Review of the Student Learning Experience in Chemistry

Questionnaire for Directors of Teaching

Please fill in this questionnaire on behalf of the Department, not as an individual.
If completing this form by computer, please make choices using Bold format.

No identification of individual departments will be made in any report derived from this questionnaire.

Q1. Preliminary Data
University:
Name of Department:
Contact:
Web site of department:
Web site of chemistry programme:

Section 1   Departmental Facts and Figures

1.1   Staff

Q2. How many full-time members of staff teach in the department?
   Professors/Readers … …; Senior lecturers / Lecturers … …; Teaching fellows ……; Tutors ……;
   Laboratory Instructors, and similar associate staff ……;

Q3. How many of the above teaching staff are: Male ……?   Female ……?

Q4. How many members of staff have a higher education teaching qualification ……?

Q5. How many post-doctoral fellows have some teaching duties in the department ……?

Q6. Other than the above, how many part-time teaching staff do you have ……?

1.2   Students

Q7. How many students are there currently in the department in
      'Year 0' ……; 'Year 1' ……; 'Year 2' ……; 'Year 3' ……; 'Year 4' ……?

Where 'Year 4' equates to the final year of MChem; 'Year 3' to final year of BSc; 'Year 0' to a foundation year, or first year in Scotland.

Q8. What was the intake in 2005 ……; 2006 ……; 2007 ……?

Q9. What 'A' level (or equivalent) points score/set of grades was/is asked for BSc entry in
      2006 ……; 2007 ……; 2008 ……?

Q10. What 'A' level (or equivalent) points score/set of grades was/is asked for MChem entry in
      2006 ……; 2007 ……; 2008 ……?

Q11. What minimum 'A' level (or equivalent) points score/grade was required in Chemistry?
   For BSc ………? For MChem ………?   No minimum

Q12. Do you have a mathematics entry qualification   (Yes/No)?   It is? ……

Q13.a. How many students achieved each MChem degree grade in:
        2007: …… Class 1; …… Class 2.1; …… Class 2.2; …… other degree?
        2006: …… Class 1; …… Class 2.1; …… Class 2.2; …… other degree?
        2005: …… Class 1; …… Class 2.1; …… Class 2.2; …… other degree?

Q13.b. How many students achieved each BSc degree grade in:
        2007: …… Class 1; …… Class 2.1; …… Class 2.2; …… other degree?
        2006: …… Class 1; …… Class 2.1; …… Class 2.2; …… other degree?
        2005: …… Class 1; …… Class 2.1; …… Class 2.2; …… other degree?
      NSS Overall figures given below:
        2007: … % Class 1; … % Class 2.1; … % Class 2.2; … % other degree?
        2006: … % Class 1; … % Class 2.1; … % Class 2.2; … % other degree?

Q14. Are student grants or bursaries available specifically for chemistry students
      (i)   For full fees   (Yes/No)?
      (ii)   Of £1000 or more   (Yes/No)?
Q15. What percentage of your students take advantage of bursary schemes of this value ……%?

1.3 Programmes of Study
Q16. Does the department offer both MChem and BSc in Chemistry   (Yes/No)?
Q17. If so, what proportion of students choose MChem   (………%)   or BSc (………%)?
Q18. Is transfer possible between BSc and MChem part-way through the programme   (Yes/No)?
Q19. What is the requirement for transfer, if any? ………
Q20. Does the Department offer
      (i)   MChem with an industrial placement scheme   (Yes/No)?
      (ii)   BSc with an industrial placement scheme   (Yes/No)?
Q21. Does the department run joint honours degree programmes (Chemistry and …) where chemistry is approximately 50% of the degree content
(Yes/No)?
Q22. Or combined honours degree programmes (Chemistry with …) where chemistry is significantly more than 50% of the degree content (other than work placement or year abroad)
(Yes/No)?
If so, please indicate the FOUR most popular joint programmes below.
      1
      2
      3
      4
      5

1.4 Student support
Q23. Does your Department/School have a Personal Tutor system   (Yes/No)?
Q24. Does your Department/School have a senior student mentoring system   (Yes/No)?

> *If you wish to add further comments to this section, please do so below:*

Section 2   Teaching, Learning, Feedback and Assessment

2.1 Developing teaching skills
Q25. Does the department provide a teaching skills programme for new members of staff (Yes/No)?
Q26. Does the university provide a certificated teaching skills programme   (Yes/No)?
Q27. If so, are new staff   recommended / obliged   to attend the departmental programme?
                       recommended / obliged   to attend the university programme?
Q28. Do you, or anyone else, observe members of staff teaching – formally, or informally (Yes/No)?
Q29. Do you think the way in which teaching quality is monitored in your Department is fair and fit for purpose   (Yes/No)?
Q30. Has any member of staff been promoted *primarily* on the basis of good teaching   (Yes/No)?

2.2   How much teaching?

Q31. Is there a departmental norm for staff for staff teaching load   (Yes/No)?

          (i)   If so, please indicate the number of hours   ……… hr

          (ii) If not, please estimate an average workload   ……… hr

Q32. Is there a variation in teaching allocation between strongly research-oriented staff and less strongly research-oriented staff?   (Yes/No)?

Q33. Who does most of the teaching of *workshops, seminars, and tutorials* – post doctoral fellows / post graduates / lecturing staff / split but mainly lecturers / split but mainly others?

Q34. Who does most of the *laboratory supervision* – post doctoral fellows / post graduates / lecturing staff / split but mainly lecturers / split but mainly others?

2.3   Teaching provision
**Again throughout Section 2.3, equate Year 4 with final year MChem; Year 3 with final year BSc;
'Year 0' to a foundation year, or first year in Scotland.**

2.3.1   General

Q35. How would you rate your lecture rooms and classrooms (rough percentages)

       excellent, modern teaching space with all facilities available   ……%

       reasonable accommodation with most facilities available   ……%

       teaching rooms in need of refurbishment and additional facilities   ……%

Q36. Is attendance at all teaching events compulsory for students?   (Yes/No)

Q37. Is attendance at teaching events monitored?   (Yes/No/Sometimes)?

Q38. In an average semester week what would be the distribution of the *number of formal teaching hours* that students would experience?

	Lectures	tutorials	lab work	project work	workshops/other
Year 0					
Year 1					
Year 2					
Year 3					
Year 4					

Q39. How many additional hours of *independent study (including work set for tutorials and workshops)*, would be expected of students during a week in the department?

       Year 0 …… Year 1 ……. Year 2 …… Year 3 …… Year 4 …… hr?

2.3.2   Tutorials (i.e. a small group of students – 2-6 – directed by a tutor specific to that group)

Q40. What size is a student tutorial group in:

       Year 0 …… Year 1 ……. Year 2 …… Year 3 …… Year 4 ……?

Q41. Are there types of group teaching in the department other than lectures and tutorials (Yes/No)?

       If yes, please specify: …………………………

2.3.3 Lab work

Q42. What is the ratio of supervisors/demonstrators to students?

      1 supervisor to …… students in year 1; to …… students in year 2; to …… students in year 3; to …… students in year 4.

Q43. Are experiments allocated / selected by student / some of both?

Q44. Do students undertake pre-lab activities (Yes/No/Some); post-lab activities (Yes/No/Some)?

Q45. What proportion of work carried out in the laboratory is open ended in:

      Year 0 ……%; Year 1 ……%; Year 2 ……%; Year 3 ……%; Year 4 ……%?

Q46. Are there health and safety constraints against mounting the type of laboratory course you would wish to provide for students
(Yes/No)?

Q47. Are there financial constraints against mounting the type of laboratory course you would wish to provide for students
(Yes/No)?

Q48. How would you describe your teaching laboratory accommodation (rough percentages):

      i)   thoroughly modern, recently upgraded to near research standard   …%

      ii)   adequate, but lacking a few modern features   …%

      iii)   in need of upgrading, lacking some modern instrumentation and facilities   …%

2.3.4 Group work

Q49. What forms of *group work* do students experience – projects / problem solving or problem based learning activities / lab classes / joint presentations? (*Please choose all that apply*)

      Other? Please specify ……………………………

    Q50. Does your department have a specific strategy to develop the problem-solving abilities of students   (Yes/No/Don't know)?

2.4 Project work

Again in Section 2.4, equate Year 4 with final year MChem; Year 3 with final year BSc.

Q51. How many course credits (out of a nominal 120) are allocated to MChem student project work?

      Year 0 …… Year 1 ……. Year 2 …… Year 3 …… Year 4 …… ?

Q52. How many course credits (out of a nominal 120) are allocated to BSc student project work?

      Year 0 …… Year 1 ……. Year 2 …… Year 3 …… Year 4 …… ?

Q53. Is project work done individually (enter I), in pairs (P), or in groups (G)?

      Year 0 …… Year 1 ……. Year 2 …… Year 3 …… Year 4 …… ?

2.5 Assessment

Q54. What forms of *summative assessment* are used in your department (*please select all that apply*)?

      marked coursework (essays/reports / problems / laboratory exercises),

      tests (objective tests/multiple choice / short answer / computer assessment),

      long written examinations   oral examinations

      laboratory examinations   observation of practical performance

      projects   oral presentations

      posters   group work

      other   (please specify … ………………………..)

Q55. Typically, are students assessed – during a module / at the end of a module / at the end of a semester / at the end of an academic year?

Q56. Is formative assessment used as well as summative assessment   (Yes/No/Don't know)?

Q57. Is formative assessment in the same styles as summative assessment   (Yes/No/Don't know)?

Q58. What do you estimate is the percentage of students beginning Year 1 of an honours degree that continued into the second year of the programme in 2007…%; 2006 …%; 2005 …….%?

Q59. What do you estimate is the percentage of students beginning Year 1 of an honours degree that completed their programme by obtaining a degree in 2007……%; 2006 ……%; 2005 …….%?

2.6 Feedback on teaching

Q60. Does the department have a policy and procedure to collect feedback from students (Yes/No)?

Q61. Does the department have a student complaints procedure   (Yes/No)?

Q62. Does the department have a student-staff committee (Yes/No)?

        or student representatives on a departmental teaching committee   (Yes/No)?

Q63. Is student feedback on teaching considered formally by the department   (Yes/No)?

Q64. Are students involved in programme or module development (Yes/No)?

Q65. Do you think that students in your department are effective in influencing staff teaching (quite a lot/some/not at all)?

2.7 Non-chemistry subjects (mathematics)

Q66. Do you provide courses for mathematics support in all years / first year only **/** more than first year, but not all years?

Q67. Is maths for chemists taught within the department / by an outside department or lecturer?

If you wish to add further comments to this section, please do so below:

Section 3 Curriculum

3.1 Teaching and research

Q68. Do you aim to develop a link between teaching and departmental research
                                                        (Yes/No/Don't know)?

Q69. Do you think this link is important   (Yes/No/Don't know)?

3.2 Curriculum

Q70. How would you describe the curriculum you are trying to teach (*tick all that apply*)?
        Modern / traditional / old fashioned / academic / applied / innovative

Q71. Is your curriculum organised around the traditional subdivisions of chemical science – organic, inorganic, physical and analytical chemistry   (Yes/No)?

Q72. Does your department attempt to integrate the traditional subdivisions of chemical science – organic, inorganic, physical and analytical chemistry   (Yes/No)?

Q73. Traditional or integrated, do you think the emphases given to each subject are about right
                                                        (Yes/No)?

3.3 Curriculum development

Q74. Who has responsibility for curriculum development? Head of Department / Director of Teaching / Departmental Committee / Individual lecturers ?

Q75. Does the department have an annual curriculum review   (Yes/No)?

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If you wish to add further comments to this section, please do so below:

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Section 4   Incorporating modern practice

Q76. Does your University have an ongoing teaching development programme for academic staff (Yes/No)?

Q77. Does your individual Department/School arrange teaching development activities   (Yes/No)?

Q78. How many of your staff regularly attend workshops, seminars or conferences on chemistry education   ………?

Q79. Is anyone in the department actively engaged in chemistry education research   (Yes/No)?

Q80. What is the most recently introduced technologically innovative piece of equipment (or technique) in the department that has proved to be useful for teaching: …………………………………………………………?

Q81.a. Are you aware of staff using any of the following in their teaching: wikis / blogs u-tube / facebook / social networking sites ?

Q81.b. Are you aware of students using any of the following as aids to learning: wikis / blogs u-tube / facebook / social networking sites ?

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If you wish to add further comments to this section, please do so below:

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Section 5   Employability

5.1   Programme content

Q82. In your University does the responsibility for providing careers advice rest with the department / university careers service / both?

Q83. At any time during their programme are students given help with

writing a job application	(Yes/No)?
preparing a *curriculum vitae*	(Yes/No)?
preparing for an interview	(Yes/No)?

Q84. Are the following available to your students within their programme?

business studies   chemical legislation

health and safety regulations   patents and intellectual property rights
nothing of this type

Q85. If you do not include material related to employability at the moment, has it been
         considered and rejected / not considered?
Q86. Does the department expect students to keep an academic portfolio/PDP/personal log
                                                                                            (Yes/No)?

5.2   Work placement (if offered)

Q87. Does your department work placement scheme last 3 months / 6 months / a year /
         some other length of time ………. ?
Q88. Is it optional   or obligatory ?
Q89. If optional, what proportion of students take up a work placement opportunity? ……..
Q90. Are placements arranged by the department **/** individual students / either or both?
Q91. Are students able to take up placements:
             only in the UK /   in the UK and Europe / worldwide ?
Q92. Have you had difficulty in finding enough places   (Yes/No)?
Q93. Is course credit given for work placement on BSc (Yes/No)? on MChem   (Yes/No)?
Q94. Do you think that work placement is a good way to prepare students for employment
                                                                                  (Yes/No)?
Q95. Do students have to make a report on their work placement   (Yes/No)?
Q96. Do the employers also have to make a report   (Yes/No)?
Q97. Do these reports form part of the assessment scheme for the degree:
       Student report   (Yes/No);   employer report   (Yes/No)?
Q98. Is the content of these reports reviewed   (Yes/No)?
       and used to improve the work placement system   (Yes/No)?

5.3   Student University exchange schemes (if offered)

Q99. Does your department participate in any student University exchange scheme   (Yes/No)?
Q100. If so does it last 3 months / 6 months / a year / some other length of time … ?
Q101. What percentage of students take part?.......
Q102. Are placements arranged by the department / or individual students / both?
Q103. Are students able to go on exchange only in Europe / or worldwide?
Q104. Is course credit given for work completed while on an exchange   (Yes/No)?
Q105. Do students have to make a report on their exchange activities   (Yes/No)?
Q106. Is the content of these reports reviewed   (Yes/No)?
       and used to improve future exchange arrangements
       (Yes/No)?

5.4   Input from employers/employees

Q107. Is there an established procedure to obtain regular feedback from employers of your
graduates
       (Yes/No)?
Q108. Is there an established procedure to obtain regular feedback from graduates who are now
employees   (Yes/No)?
Q109. Do you think employers believe that the MChem is a more valuable degree than a BSc
                                                                                  (Yes/No)?
Q110. Has the answer to this question influenced the promotion of your programmes   (Yes/No)?
Q111. Do employers visit the department to give guest lectures about their careers or companies
                                                                                  (Yes/No)?
Q112. Are employers invited to contribute to programme planning
       (Yes/No)?

Q113. Do you think your Department engages effectively with employers
(Yes/No/Sometimes)?
Q114. Do industrialists teach on your programmes (Yes/No)?

If you wish to add further comments to this section, please do so below:

Section 6   The Secondary-Tertiary transition

Entry

Q116. Does your Department run any diagnostic tests on entry (Yes/No)?
Q117. If so, do you find the diagnostic information:
essential / very useful / of some use / not very useful?
Q118. Are Year 1 tutorials (or any other classes) streamed (Yes/No)?
Q119. Is there any other identification (and special support) on entry of
i.   exceptionally able students (Yes/No)?
ii.   less able students (Yes/No)?
Q120. Do you feel that first year modules in your department take into account the variations in students' pre-university courses (Yes / No / Don't know)?

If you wish to add further comments to this section, please do so below:

Additional Interview Questions for Directors of Teaching

Teaching provision
Q1. In your departmental teaching programme, what is working – what is not working?
Q2. In what ways, and to what extent, are lab courses, or anything else, constrained by resources?

Programmes taught
Q3. Are you thinking about becoming Bologna aligned?

Learning outcomes
Q4. Are learning outcomes provided for all modules and programmes; are staff encouraged to provide them; or is it left to staff to decide?
Q5. Do you think students pay much attention to learning outcomes?

Project work
Q6. How are students guided in project work? (e.g. half-hour tutorial in student pairs with staff member)
Q7. How is project work assessment carried out?
Q8. Who does the project work assessment?

Other strategies
Q9. Have you incorporated Enquiry-based learning/Context-based learning/Problem-based learning into your teaching programme
Q10. What vehicles have you used to incorporate Enquiry-based learning/Context-based learning/Problem-based learning into your teaching programme?
Q11. How have the students reacted to this method of teaching and learning?

Non-chemistry subjects (other than mathematics)
Q12. Can students to elect to study subjects outside Chemistry? Are they encouraged to do so?
Q13. Are such studies compulsory, encouraged, or discouraged; free choice, choice but with recommendations or restrictions, or no choice?
Q14. Which subjects are available?
Q15. Which are popular, unpopular?
Q16. How many course credits would such study represent in each year?

Curriculum development
Q17. In recent years, what topics have been added to the curriculum?
Q18. What topics have been dropped from the curriculum, if any?
Q19. Are there topics that ought to have found their way into the teaching programme but have not done so yet? What are they?
Q20. If you were asked to develop the curriculum, what changes would you like to see made?
Q21. What informs curriculum development in the department?
Q22. How do you think that developments in the curriculum have improved the students' learning experience?
Q23. Do you have any comments on the QAA Benchmarking statement and its relevance for your degree schemes?

Modern practice
Q24. How many of the staff use the virtual learning environment/intranet, assessment software, PowerPoint presentations, podcasts, wikis or blogs?
Q25. Do you know if students find these techniques useful?

Work placement
Q26. If you offer work placement, do you know why it is popular with students, or why not?
Q27. Would you say the better students are the ones to take up work placements? Are they the ones who benefit most from it?

Q28. What sort of selection process do you use in allocating students to placements?

Student University exchange schemes

Q29. If exchange schemes are offered to students, do you know why they are popular, or why not?

Q30. Would you say the better students are the ones to go on an exchange? Are they the ones who benefit most from it?

Input from employers/employees

Q31. What have you learned through feedback from employers, and graduates; how has it affected your teaching programme?

Q32. What makes you think employers are satisfied with your graduates?

Q33. If there are industrialists teaching on your programmes, what do you and they believe are the benefits?

Secondary-Tertiary transition

Q34. Do you think school courses are preparing students effectively to begin a university chemistry programme?

Q35. In what ways could this preparation be improved?

Q36. How are your first year modules meeting the needs of a variable student intake?

Q37. Have you recognised specific problems in teaching, learning or pastoral care of recent student intakes?