

UNIVERSITY OF GLASGOW

Education Committee - Wednesday 12 May 2004

Departmental Programmes of Teaching, Learning and Assessment  
Review of the Department of Statistics - Friday 5 March 2004

Ms Helen Clegg, Senate Office

**Review Panel**

Professor Andrew Nash (Convener)	Vice Principal (Learning and Teaching) and Clerk of Senate
Professor Tony Lawrance	External Subject Specialist and Head of Statistics, University of Birmingham
Dr Geoffrey Moores	Senate Assessor on University Court and member of Cognate Department (IBLS)
Dr Bob Matthew	Director, Teaching and Learning Service
Ms Helen Clegg (Panel Secretary)	Administrator, Senate Office
Ms Wendy Muir (Observer)	Assistant Head of Senate Office (Quality)

**Introduction**

1. *Background*

The Department of Statistics was last reviewed internally in June 1993. A joint Teaching Quality Assessment of Mathematics and Statistics was undertaken by the Scottish Higher Education Funding Council (SHEFC) in August 1994 and resulted in a 'Highly Satisfactory' rating. The Department received a rating of 5 in the 2002 Research Assessment Exercise.

2. *Documentation*

The Department had provided a Self Evaluation Report and supporting documentation, in accordance with the University's requirements for the Review of Departmental Programmes of Teaching, Learning and Assessment. The Convener thanked the Head of Department and the Teaching Co-ordinator for the concise presentation and clarity of the documentation. The Panel was pleased to note that all members of the Department had had the opportunity to provide input to the Self Evaluation Report. The Department was **commended** on its inclusive approach.

3. *Participants in the Review*

The Review Panel met with Professor Ian Ford, Dean of the Faculty of Information and Mathematical Sciences, and Professor Adrian Bowman, Head of the Department of Statistics. The Panel also met with eight key members of academic staff, the Teaching Co-ordinator, seven Graduate Teaching Assistants and two probationary lecturers (a third was on leave at the time of the Review). In addition, a group of fifteen undergraduate students from all levels was met. A number of these were elected Student Representatives. There were no taught postgraduate programmes operating in the Department at the time of the Review.

#### 4. *Range of Provision*

The Review Panel considered the following range of provision offered by the Department of Statistics:

Honours programmes:

- BSc/MA Statistics\*
- MSci Statistics\*
- BSc Mathematics & Statistics\*
- BSc Applied Mathematics & Statistics\*
- MSci Mathematics & Statistics\*
- MSci Applied Mathematics & Statistics\*
- BSc Psychology & Statistics
- MA Mathematics & Statistics
- BSc Computing Science & Statistics
- MA/BSc Political Economy & Statistics
- MA Management Science & Statistics
- BSc Mathematical Sciences

All of the above programmes were paralleled by three-year BSc (designated) degrees. Two additional three year BSc (designated) degrees were also available:

- BSc Mathematical & Statistical Studies
- BSc Psychological & Statistical Studies

(Programmes marked \* are accredited by the Royal Statistical Society).

Level 1 and 2 provision was offered, as well as service teaching for undergraduate programmes in Psychology and Biometrics. Service teaching at the postgraduate level was offered to IBLS and Engineering students, and to the MSc in Palliative Care.

### **Overall Aims of the Department's Provision**

5. The overall aims of the Department's provision were stated in the Self Evaluation Report and were communicated to all students via course handbooks. The Panel considered the Department's aims to be appropriate and consistent with the aims of the University.

#### 5.1 *Context*

The Panel noted from the Self Evaluation Report that there was a national shortage of statisticians, and the Department saw its degrees as contributing to a supply of trained graduates to fill the gap. There was also strong demand for graduates with statistical skills within the financial sector, and the Department had identified this as the most common destination of its graduates.

#### 5.2 *Degree Provision*

The Self Evaluation Report indicated that provision at Levels 1 and 2 was partly preparation for entry to Honours degrees, but also offered an introduction to the subject area for students making their choice of programme. As students were recruited via the Faculty entry system, and many had had no experience of Statistics at school level, this

introduction was vital to the successful recruitment of students to degrees in the Department. At Levels 3 and 4 the aim was to focus on a narrower set of concepts and tools, but with greater emphasis on practical work.

### 5.3 *Service Provision*

In terms of the Department's service provision, the aim was to introduce students to the needs and uses of statistical methods within their own disciplines, and to develop their skills in applying these methods to meaningful data.

## **Undergraduate Provision**

### **Aims**

6. The aims of each module were stated clearly in the documentation provided to students. The Panel agreed that the course aims were fully relevant to the overall aims and were appropriate to the corresponding level of study.

### 6.1 *Honours Review*

A review of Honours courses during session 2003-04 had resulted in a number of proposed changes to the aims and syllabus, in the light of developments in the subject area. One main aim was to strengthen the introduction of students to real applications, and there was an emphasis on practical work, particularly at Levels 3 and 4, in an effort to develop students' skills in this area.

### 6.2 *Benchmark Statement*

The Benchmark Statement for Mathematics, Statistics and Operational Research had been welcomed by the Department. The Head of Department stated that, although the Benchmark Statement was not a prescriptive document, the Department's aims were in line with its provisions.

## **Postgraduate Provision**

*[At the time of the Review, no taught postgraduate programmes were offered by the Department.]*

7. Whilst it was recognised that the Department's resources were being fully utilised, the Panel queried whether any consideration had been given to offering a taught postgraduate programme. Staff felt there was certainly a professional demand for such a programme, but there were issues regarding funding and staffing. It was also believed that the stronger students would progress directly to PhD courses, with some taking specialist MSc courses. The Head of Department added that there was a national lack of taught MSc programmes in Statistics, with Napier University being the only Scottish institution offering such a programme. The Panel **recommended** that further consideration be given to the possibility of expanding provision into the taught postgraduate area.

## **Intended Learning Outcomes**

8. The Self Evaluation Report indicated that, at Honours level, the ILOs were designed to provide coverage of the subject in both breadth and depth. The intention was to equip students with tools and ways of thinking which could be applied in both common and unusual situations. The staff group explained that any changes to ILOs were discussed by the review team and the Teaching Committee, and were then approved at a Staff

Meeting. The Department believed this contributed to a feeling of shared ownership of the aims and objectives.

### 8.1 *Transferable Skills*

The Panel was informed that employability was always kept in mind when formulating or reviewing ILOs, and that transferable skills were enshrined within the degree programme. It was recognised that not all graduates would become statisticians, so the skills students acquired must be transferable to a variety of professions.

## **Assessment**

9. The Department's assessment methods were varied and included class tests, lab-based assessments, coursework assignments, homework assignments and oral presentations, in addition to formal examinations. The Panel explored some of these aspects as follows:

### 9.1 *Class Tests*

The usefulness of the class tests in Level 3 was questioned, as students did not always appear to give serious consideration to them, given that the assessment would not contribute to their final grade. The Head of Department took the view that it would be ineffective to formally assess students too early in the session, as time was needed to absorb the material. The student group agreed that, in general, little effort was directed towards the class tests, due to the lack of contribution to their grade, as well as conflicting deadlines for other pieces of work. The Panel learnt that the timing of the class test had recently been moved from January to mid December. For those students in part-time employment, the period leading up to Christmas was the most lucrative time and therefore this took priority over preparing for or sitting a class test. However, students conceded that their result in the class test was a good indication of their level of knowledge, and some stated that it encouraged them to study areas they might have otherwise neglected. The Panel **recommended** that consideration be given to the appropriateness of the class tests, both in terms of timing and contribution to the students' assessment.

### 9.2 *Oral Presentations*

Oral presentations were introduced mainly at Levels 3 and 4. The Level 3 laboratory programme required students to give a presentation, and students were also expected to give non-assessed talks. A talk on Presentation Skills had been included in the recently introduced Level 3 Induction programme. The Honours project poster session, led to helpful interaction between staff and students. This was a change from the previous formal presentation students were required to give as part of their project, and it has been considered successful as well as a less intimidating alternative for less confident students. The students who met with the Panel commented that the development of presentation skills was essential, and felt the methods used were appropriate as feedback could be gained both from staff and other students.

### 9.3 *Homework*

A structured programme of homework exercises was in operation at Level 3 but, although marked, these did not contribute to the students' final grade.

### 9.4 *Code of Assessment*

The Panel was pleased to note that the Department had embraced and implemented the University's Code of Assessment, and that efforts had been made to familiarise

students with it. The student group confirmed that they had received full information relating to the Code of Assessment. Staff took the view that the 20-point scale was sensible, particularly for the marking of projects, and had encountered little difficulty with its implementation. Teaching Assistants were also happy with the operation of the scale and reported that it had been fully explained to them and that they had received help as necessary.

#### 9.5 *Feedback*

Mechanisms for providing feedback to students were considered by the Panel to be robust and consistent.

#### 9.6 *Balance between Coursework and Examinations*

The Panel held the opinion that, in terms of contribution to the students' final grade, the balance between coursework and examinations in Level 3 required closer consideration by the Department. It was **recommended** that the possibility of giving coursework a 20% weighting (for example) be explored.

### **Curriculum Design and Content**

10. It was explained in the Self Evaluation Report that teaching and learning in Statistics was heavily dependent on previously learned material. This was also recognised in the Benchmark Statement for the subject. Therefore, students could only proceed to Honours when Level 2 concepts had been mastered. Level 3 built upon these, and only in Level 4 was an element of choice available. The Department believed the restriction of choice up to that point was the best way for the student to achieve a broad and balanced understanding of the subject.

#### 10.1 *Review of Provision*

The Head of Department stated that the Department's provision was constantly under review and, in general, changes made as a result were modest. However, there had been a major review during Session 2003-04 of the Honours curriculum, which was considered necessary in order to ensure that the most modern approaches to the subject were represented (for example, a new course in Applied Bayesian Modelling was being offered).

#### 10.2 *Research-Led Teaching*

The Panel noted that the range of research undertaken by Departmental staff was used as a source of material and assisted students in understanding the application of concepts to practical situations. The students confirmed that they were aware of the Department's research through teaching. Project work could also be drawn from this, and the Department had been commended by External Examiners on the range and substance of student projects.

### **Student Recruitment, Support and Progression**

#### **11. Recruitment**

##### 11.1 *Faculty Entry System*

The Self Evaluation Report indicated that recruitment to degrees in Statistics relied heavily on the Faculty entry system. Only a small number of students applied with the specific intention of pursuing a Statistics degree, but many more decided to take a

degree in the subject after experiencing it in Levels 1 and 2. In the meeting with students, the Panel heard that a number had not initially chosen to study Statistics but had later changed their minds following exposure to it in Levels 1 and 2. Particular success had been noted by staff with regard to students moving from Level 2 to Level 3. Staff were of the opinion that the survival of their subject depended on the Faculty entry system to a considerable extent.

### *11.2 Statistics in Scottish Schools Project*

The Department was involved in the Statistics in Scottish Schools project, and staff members had also been active in promoting the subject directly to school children and teachers through classes and talks. The Head of Department firmly believed this work had had a positive impact on recruitment, with more applicants from the participating schools stating statistics as their firm choice. There had also been anecdotal evidence of the success of the work with schools. The staff group agreed with this and stated that, as a result of the initiative, potential students could more readily see the various applications of the subject which, in turn, made statistics much more appealing as a career choice. The Panel **commended** the Department for the work it was undertaking in schools.

### *11.3 Attractiveness*

At the meeting with students, the Panel asked what factors had encouraged the students to study at the University and in the Department. Responses included the good reputation of the University, the location and parental influence. However, particular mention was made of the Applicants Visit event, which was considered to have been extremely well organised and had given a better overall impression than other institutions. The opportunity to speak to students as well as staff was especially appreciated and this had helped in making the final decision about where to study. It was also believed that the structure of Level 1 made it easier to make a decision on subject choice. Only two of the students had studied statistics at school, so it was agreed the broad curriculum allowed for greater choice of subject and a more informed decision to be made about which subject to study to Honours level.

### *11.4 Gender/Ethnicity Balance*

It was noted that the gender balance was approximately equal, and that ethnic groups were represented within the student body.

## ***12. Support for Students***

### *12.1 Adviser of Studies System*

The Self Evaluation Report indicated that all Level 1 students met with an Adviser of Studies to discuss the curriculum. Induction events also took place, both at University and Faculty level. Thereafter, regular meetings took place between the student and their Adviser of Studies to discuss progress, curriculum and any other areas of concern. The student group commented that the Adviser of Studies system worked well, even where Advisers were not based in the Department of Statistics. Students felt comfortable seeking additional, or subject-specific, help from members of staff besides their own Adviser, and this was encouraged. By Honours level, students were allocated an Adviser in the Department as a matter of course.

## *12.2 Tutorial System*

Students were supported throughout Levels 1, 2, 3 and 4 by the operation of a tutorial system, and clear indications were usually given of the topics to be discussed at each session.

## *12.3 Level 3 Induction*

For students entering the Honours programmes at Level 3, an additional Induction Week was scheduled in order to remind students of the skills and knowledge they were already expected to have from Levels 1 and 2, and to help motivate them for the Honours years. The event included presentations from former students and potential employers. Feedback from students who attended in Session 2003-04 had been extremely positive and this was endorsed by the student group who met with the Panel. The Department also offered a subject-specific careers talk in Level 4, and additional, more generic, careers guidance was available from the University Careers Service. The Panel **commended** the Department for its introduction of the Level 3 Induction Week.

## *12.4 Special Needs*

Special needs students within the student group stated that their requirements had been willingly acknowledged and met within the Department, and were more than satisfied with the support they had received.

## **13. Progression**

### *13.1 Support for Students with Differing Mathematical Abilities*

It was noted that there could be difficulty in dealing with students whose mathematical ability was weak. Whilst a certain level of mathematical skills was required to complete Levels 1 and 2, there still tended to be a range of ability. The recently introduced designated degree in Mathematical and Statistical Studies had given students weaker in mathematical ability an alternative route to completing a degree.

## **The Effectiveness of Provision**

14. The Department offered evidence of the effectiveness of its provision, by means of External Examiners' comments, student feedback and the employability of its graduates. In general, graduates were in high demand. External recognition was evident, as shown by the links the Department had forged with various companies, its involvement with the Learning and Teaching Support Network, and by the accreditation of programmes by the Royal Statistical Society.

### **14.1 Learning and Teaching**

#### *14.1.1 Degree Programmes*

Students stated that the methods of learning and teaching clarified to them the purpose of the subject, as there were many applications to real life which were exploited to the full. It was believed by staff and students alike that, in particular, the research-led nature of the Department's teaching provided useful examples and meaningful sets of data.

#### *14.1.2 Use of S Plus*

The view was expressed by students who met the Panel that, in some cases, lecturers relied too heavily on S Plus in their teaching. They felt that a particular piece of

software should not be used in order to teach a theoretical concept. The Head of Department explained that, last term, a lecturer had used S Plus fairly heavily in his teaching, before students had seen the package in the practical sessions. This had been resolved through the Staff-Student Committee.

#### *14.1.3 Service Teaching*

The Head of Department informed the Panel that the service teaching the Department undertook was considered an important part of the Department's work and was taken very seriously. The Panel noted the Department's provision was particularly strong in the areas of Psychology and Biometrics, and enquired whether there were plans to extend provision to include other areas of the University. The Head of Department advised that the current service provision had come about partly for historical reasons and partly because of research partnerships with members of staff in particular departments. He stated that attempts had been made to work more closely with the Faculty of Engineering and that teaching at the postgraduate level was one possibility being pursued. However, this would require additional resources to implement. Statistics teaching for undergraduate engineering did not seem to be a possibility as the Departments within the Faculty provided their own teaching. The Panel **recommended** that the Department explore the possibilities for expansion of its service teaching.

#### *14.1.4 Postgraduate Teaching in IBLs*

Some teaching for postgraduate students in IBLs was offered. However, the Head of Department did not believe the Department was in a position to take on a great deal of extra work in view of current space and staff resources.

#### *14.1.5 Continuing Professional Development*

The Panel explored with the Head of Department and the staff group whether any Continuing Professional Development provision was offered by the Department. It was noted that the Robertson Centre had a remit to offer short courses, although these were generally medically oriented and were externally funded.

#### *14.1.6 Honours Teaching*

The Panel questioned whether the Department's commitment to service teaching limited the amount of teaching that could be done at Honours level and therefore the number of students who could proceed to Honours. The Head of Department stated that in Session 2003-04 the Department had its biggest Level 3 intake to date – almost 40 students – but that laboratory space and staffing constraints meant that 40 was the maximum. However, to date, no eligible students had been prevented from pursuing Honours. The Panel **recommended** that specific criteria for progression to Honours should be devised, for use in the event of a future need to cap Honours numbers.

#### *14.1.7 SIC: Statistics for Psychologists*

Students taking the SIC course (Statistics for Psychologists) found the subject difficult, as non-mathematicians but they understood the necessary application of statistics to their chosen careers. There was also some difficulty with coinciding deadlines for coursework. However, students agreed the laboratory work was helpful in setting statistics in context and tended to clarify any difficult issues arising from the lectures. The staff group agreed that the clashing of deadlines could sometimes create difficulty. However, although efforts had been made to try to ensure deadlines were appropriately spaced, at times this was not successful because of difficulties in obtaining timely



information. The Panel **recommended** that efforts continue to be made to ensure the two Departments were aware of each other's deadlines.

#### *14.1.8 IBLs 3:Biometrics*

The Panel noted that comments from the Peer Review exercise had indicated that that course material in the IBLs Biometrics 3 course was far too extensive to be covered in one course. The Head of Department advised that this matter was already under consideration and that the intention was to divide the course into two parts, allowing those students who had already taken the IBLs 2:Biometrics course to avoid repetition of the same material. The Panel **recommended** that this change be carried out as soon as practicable.

15. The staff group stated that the quality of the Department's service teaching, and the commitment to it, was one of the Department's greatest strengths. This was aided by the strong connections many staff had with other departments in terms of their research activity. They considered Engineering was one area in which there were opportunities for collaboration.

### **16. *Learning Resources and their Deployment***

#### *16.1 Team Teaching*

The Panel was keen to hear how the team-teaching approach operated in the Department. The Head of Department gave the SIC course as an example, stating that its sheer size (220 students) meant it had to be extremely well organised. The syllabus was tightly defined so there was less opportunity for staff to make changes, and this ensured there were no gaps in the students' learning. He also mentioned that there was excellent administrative support, which helped the course run very smoothly. The probationary lecturers welcomed the team teaching approach, as they believed it had given them a good means of support during the early stages of their employment.

#### *16.2 Staff Retention*

The Panel noted from the documentation that the Department appeared to have a core of long-serving staff and others who stayed for a short time as part of their geographical or career progression. The Head of Department expressed some concerns over retention of staff and thought that high workloads might be a contributing factor to losing staff. Probationary staff were given a reduced load in line with the New Lecturer/Teacher Development procedures. However, this clearly placed more responsibility on the remaining staff. Probationary lecturers stated they had been grateful for the reduced load, although even that had been quite demanding. However, speaking from their experiences, they acknowledged that a heavy workload was the norm within the area of statistics.

#### *16.3 Workload Model*

The Department employed a Workload Model, although the Panel considered this to be less prescriptive than those used in other departments. The Head of Department believed it would not be useful to weight and define all staff activities precisely as there could be difficulty in knowing exactly how and what to measure, particularly as all members of staff were research active. He advised the Panel that he met with each member of staff to discuss their individual workload, and that this qualitative approach was preferred. The staff group concurred with this approach. Those with experience of working in other institutions considered the workload was greater than in those institutions. They stated that, in addition to timetabled contact time, they also gave a lot of their time to informal student contact. This was true to a lesser extent of the

probationary lecturers, who did have some informal student contact, but not a significant amount. They stated they did not feel pressured to accept this, but in fact considered that the additional interaction with students was beneficial.

#### *16.4 Teaching Assistants*

The Panel heard that the norm for each staff member was to teach three courses. However, much of the lab-based work was taught by postgraduate Teaching Assistants (with some also taking lectures) and, according to the Head of Department, this has not only relieved some of the pressure on staff, but has also resulted in some excellent teaching. All Teaching Assistants taking classes were required to take training provided by the Teaching and Learning Service. Feedback from students was obtained through questionnaires and directly, and other, more senior, members of staff sat in on classes to ensure standards were maintained. Teaching Assistants were provided with existing course notes, which they were encouraged to update, and were given marking schemes where they were involved in assessment. The Teaching Assistants confirmed that they were extremely busy at times when they had teaching commitments besides their own research, and that if PhD funding was only available for three years, the pressure could be considerable. However, they confirmed that the Head of Department discouraged them from taking on too many commitments in the third year of their research. The Head of Department would check with supervisors whether Teaching Assistants wished to increase their teaching hours, although the norm was 4-6 hours per week.

#### *16.5 New Lecturer Programme*

Probationary lecturers stated that they had been required to follow the New Lecturer Programme. It was stated that, although it did not require a significant amount of time, the Programme had not been particularly helpful so far. It was considered that little time had been available for reflection, and that insufficient time had been spent on practical lecturing skills. The main benefit of the Programme was the interaction with other new members of staff in the same position. In general, however, the probationary lecturers stated they would probably not follow the Programme were it not compulsory.

#### *16.6 Study Leave*

The Head of Department told the Panel that there was a facility for staff to take study leave, although there was not a strong history of people taking this. The Head of Department felt that the rather low uptake might be related to the amount of research collaboration with other staff in the University. The staff group considered that study leave might be taken up more now that the Department had a full complement of staff. It was noted that one member of staff had recently been on study leave for a year. The Panel **recommended** that all staff be made fully aware of the opportunities available to them for study leave, and that support be given where required.

#### *16.7 Departmental Accommodation*

Panel members were given the opportunity to visit the Department (located in a building shared with the Department of Mathematics) and tour its facilities, including lecture space, laboratories, postgraduate offices and social space. The Head of Department advised that accommodation within the Department was at a premium, and that this was particularly true of the laboratory accommodation. Of the 100 available workstations, thirty (in a single laboratory) were informally allocated to Honours students. The student group agreed that the availability of laboratory space did sometimes cause difficulties – for instance, when they had to leave in order to accommodate a timetabled class – but that in general the problem was not major. The issue of staff office space was also raised, and it was noted that one member of staff

was currently located in the Visitors' Room due to lack of space elsewhere. Postgraduate students felt that accommodation had improved, but that more tutorial space was needed. In addition, postgraduate offices were very cramped, with up to six people in each room, as well as occasional visitors. In the meeting with the Head of Department and the Dean, the Dean informed the Panel that the accommodation situation for Statistics/Mathematics was a top priority for the Faculty of Information & Mathematical Sciences. It was hoped that further conversion work in the basement area might offer a possible solution.

### *16.8 I.T. Facilities*

Lab users benefited from technical support staff, shared with the Department of Mathematics. However, funds for equipment were felt to be inadequate given the expensive software packages being used (Minitab at Levels 1 and 2, and S Plus at Levels 3 and 4). The issue of the Equipment Budget was raised by the Dean, who stated that this only met around 50% of requirements. Students had reported some problems in accessing Minitab from the Main Library, but in the meeting with students it became apparent that this was due to a misunderstanding on the part of some students about how to access it. The Panel **recommended that** students should continue to be reminded at regular intervals of specific instructions to allow them to access Minitab from the University Library [refer to Section 16.8]

### *16.9 Learning and Teaching Support Network*

The Panel was informed that the Statistics element of the Mathematics, Statistics and Operational Research LTSN Subject Centre was based within the Department of Statistics, and that the Head of Department was the Glasgow site Director. Glasgow's interest was mainly in relation to the use of IT in teaching Statistics. The Department has some involvement in the Learning and Teaching Support Network programme, specifically in relation to the use of IT in teaching statistics. The Head of Department believed that, as the programme had a national remit, there was not necessarily much cross-fertilisation with the Department. However, all staff were aware of it.

## **The Maintenance and Enhancement of Standards of Awards**

17. The Self Evaluation Report indicated that standards were maintained using a number of methods – progress monitoring (with additional support where necessary), detailed marking schemes to ensure consistency, and review of examination papers by course conveners. The Annual Course Monitoring process also provided an opportunity to identify relevant issues and act upon them. The External Examiner also played a key role in ensuring comparability with standards and practice in other institutions. The comments and suggestions made by the External Examiner were taken seriously and often formed the basis of further discussion within the Department. Moreover, the experience of members of the Department serving as External Examiners elsewhere had been found to be useful in identifying examples of good practice.

## **The Maintenance and Assurance of Quality**

18. The Department was last reviewed internally in 1993, and underwent a Quality Assessment review by SHEFC in 1994. Both reviews were very positive and comments and recommendations made were taken into account.

### *18.1 Quality Assurance Methods*

A variety of measures were in place with regard to quality assurance – these included the New Lecturer Programme, staff Away Days, student questionnaires, the inclusion

of student representatives in various committees and the regular review of courses. The Department's Teaching Committee played a key role in handling issues related to teaching and learning, and its overview of course reviews and Annual Course Monitoring reports was considered to be of particular benefit in identifying common themes or difficulties across the range of provision. The Department also conducted Peer Reviews for all courses. The Head of Department considered these to be extremely useful as they gave an informed insight and often were more detailed than the Annual Course Monitoring Report. However, he did not believe the Peer Reviews should become a formal requirement.

### *18.2 Training of Teaching Assistants*

The Panel sought reassurance that the Teaching Assistants had the appropriate skills to take classes. The Head of Department stated that the selection process had been rigorous and had included a presentation. Teaching Assistants stated that staff members would regularly observe their teaching and would give feedback. They also received feedback directly from the student group and action would be taken on any points of concern. Where they had responsibility for assessment, they were given specific marking schemes and their marking was subsequently checked by another member of staff. The Panel **recommended** that the Head of Department continued to ensure selection procedures were robust and that appropriate training was in place.

### *18.3 Mechanisms for Student Input*

The student group confirmed there were various means by which they could offer their input. Student Feedback questionnaires, distributed at the end of each course, were collated by class representatives and fed back to staff. Class representatives could also take any matters of concern to the Staff Student Liaison Committee. It was noted that the Department allowed representatives time at the end of a lecture if they required to contact the whole course. However, students told the Panel that they did not always get sufficient feedback on action taken as a result of their comments and that sometimes the same issues arose year after year without any apparent action being taken. The Head of Department assured the Panel that student comments were taken very seriously and that every effort was made to take action where necessary. The Panel **recommended** that details of action taken should be reported back to the student body consistently and timeously.

### *18.4 Staff Student Liaison Committee/SRC Training*

The class representatives in the group told the Panel that attending the SSLC meetings was more useful than the training provided by the SRC, which they stated was overlong and not particularly helpful. The Panel suggested that these opinions be fed back to the SRC in order that the format of the training might be reconsidered for next session.

**Action : Staff Student Liaison Committee**

### *18.5 Procedure for Course Changes*

When new courses, or significant changes to existing courses, were proposed, these were scrutinised by the Science Undergraduate Studies Committee and then by the Academic Regulations Committee, as set out in the University's Course Approval guidelines.

### *18.6 Departmental Culture*

The Panel was of the opinion that the Department was effectively managed and that there was a positive Department ethos. The Head of Department stated that he was keen for the Department to be as cohesive as possible, particularly as it had grown in

size. Effort was made within the Department to have breaks together, and weekly 'Cakes Talks' were held for the whole Department (at which postgraduate students gave talks related to their research interests). As a large proportion of the teaching staff was fairly new, these activities helped to pass on the Department culture. Staff confirmed that the Department was a satisfying and very positive place to work. It was stated that, other than the Friday talks, staff had little opportunity to get together, but that open communication was encouraged at all times.

## **Enhancing the Student Learning Experience**

19. The Department offered examples of a variety of innovations it had brought into its programmes.

### *19.1 Level 3 Induction*

The Level 3 students in the group stated that the recently introduced Level 3 Induction had been very helpful and motivational. They recognised that it could not fully prepare them for the transition from Level 2, but it did serve as a reminder of what they had already experienced and gave them the motivation to continue.

### *19.2 Electronic Handsets*

The Department had recently introduced the use of handsets for the S1C class. Student opinion on the use of electronic handsets was divided. Some stated that it used a lot of class time unnecessarily, and others believed it helped students engage with the class and hold their attention. Opinion was also divided amongst the Teaching Assistants.

### *19.3 Good Practice in Other Institutions*

As External Examiners at other institutions, some of the staff had brought back examples of good practice to implement within the Department – for example, moving from long multi-topic examination papers to shorter, single-topic papers. Whilst it was agreed that this used more administration time, it was believed that it helped the student to see the relationship between the different topics.

### *19.4 Commitment of Staff*

It was the unanimous opinion of the student group that staff in the Department were approachable and friendly, with a high level of commitment to the subject and to their students. Flexibility was shown in relation to 'office hours', with students being able to call on staff at different times. Experience had shown the students that if the staff member they wished to speak to was unavailable, another member of staff was always willing to help. It was also stated by students that the quality of printed material supplied was excellent. The Department was to be **commended** on these points.

### *19.5 Student Website*

One area which the student group felt could be developed was the student website. In comparison with, for example, the Mathematics Department website, they felt it did not contain much information and could be utilised much more fully than at present. The Head of Department advised that the Department had two websites – one for staff and one for students – and that the student website was fairly new and still under development. The Panel **recommended** that the website be developed more fully with student requirements in mind, and that examples from other University departments or Statistics departments be reviewed as possible models.

## **G. Summary of Key Strengths and Areas to be Improved or Enhanced in relation to Learning and Teaching**

### *Key Strengths*

- The Department demonstrated a cohesive, consultative approach and staff showed a strong commitment to the success of the Department
- Staff were reported by students to be approachable, supportive and always willing to offer help
- The Department offered a good range of undergraduate provision and was committed to this and to its service teaching
- The recruitment activities being undertaken showed a proactive approach to securing the Department's future
- The Department's applied approach to teaching provided a meaningful learning experience for students

### *Areas to be Improved or Enhanced*

- The provision of a taught postgraduate programme should be considered as this presented an obvious gap in the Department's provision

## **H. Conclusions and Recommendations**

### *Conclusions*

The Panel concluded that the Department's provision was of a high quality overall, and in particular wished to commend the Department on the following points:

- Its inclusive approach to the preparation for the Review
- The recruitment activities being undertaken via the Statistics in Schools Project
- The introduction of its innovative Level 3 Induction Week
- The approachability, willingness and commitment of staff

### *Recommendations*

The recommendations interspersed in the preceding report, and summarised below, are made in the spirit of encouragement in order to enhance the already high standards of the Department of Statistics. The recommendations have been cross-referenced to the corresponding sections of the report, and are ranked in order of priority.

1. The Department should explore the possibility of introducing a taught postgraduate course to its portfolio [*refer to Section 7*]

**Action : Head of Department**

2. The Department should give consideration to expanding its service provision to other areas of the University [*refer to Section 14.1.3*]

**Action : Head of Department**

3. The Department should consider the appropriateness of the class tests in Level 3 as a method of assessment, and explore alternative timing and/or methods which might be more effective [*refer to Section 9.1*]

**Action : Head of Department**

4. The Department should explore the possibility of giving coursework in Level 3 a 20% weighting in terms of contribution to the students' final grade [*refer to Section 9.6*]

**Action : Head of Department**

5. The Head of Department should continue to ensure that all Teaching Assistants have the appropriate level of skills and experience to carry out their teaching duties [*refer to Section 18.2*]

**Action : Head of Department**

6. Action should be taken to improve the effectiveness of the IBLS 3:Biometrics course [*refer to Section 14.1.8*]

**Action : Head of Department**

7. The Department's student website should be developed in line with student requirements [*refer to Section 19.5*]

**Action: Head of Department**

8. Specific criteria should be formulated to ensure that progression to Honours is fair and consistent in the event that numbers have to be capped [*refer to Section 14.1.6*]

**Action : Head of Department**

9. With regard to service teaching, continued effort should be made to ensure there is effective communication between Departments, particularly with regard to assessment deadlines [*refer to Section 14.1.7*]

**Action : Head of Department**

10. The Head of Department should ensure that any action taken as a result of student comment is fed back consistently and timeously [*refer to Section 18.3*]

**Action : Head of Department**

11. The Head of Department should make all staff aware of opportunities for Study leave, and support requests as necessary [*refer to Section 16.6*]

**Action : Head of Department**

12. Students should continue to be reminded at regular intervals of specific instructions to allow them to access Minitab from the University Library [*refer to Section 16.8*]

**Action: Head of Department**

*Prepared by: Janet Anderton, Senate Office*

*Last modified on: Thursday 6 May 2004*