senior members of department in line with College practise.

Workload
A transparent method should be found to assign departmental duties, taking into account teaching, the extent of individual research activity and administration.

Teaching
There is strong evidence obtained from staff and students that the quality of teaching is very good and that there are excellent staff student interactions.

Research.
An effort should be made to ensure that all students complete their PhD in a four year period and the project supervisors should endeavour to publish the work carried out in peer reviewed journals as quickly as possible.

The Peer Review Group is of the opinion that the research income obtained by the Department is substantial but is has not yet reached its maximum potential.

External relations
We note the recent beneficial interaction with the Pfizer Pharmaceutical Corporation and encourage the Department to build on this exciting initiative.

Infrastructure and Safety
There are clear deficiencies in the departmental infrastructure and safety, such as laboratory layout and positioning and number of fume hoods and we think this should be addressed as a matter of urgency.

The Department should improve its general housekeeping in the laboratories from the safety point of view.

Space issues.
To ensure its future development the Department must allow a more flexible use of space to accommodate existing and developing research needs.