Pedagogic Support for the Cambridge Academic

A report submitted to the General Board of Cambridge University

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CHAPTER 1: EXECUTIVE SUMMARY

Background

1 In 2004 the Higher Education Funding Council for England launched its initiative to establish Centres for Excellence in Teaching and Learning (CETLs) in Higher Education Institutions in England. The aims of setting up such Centres were to reward excellent teaching practice, and to further invest in that practice so that CETL funding delivered substantial benefits to students, teachers and institutions. Ring-fenced funding (up to approximately £4.5 million over 5 years, per bid) was available for the support of CETLs and each institution could make up to three bids (and a further collaborative bid) for establishing a centre or centres. The University of Cambridge made three such bids and none was successful, despite a strong emphasis in the bidding process for a track record in teaching excellence.

2 In the post-mortem which followed receipt of feedback on the University's bids it was agreed that, at the very least, there was a need for better articulation of the University's teaching excellence. However, it was also felt that the University should explore whether it provided appropriate support for pedagogy and whether a correct infrastructure for supporting bids for learning and teaching funding was in place.

Project structure, aims and methodology

3 In order to explore these aspects of pedagogic support the General Board's Education Committee set up a Working Party to look into how the University might best reflect on possible pedagogic needs. Subsequently, it was decided to set up a project using Teaching Quality Enhancement Funding to review pedagogic support needs for teaching officers and to present recommendations about how they could be met. A Steering Committee reporting to the Education Committee and chaired by the Pro-Vice-Chancellor for Education was set up and a Research Associate was employed for a one-year scoping project.

4 The objective of the project was to survey the views of academic teaching officers – both in Colleges and in University Faculty and Departments – to gather their perceptions of their own pedagogic needs, of the usefulness of currently available support, and of University's attitude to pedagogic innovation.

5 The project was carried out in two phases. In the Familiarisation Phase the project researcher familiarised herself with the structure, culture, and ethos of the University by talking to various individuals and attending several kinds of meetings within the University. 60 meetings were held or attended. During this phase perceptions of need were recorded and formed the basis of the questions asked during the next, Formal Phase of the project.

6 During the Formal Phase a detailed online survey questionnaire was sent to both University and College teaching officers. Information arising from the surveys was used to generate further questions and hypotheses which were followed up in small discussion groups. Overall 260 teaching officers participated in the surveys or discussion groups. For the surveys this represented a response rate of 36% for UTOs, and 32% for College teachers.

Project Results

Results of the Familiarisation Phase

7 The Familiarisation Phase (described in detail in **Chapter 4** of the report) produced the following conclusions with respect to the expressed pedagogic needs of respondents:

(i) A *site of pedagogic expertise* which would assist with the provision of discipline-specific pedagogic expertise would be welcome. Specific guidance and/or expertise on assessment, setting an examination, putting a course together, training for Language Teaching Officers in second language acquisition, help with methods of identifying plagiarism were all noted as areas where provision was needed.

(ii) More *support websites* which would include information, e.g. on how to write essays and dissertations, would enable supervision time to be used more constructively. An understanding of the development of learner autonomy would also be helpful.

(iii) *An information point*, would be useful, where educational issues such as school curriculum changes could be accessed sufficiently in advance in order to restructure courses, would be useful. A list of suitable national and international resources could be signposted.

(iv) A site, either real or virtual, where academics could *share existing Good Practice* and coping strategies would be useful. Local examples could be usefully adapted for use within other University institutions.

(v) *Administrative and technical support* which was focused on the needs of Teaching Officers would free up time for better quality teaching.

Results of the Formal Phase

8 The Formal Phase of the project, which included online surveys and Discussion Groups (described in detail in **Chapter 5**) revealed various preoccupations on the part of Teaching Officers. The following priorities in terms of support needs were given:

(i) support for improved pedagogy to help students across the school-university transition;
(ii) support for the development of E-learning;
(iii) support for discipline-specific pedagogy;
(iv) time for development of projects and personal development;
(v) observation and feedback on teaching;
(vi) funding for teaching projects.

9 A majority of respondents to the surveys indicated that there was some need for a central facility or unit to address these support needs. So, for discipline-specific pedagogy (iii), a unit could provide a forum for co-ordination. This could involve dealing with change across the university which cannot be done within a single Faculty, or opening up relationships between Faculties.

10 A unit could help in releasing time for development of teaching (ii) by providing support for E-learning in terms of strategy, design, training, implementation, equipment and general support. It could also help with the provision of an IT support framework. It should be noted that respondents wished to maintain autonomy over their teaching activities and projects and to be able to choose the degree of collaboration with central providers such as CARET.

11 A unit could help with funding (vi) by providing assistance to help mount bids to gain funding for educational development.

12 In summary, respondents saw such a facility as being able to support a culture of teaching, in which it is seen as a serious academic endeavour in its own right. A further desirable outcome might be that by raising the status of teaching, the existence of such a unit might encourage development of a link between teaching and reward mechanisms.

13 Respondents were given a list of possible characteristics of a pedagogic support unit for the University and asked to put them into an order of priority. The following priorities emerged across the two surveys:

14 The unit or facility should:

- consult with Departments and Faculties to ensure relevance (152);
- be staffed only by those with considerable experience of teaching in higher education (89);
- provide a focal point for issues of teaching and learning for both College and University teaching staff (63);
- be self –financing (benefactor or research funded) (61);
- be centrally co-ordinated but located within departments (58);
- help with bids for external funding for teaching and learning projects (58).

15 Respondents identified five characteristics that support provision should avoid:

- becoming another administrative burden justifying its own existence;
- imposing standardised learning on individuals;
- giving only generic or doctrinaire advice. There is a need to have a broad grasp of the subject-specific nature of a discipline and the aims of the Faculty/Department;
- being wasteful of scarce resources and drawing resources away from front line teaching; such resources should be given to the Faculties and Departments to teach subject-specific skills;
- ignoring the fact that the intense personal supervision system is the strength of Cambridge.

16 Building on this basis of information the next task was to explore a culturally-sensitive set of solutions which might meet the expressed needs of Teaching Officers. A brief analysis of the cultures operating within the University is given in the report in order to set proposed solutions in an appropriate context. Five models of possible pedagogic structures are then presented.

Models for meeting pedagogic needs

17 The five models presented traverse a wide spectrum in terms of support delivered, financial outlay, degree of central oversight, and in degree of focus on teaching officer need. They are characterised as (A) Communications-information flow model; (B) The same basic model with some central pedagogic officer support; (C) Expertise/Enhancement Model; (D) Research-based model; (E) Central Pedagogic Services provision. Model A largely preserves the status quo of provision delivered by current central providers, taking as its premise that only better communication is required to encourage more engagement of staff with pedagogic development. Model E encompasses a complete integrated support, communication, information and research facility.

18 The strengths and weaknesses of each model are assessed in the context of the University's culture and current pedagogic awareness and Model B is recommended by the Working Party.

19 Model B includes provision for enhanced communication structures, a full-time Pedagogic Support Officer, a fund to kick-start small teaching innovation projects, and a budget for buying-in pedagogic consultancy work. Its annual running costs would be approximately £220,000.

20 The work involved in establishing a profile for a Model B facility, a three-year set-up plan, and the risks entailed in the venture are described.

CHAPTER 2: BACKGROUND TO THE PROJECT

2.1 Terms of reference

This project was set up as a result of the findings of a Working Group of the General Board's Education Committee. Both external and internal institutional needs drove the project. One major external driver was a perceived need to better articulate the teaching excellence of Cambridge University to external bodies. Internal drivers included a wish to review pedagogic support needs in relation to current challenges and opportunities within Higher Education in general and Cambridge University in particular. Such challenges and opportunities include the changing nature of preparation of the student intake, findings of research into Higher Education pedagogy, increased use of technology, and RAE pressures. The effects of such factors on pedagogic creativity and innovation needed to be studied. The project was funded by the University by using Teaching Quality Enhancement Funding over a thirteen month period.

The project had three aims:

- to scope current pedagogic support needs from the perspective of teaching officers in the University and in Colleges;
- to attempt to understand attitudes towards pedagogic creativity and innovation;
- to use information gathered in the project to inform appropriate policy recommendations for accessible, cost effective and high quality pedagogic support provision.

These aims reflect the University's strategic aims given in its 2006-10 Learning and Teaching Strategy:

- To maintain and enhance the excellence of student learning opportunities at both undergraduate and graduate level

- To provide a stimulating environment, in which teaching is recognised and rewarded, for all those who teach and support student learning in the University

2.2 Background to the project

British higher education has undergone unprecedented cultural change in the last two decades. Many of these interrelated changes affect the role of the university teacher. Increased regulation, often an imposition of ill considered policies, a change of focus from developing critical faculties to producing 'employable graduates`, a student intake which has become much more diverse, the end of the binary system, the requirement for widening participation, increasing use of technology and changing school curricula are just some of these changes. A new language of 'managerialism' has taken hold of the sector, with such terms as effectiveness, productivity, innovation, performance indicators and learning objectives being applied to higher education. Funding formulae are increasingly linked to a new conception and articulation of 'teaching excellence`. Some of these issues affect the

University of Cambridge more than others. One factor which has impinged on Cambridge's activities is the increase of ring-fenced funding for special initiatives: the impetus for the current project was the University's unsuccessful bids for funding for learning and teaching activities under HEFCE's Centre for Excellence in Teaching and Learning (CETL) initiative.

2.3 The CETL initiative

Centres for Excellence in Teaching and Learning (CETLs) featured in the HEFCE strategy to raise the status of teaching as announced in the White Paper 2003 and subsequently in the HEFCE Strategic Plan (2003/35:18). The stated purposes of these centres were to support and to act as an incentive to prioritize learning and teaching, and so, in a sense, to counterbalance the RAE. There was also a serious attempt to encourage innovation. The ideology underpinning this policy initiative to promote and propagate good pedagogic practice was to foster a better experience for students within the institution and later to disseminate Good Practice within the sector. Cambridge entered three proposals for funding (See Appendix 1), but in the event none was successful. The University later joined a collaborative CETL project headed by London Metropolitan University.

Whereas bidders could define 'excellence' as they wished, they had to provide a rationale for this definition. Within the teaching culture in Cambridge, a strong notion of 'excellence' already exists. The lack of success in its three CETL bids would seem to indicate that, at the very least, a better articulation of Cambridge excellence needs to be considered. The CETL bidding process for three projects was extremely time consuming for the academics and administrators involved. Besides this, the loss of up to £5,000,000 funding for learning and teaching in the University had potential reputational and financial implications. Although the gathering of information, consultation and drafting that was part of the bidding process was to some extent useful in thinking about strategic priorities for the University departments concerned, the overall institutional effect of the bidding round was much disappointment and extreme frustration at such a waste of time and investment. A general consensus arose that the bids were not drafted in the language that evaluators expect in such documents, and that evidence of a track record in running such projects was lacking. In addition, feedback from HEFCE suggested that the projects were worthwhile in themselves but that limited structures existed for the internal dissemination of Good Practice.

In terms of success profiles nationally, among the Russell Group universities 11 out of 19 members were successful. The areas funded were mainly Medical Science and issues concerned with Professional Education. (See Appendix Two). The Cambridge bids provided examples of blending tradition with new technological possibilities, through, for example, linking supervisions with innovation or e-learning.

This 'critical incident' pointed to four lessons that the University could learn. Firstly, the discourse of 'excellent teaching' that this funding initiative expounded could lead to an interrogation of what excellence means for Cambridge. The traditional understanding of

excellence in Oxbridge terms, i.e. high person-to-person individualised contact, exposure to leading edge researchers and the supporting of independent learning, did not feature highly in definitions of excellence used by the initiative.

Skelton (2005: 24) argues that, in the judging of CETL bids, there was bias towards such proposals that fitted into the notion of a 'project' rather than those that were integral to a teaching culture, and that excellence within a traditional model of teaching could not be captured within a 'project'. Proposals whose 'behaviours' had already been approved through existing mechanisms and performance indicators had a head start.

Secondly, the projects put forward by the University represented something personal for the participants as opposed to being primarily something important for the institution as a whole. Their investment in terms of time, emotions, and pedagogic reflection in a challenging bidding process meant that the need for reward and recognition was all the more important. This personal investment of time, effort and resources was not seen to be backed by the same level of support on the part of the central University bodies. Although a small sum of money, approximately £12,000, was made available to support the bidding process, it was not matched by pedagogic and bidding expertise. In addition, the expertise to convert educational ideas into business plans required the seeking of financial expertise because links with capital spending had to be made clear. Lack of an infrastructure which can facilitate applications for funding of new pedagogic initiatives hinders the motivation for creativity on the part of academics who invest heavily in their teaching role. But any supporting infrastructure would also need to enable participants to retain ownership of their project.

Thirdly, feedback from HEFCE suggested that formal structures should exist to disseminate Good Practice internally. There is no doubt that much good practice already existed in the University at the time of the bids. However, such pointing to formal structures by HEFCE is indicative of a mindset which may not recognize that the peer sharing which occurs in collegial settings can be highly generative of innovative and creative approaches to teaching. Such peer sharing may be perceived externally as less effective or appropriate than the networking skills of the entrepreneur who is capable of dissemination at national level. In any case, the University's need to improve its mechanisms for disseminating Good Practice internally (also signalled by the QAA in its Institutional Audit of the University in 2003) was responded to by identifying officer support for taking forward the General Board's Good Practice strategy. Various activities are carried out under this strategy: around 40 people attend termly Lunches; an electronic Forum is run; and a Newsletter is produced.

Finally, the need to interrogate Cambridge's support for the teaching role and for academics' personal investment in it must be matched by efforts to engage more realistically with funding bodies and to articulate Cambridge's teaching excellence in language that they recognize. Differences in outlook between Cambridge or the Russell Group and the rest of the HE sector, where the needs of post-92 universities may appear to dominate in policy making, need to be carefully negotiated.

CHAPTER THREE: METHODOLOGY

3.1 Overview

In order to gain an understanding of pedagogic support needs, a two-stage scoping exercise was carried out. The first stage (**Familiarisation Phase**) largely involved 'field' work, i.e. meetings with individual academics and attendance at Department or Faculty Board meetings. The second stage (**Formal Phase**) was not strictly sequential, but was more structured and involved detailed online surveys and Discussion Groups with 260 participants; it was largely informed by the prior Familiarisation Phase. Current pedagogic support providers (e.g. CARET, Staff Development) were also consulted in parallel with the rest of the research. The aim was to compare existing needs with current provision in order to identify mismatches and gaps. This comparison could then be used to make appropriate recommendations.

3.2 Research design

The original design was balanced between 'planned' and 'flexible and emergent' in order to incorporate the best of both research modes. As this research was a scoping exercise, an instrument which would gather information from a large sample in a time efficient way was necessary. A web survey (utilising CamTOES) answered the criteria of producing a large quantitative, statistically-manipulable dataset as well as enabling respondents to provide qualitative and personal information through 'free text' sections. It was anticipated that the qualitative data could lead to a set of emergent themes which might serve as hypotheses to be further investigated. This balance of qualitative and statistical data enabled a richer picture to emerge in both the University Teaching Officer and College surveys. These surveys were based largely on the issues and questions emerging during the Familiarisation Phase. Discussion groups were organised as follow up to the themes which emerged from surveys.

In addition desk research on pedagogic support facilities in other UK and overseas institutions was carried out, together with information-gathering at a major conference and in discussion with the director of a pedagogic support unit at another UK university.

3.3 Familiarisation Phase: Dataset One

A detailed discussion of the outcomes of the Familiarisation Phase is given in **Chapter 4.**

The primary purpose of collecting this dataset was to enable the author to uncover the specificities of Cambridge as, for example, a collegiate university. Previous research experience using the research literature into university pedagogic support needed to be complemented with familiarisation with the specificity of the Cambridge collegiate system. This familiarisation involved meeting with 25 academics: those who carried extra responsibility for or who took a particular interest in teaching or who were involved in teaching projects. As already indicated, the main purpose of these meetings was to inform the more Formal Phase, i.e. the design of the questionnaire. Although some familiarisation

meetings continued until November 2006, the vast majority of these took place before mid March 2006 when the web survey was sent to UTOs.

Service providers such as CARET, Staff Development, Learning and Teaching Support, and the Language Centre were also consulted. At the time that the current research was being undertaken the University was consulting on the next version of its Learning and Teaching Strategy and all three strategy lunches were attended. In addition five Learning and Teaching Support events (Good Practice Lunches) were attended.

The sample of academics interviewed was chosen for both practical and strategic reasons: those academics were selected who were willing to give up to two hours of their time to provide information about support needs in their department; the majority also had an above-average responsibility for or interest in Teaching and Learning matters. In the majority of cases, these were either Directors of Teaching or Secretaries of Teaching Committees. Thus they were capable of not only providing personally relevant information but could reflect on the needs within their Faculties and Departments. (See Appendix Three).

An interview schedule was drawn up and notes were taken but audio recordings of the events were not made.

3.3.1 Familiarisation with the needs of academics

This phase involved 60 meetings divided as follows:

Individual academics from all 6 Schools and 20 Departments		25
Attendance at Faculty/ Department:		
(i)	Undergraduate Medical Education Committee	1
(ii)	Faculty Board of Biology	1
(iii)	Engineering Department –Language Annual Meeting	1
Attendance at Open meetings		
(i)	Learning and Teaching Strategy Consultation meetings	3
(ii)	Governance of the University	3
(iii)	Good Practice Lunches/Teas	5
Pedagogic Support Providers or potential providers		
(i)	Staff Development	7
(ii)	Observation of Staff Development Training sessions	2
(iii)	CARET	3
(iv)	Language Centre	3
Other projects		
(i)	Personal Development Planning	2
(ii)	Plant Sciences – CMI project	4
(iii)	Impee (sustainable development in engineering)	1
(iv)	Creativity in Engineering Education	1

3.4. Formal Phase: Dataset Two

A detailed discussion of the outcomes of the Formal Phase is given in **Chapter 5.**

In the following discussions 'Teaching Officer' or 'teacher' is used to indicate members of the University or Colleges who include teaching in their responsibilities. The vast majority of those included in the surveys and other activities were established members of staff, but a few, for example College research fellows, were on fixed-length contracts.

3.4.1. UTO investigation - Questionnaire Design

The decision to use an electronic survey to carry out the scoping mandate and thus access a large number of academics in a time efficient way was possible with the use of CamTOES software run through CARET. Based on previous research, literature review and expressed views of academics, input from service providers (CARET, Academic Staff Development, Education Section and the Language Centre) and CMI staff a questionnaire was designed. It was subsequently refined through piloting with the Steering Group and members of the Education Section team. This involved the removal of technical language as well as a reduction in the number of questions. Finally, a version with 38 questions emerged. (See Appendix Five).

Questions were grouped into sections as follows:

- Biographical
- Research and teaching: reward, load, motivation, place of teaching in career and professional development
- Use of existing resources within and outside Cambridge
- Current support needs
- Attitudes to innovation
- Attitudes towards and perceived need for a possible Pedagogic Support Unit

35 of the questions were multiple choice whereas 3 were 'free text'. This latter category had the value of being similar to an interview. Text could be coded and themes generated inductively. This phase provided an opportunity to review the overall aims of the research and how the specific use of the questionnaire fitted into the overall research plan.

3.4.1.2. Preparation for questionnaire administration and sampling strategy
A briefing document called 'Background to the project' was drafted to inform participants of the nature, scope and purpose of the project. This document, together with an invitation by the Pro-Vice Chancellor for Education to participate or to opt out (see Appendix Four) was sent out to over 500 teaching officers. This sample was chosen from the UTO database of approximately 1,500 names with every third name being selected. Some of those contacted chose to opt out and 440 people received the on-line questionnaire. A reminder was sent after three weeks and finally the responses rate was 36%: 156 replied on-line and 4 replied manually.

3.4.1.3. UTO Discussion groups

Using the data from the survey explicit support needs and emergent themes were divided into ten dominant topics. These topics formed the discussion items for the Discussion Groups whose purpose was to furnish information that complemented and elaborated on the survey data (see Appendix five). 286 invitation letters were sent to UTOs. Six discussion groups and two individual interviews took place. Overall, 24 people took part in 27 'participations', with two people participating more than once. Although a question-driven schedule was developed for each Discussion Group, this was open enough to allow spontaneous themes to arise. Themes were not always confined to one Discussion Group but instead repeated themselves across the groups.

3.4.2. College Investigation

The first survey focused on University teaching; it was felt, therefore, that a further survey of activities which focused more on College aspects was also necessary. Investigation of this integral part of the teaching landscape of Cambridge was necessary to give a more complete picture. Both a survey and Discussion Groups were organized.

3.4.2.1. Survey

The UTO questionnaire was sent to the Senior Tutors' Standing Committee on Education where input on modification was solicited. This input and feedback were collected and collated in order to form a new 50 item questionnaire. 12 questions were added to take into account the specificity of the College dimension of teaching. In addition, what were felt to be weaknesses of the first questionnaire were corrected. A list of CTOs, Directors of Studies and College lecturers was collated from 20 Colleges. In the same way as with the UTO questionnaires, this questionnaire was sent to 209 participants, drawn from this random sample. The number of responses was 67, that is a 32% response rate (see Appendix six). The sample included College Teaching Officers (CTOs) *sensu stricto* (i.e. those who sole employer was a College), as well as Directors of Studies. The latter could either be CTOs or UTOs, or in another position within College or University such as Research Fellow.

3.4.2.2. CTO discussion groups

An invitation was sent out to 198 College teachers. 12 participants signed up for 14 'participations' and in the event, two groups and two individual interviews were held. Nine people participated in 11 'participations'. An overarching theme of innovation and e-learning emerged from these discussions. As a result of these meetings 3 participants decided to form a project team and have applied for £120,000 funding from the Newton Trust.

3.5. Validity and reliability

The letter to potential survey participants from the Pro-Vice-Chancellor for Education assured participants that the research associate would have exclusive access to data. In the case of discussion groups a confidentiality agreement was signed by participants. When the discussion group involved dealing with issues related to current providers, participants

were also asked to restrict confidentiality to the room. The researcher also made it clear that she did not represent any of these groups. All discussions were audio recorded. In terms of reliability, all data is available for verification by another researcher.

3.6. Representativeness of the samples

Whereas figures are available for the UTO population and therefore a comparison of the structure of the sample to the population can be made, no such figures are available for the College Teaching population. Chapter 5 presents a breakdown of quantitative information.

The six Schools of the University were more or less evenly represented, although the fact that the School of Clinical Medicine works largely with NHS and medical practitioners to supply its pedagogic support needs may account for its under-representation in the surveys. 260 participants in the formal part of the data gathering exercise represent approximately 15% of Teaching Officers. Rank and gender in the sample are representative of the teaching officer population as a whole. The analysis shows coherence across the datasets gathered from different data-gathering exercises, with the same themes, percentages, priorities and needs being repeated. Perspectives which emerged in Discussion Groups were similar to those arising in the informal meetings and survey data.

Readers wishing to gain an overview of the project and its conclusions may wish to turn straight to **Chapter 6**, leaving out the detailed discussion of results presented in Chapters 4 and 5.

CHAPTER FOUR: OUTCOMES OF THE FAMILIARISATION PHASE

This chapter contains discussion of the meetings held in the Familiarisation Phase. Five principal themes emerged from interviews with individual academics and from attendance at larger meetings. These are discussed further below. *What follows is a comprehensive and representative sample of the views heard in these meetings. The comments below represent participants' views, not the conclusions of the researcher.*

4.1 Transition from school to university (Chemistry, Physics, Maths, English, Biology, Medicine, Law, SPS)

A wide range of participants raised issues about various aspects of the school-university transition experience.

It was recognized that, whereas transition from secondary school to university has always raised some problems, the gulf has become bigger since the introduction of Curriculum 2000. It was felt that this curriculum encourages pupils to engage in different learning behaviour: prior to the introduction of Curriculum 2000 education culture tended to be 'sink or swim', whereas now it was seen as being geared towards passing examinations, with consequent requirements for support that was characterised as 'spoon-feeding' by some. Assessment was thought to have become the goal of student work, rather than being descriptive of what good work is. Such students were felt to be less widely read as they tend to access websites rather than consult books. Essay writing and some cognitive skills such as synthesis were seen as less developed. This curriculum was also seen to encourage a dependency culture. Therefore on arrival at University, students expect linear progression towards the goals of their study and progress has to be transparent to them. Previous 'spoon-feeding' habits mean that some students want detailed handouts geared towards the examination. This pragmatic attitude, linked to a previous experience of packaged modules with specific learning objectives, from students who want a structuring of the process, was contrasted with the value of exploratory learning.

Attitudes varied from academic to academic on how to develop the necessary 'learner autonomy' in these learners. The provision of detailed handouts was seen as capitulation by some academics and the view taken that some 'resistance' might serve this student intake better. The implications of these problems appeared to be assessed differently in different Faculties and Departments. In one science department, parallel courses were run to cope with four differential levels of mathematics, in another the attitude was to meet students where they were, engage in confidence building, and not to blame either the students or their secondary school teachers. In Mathematics, the transition problem was said to be seen as huge but not due to the syllabus, but rather to a different way of solving mathematics problems. It was reported that the solution that this Faculty adopted was to put on special courses at Easter. Some Humanities Faculties were said to see the transition problem as 'a way of thinking' which could be changed in an hour and students were seen to enjoy this challenge.

4.2 College teaching

Various issues were raised relating to College teaching provision.

Participants felt that much learning happens in Colleges, both in formal and informal ways. The supply of personnel, purposes of College learning and teaching, mode and quality of teaching were all raised. Discussion of the supervision was, inevitably, included.

The difficulty of finding supervisors and paying them was raised. It was felt that supervisors were often chosen on a demand-supply basis. It was reported that supervision was not part of a UTO's job description, and such staff were increasingly reluctant to take up College Fellowships. A contrast was made with the University of Oxford where all University Teaching Officers in the CUF scheme are Fellows of Colleges, whereas in Cambridge, involvement in college teaching by UTOs may be less encouraged in some departments.

It was felt that in Cambridge a considerable amount of undergraduate supervision was done by graduate students, particularly in the sciences. It was reported that some University institutions took the initiative of organising supervisions and checking supervisor references, thus ensuring a degree of quality, at least at the point of entry of a supervisor. Respondents appreciated the existence of supervision training: up to 40% of graduate students come from overseas and therefore have a non-Oxbridge background. However, there was variable take up of this largely voluntary supervisor training. In other cases, supervisions were reported as being given by casual hourly paid staff with varying degrees of teaching skills.

Respondents deemed that contact between a lecturer with a large number of students and all the supervisors in a particular subject, scattered among several Colleges, may be virtually impossible. It was thought that this could have an impact on Faculty input to the quality of College teaching.

The form which supervisions take, which skills are best learned in small groups, and how teaching is conducted were all raised. One example of variation on the one-to-one model involved students having their time allocation budget divided into two sections: some of the hours were in small groups and some of the teaching was one-to-one. This enabled them to have more contact hours with a supervisor, benefit from peer learning and yet have some individual time with their supervisors in order to have their essays corrected and receive individualised feedback. Once again, respondents remarked on how some students saw supervisions as based more on preparation for examinations than on exploratory learning. From the academic perspective, some saw the best use of their time as overseeing exercises, where learning processes would be to the fore, rather than explaining during class time. It was felt that this form of teaching focus could be explored further.

Overall, it was thought that by living in a College students are exposed to interdisciplinarity due to being exposed to a community of intellectuals. Likewise, this was seen to be the place where teaching officers interact and share teaching ideas. Indeed, a College

lectureship was seen as an excellent opportunity to develop teaching skills for those who may have abandoned the idea of a career based substantially on research.

4.3 Pedagogic Innovation

Participants made various comments relating to pedagogic innovation. Their comments included:

Overall, it was felt that the University of Cambridge is less involved in innovation than elsewhere. Cambridge was not felt to have the main 'drivers' for innovation which other institutions did, e.g. significant recent increase in student numbers, so there was not the same impetus to change teaching methods. Elsewhere, with massive increases in student numbers, lectures needed to become learning events with 'break out' groups as a substitute for the small group teaching which was less available than before.

In contrast, Cambridge innovation was seen as a responsive rather than a proactive process, in the sense of meeting needs brought by students. In that sense supervisors were seen as innovators because they respond to student needs and students have more ownership of the supervision learning process than is the case in lectures. Innovation was seen not as the result of a top down strategy. Rather, it was seen as a 'cottage industry' which happens on an incremental basis rather than arising out of radical change. The source of innovation might in some estimations be a body like the Teaching Committee, whereas others saw it as driven by individuals.

Two teaching projects which could be considered as innovative to Cambridge were carried out in conjunction with Cambridge–MIT. Both of these were applications of existing ideas to the Cambridge context. One analysis of interaction patterns between supervisor and student revealed that the predominant pattern which was found was the supervisor slipping into 'lecture' mode and talking for up to 80% of the time. This analysis involved video-recording and coding of eight hours of supervisions and was an adaptation of 1970s research carried out by Birmingham University. The second example given concerned the UROP (Undergraduate Research Opportunities Programme) which involves engineering students as apprentice researchers on real projects, something widespread in continental Europe for over 20 years. This work has been disseminated at international conferences.

Barriers to innovation were most frequently mentioned. Various kinds were identified. Firstly, no gratitude or incentive might exist for the time investment involved. Secondly, where pedagogic support in the form of a discussion of the educational value or underpinnings of a teaching session is necessary, this might not be forthcoming. A case in point was that e-learning was seen to be simply a way of saving time rather than potentially enhancing the learner experience. Thirdly, one of the downsides of technological development was seen as the need to deal with plagiarism. One Faculty which had introduced project work was now reverting to terminal examination due to the burden of providing detailed feedback and the inability to spot plagiarism. Fourthly, there was seen to be a restriction on innovation because lecturers may have to fit in with other courses, and someone must 'do the bread and butter lectures' to fill the gaps. There might not be much

room for innovation in traditional areas, possibly laid down by professional bodies, such as skills of doctors. Some courses were rigidly defined and left little room for innovation in terms of design and individuals or new lecturers could only innovate on how to deliver. Fifthly, administrative loads might stop the integration of 'blue skies' research into teaching. Lastly, another hindrance was the lack of financing when innovation involved the use of technology and so the services of CARET or other outsourcing. Respondents said that they could invest their own time to get funds and develop projects but again no recognition from the University was forthcoming for this.

4.4 Teacher development – reward for excellence

Overall, participants indicated that the desire to help foster pedagogic ambition and development was understood in various ways. Such development could come about through role modelling in small departments: elsewhere it could be through conceptual understanding or pedagogic knowledge. In other cases, it was seen to take place during informal discussion with peers, which is part of a liberal education process.

The status of and reward for excellent teaching was exemplified in relation to the Chemistry department. By having Teaching Fellows who were given peer recognition for their competence, it enabled the Department both to teach well and maintain a 5* research rating. The expectation that the same person can be a 5* teacher and a 5* researcher was considered as unreasonable. There was an insistence by respondents that teaching fellows should be recognized as competent in their own right and not concentrating on teaching because such a person is 'too stupid to do research'. The appointment of Teaching Fellows of course requires flexibility in use of income available to a Department.

A clear distinction between the external University reward of a Professorship for research excellence and the departmental reward of peer recognition for good/excellent teaching was drawn. University Senior Lectureships were seen to have become subverted despite the original purpose of rewarding teaching. A teaching culture could be fostered if a Head of Department was a champion who took teaching seriously thereby setting a standard and culture which would continue under future Heads of Department. A comparison was made with the United States where the teaching role was seen to be more highly regarded.

Some participants noted that their departments had Directors of Teaching. In the Engineering Department, one such person took a high level of interest in pedagogic issues and had 5 support staff, but remains part of a research group. It was contended that it was that latter membership which would provide promotion prospects. Respondents from other departments cited the invaluable work of those who organised teaching and carried heavy loads in this domain. However, it was felt that the very most they could aspire to was a Senior Lectureship.

Participants noted that the Pilkington Prize was awarded by rotation between departments. Those who made the point did not regard the prize as particularly attractive.

4.5 Engagement with existing pedagogic support resources

Participants' comments on this issue included the following.

Overall, the leading teaching academics involved in the study did not seriously engage with current providers. Attitudes varied from extreme scepticism to a milder avoidance. ?Both senior and less senior academics expected a form of recognition for heavy investment in innovation. Such recognition could involve personalised invitations to support events from the Pro-Vice Chancellor for Education. There was an expectation that support should 'go to them' rather than that they should seek it and that current providers should be honoured by uptake of these academics.

Lecturers were not always aware of the existence of current sources of support. They might learn by accident of the existence of such sources. Good Practice Lunch invitations are sent to the equivalent of Secretary of Teaching and Learning of each Faculty and Department; and Academic Staff Development send out a catalogue each term. Both have website listings. However, some respondents had not heard of these resources and the question arose whether this is a question of communication, or has more to do with engagement.

Academic Staff Development was seen by some respondents to be over-staffed and failing to provide sufficient level of academic challenge in courses provided. Documentation produced was not taken seriously. Overall, Academic Staff Development was considered good for basic and remedial skills training but much less so for anything more advanced, and was not seen as a locus of pedagogic expertise.

In the case of CapCam (Continuing Academic Practice at Cambridge), it was perceived that by making courses mandatory[1], and then providing courses at a level inappropriate to the professional experience of the participants, a perception of inappropriate expertise results. Two senior academics, each with 30 years of research experience, had been required to participate in Training Days for Principal Investigators despite their vast experience. Such participation created much resentment and was considered a waste of time. Besides this, the opportunity cost of what they would have earned for one day as a consultant in Industry might reach £600-£800.

The Programme in Higher Education Practice was seen as being too basic and not providing a folder of resources. The mandatory nature of a two and a half day course for Oxbridge graduates was questioned due to the uneven learning opportunities it provided as between those with or without an Oxbridge background already.

The CETL bidding process and outcome were raised repeatedly by participants. Attitudes varied on the reason for lack of success. One view was that the post-mortem on the outcomes of the bidding exercise centred on sector politics, thus diverting attention away from critical self-evaluation on the part of Cambridge. Another constituency thought that

[1] The perception itself is incorrect: CapCam has no compulsory elements.

the actual bids themselves were not up to a desirable standard. Others were critical of the communication procedures where nothing was known of the existence of a tender until the result came out.

Views concerning CARET were raised. Members of Departments with their own technical expertise such as the Department of Computer Science, Department of Engineering and the School of Clinical Medicine wanted to restrict the use of CARET to generic tools (e.g. CamTools) and maintain autonomy over their own projects. CARET was seen as providing helpful technical and programming staff who were unable to provide pedagogic advice or only indirectly, and who also lacked up to date resources e.g. Flash. When teaching officers carried out joint projects with CARET, they wished to maintain copyright. CARET was seen by some participants to have become 'indispensable' once discovered.

Comments about external resources were also made. The Higher Education Academy and its associated Learning and Teaching Support Networks were seen to have little impact on the Higher Education community. At the international level, Stanford University's 'Future Professor' programme was accessed by some Professors.

In general, when debating the issue of a Pedagogic Support Unit, participants made constant comparison in terms of utility with existing centralised resources, namely CARET and Staff Development. A fear existed that another centralised Unit would drain central resources, would control rather than support and would create a bureaucratic superstructure. What was desired was that any such Unit should grow upwards and not impose policy downward. The main question was how such a Unit would add value to the University. Devolution of Roberts funding to Schools was seen as a situation where lessons might be learned about devolved funding structures.

4.6. Examples of effective local support within Cambridge

The Engineering Teaching Office offered an example of effective pedagogic support on a local level. Exemplary student feedback systems and rigorous monitoring of teaching quality were espoused. Although the system was localised, there was an openness to harnessing external support provision as appropriate. Another example of localised provision was the Engineering Language Centre which furnished an example of the use of external support through participation in outside research with educationalists. The holding of seminars on Engineering Pedagogy – the development of creativity – drew a widespread and engaged audience. This Department embraces innovation and places effectiveness above tradition.

The very high standards set by the School of Clinical Medicine for the education of future medical practitioners pose particular challenges. Due to many students being away from Cambridge during their internship, many innovative e-learning modes have been developed. Much of the support for Medical Education comes from the NHS and this School wished to have practitioners, i.e. doctors, carry out staff development activities. Some of its teachers have Master's degrees in Medical Education.

4.7. Conclusions

The previous sections give a detailed flavour of the preoccupations and needs of the teaching officers who participated in the familiarisation meetings. The comments are necessarily perceptions, whether representing an individual or departmental views, and may not reflect actuality. However, inaccurate perceptions themselves raise real issues of communication, understanding and engagement which need to be dealt with in their own right.

Translating the issues that were raised by participants into support needs could point to a requirement for the following resources:

Firstly, a site of pedagogic expertise which would assist with the provision of discipline-specific pedagogic expertise would be welcome. Specific guidance and/or expertise on assessment, setting an examination, putting a course together, training for Language Teaching Officers in second language acquisition, help with methods of identifying plagiarism were all noted as areas of interest. Such expertise could be used by both new Lecturers as well as all Teaching Officers facing new challenges.

Secondly, more support websites, e.g. on how to write essays and dissertations, would enable supervision time to be used more constructively. However, some Teaching Officers would need persuading as to the soundness of the learning processes which underlie such a practice. An understanding of the development of learner autonomy would be helpful.

Thirdly, an information point, where educational issues such as school curriculum changes could be accessed sufficiently in advance in order to restructure courses, would be useful. A list of suitable national and international resources could be signposted.

Fourthly, a site, either real or virtual, where academics could share existing Good Practice and coping strategies would be synergistic. Some local examples could be usefully adapted for use within other institutions.

Fifthly, administrative and technical support which was focused on the needs of the Teaching Officers would free up time for better quality teaching.

CHAPTER 5: OUTCOMES OF THE FORMAL PHASE

5.1. Introduction

This chapter contains discussion of the main and more formal dataset collected from online surveys and Discussion Groups. This part of the research involved 260 participants. 227 participants answered online surveys and 33 participated in small discussion groups. Besides this, 26 engaged in personal communication. Overall, the UTO survey with 160 respondents is, by far, the largest subdataset. The results from this part of the study largely reiterate the themes emerging from the Familiarisation Phase.

This chapter is divided into sections corresponding to questions asked in the surveys. Each section begins with a display of survey data and will be illuminated and illustrated with discussion group and correspondence comments. The sections overlap thematically to a considerable extent. The chapter begins with a summary of the characteristics of the participant samples.

5.2. Characteristics of the participant samples

5.2.1 Total number of participants with gender breakdown

	Total	Male	Female	Unspecified
UTO Survey	160	124	33	3
UTO Discussion groups	24	19	5	
College survey	67	42	25	
College Discussion Groups	9	3	6	
Total	**260**	**188**	**69**	**3**

5.2.2 Rank of respondents

	Professor	Reader	Senior Lecturer	Lecturer	Other[2]
UTO Survey	51	27	35	36	11
UTO Discussion groups	8	3	3	8	2
College survey	4	7	10	12	34*
College Discussion Groups		1	3	2	3
Total	**63**	**38**	**51**	**58**	**50**

*this included many College lecturers, i.e. those not involved in University teaching

[2] This category includes other established University academic posts such as Assistant Director of Research, Museum Director, etc.

5.2.3. Age

	Under 35	36-49	over 50 years	Blank
UTO Survey	17 (11%)	62 (39%)	81 (50%)	
College Survey	13 (19%)	30 (45%)	22 (33%)	2 (3%)
Total	**30**	**92**	**103**	**2**

5.2.4 Schools represented in the sample

	Arts and Humanities	Humanities and Social Sciences	Biological Sciences	Physical Science	Technology	Clinical Medicine	Blank
UTO Survey	27	33	24	23	23	3	27
UTO Discussion groups	6	7	3	4	2	2	-
College survey	11	15	17	16	5	-	3
College Discussion Groups	4	2	-	-	3	-	
Total	**48**	**57**	**44**	**43**	**33**	**5**	**30**

5.2.5 Participant sample broken down by Rank and Gender

5.2.5.1 UTO survey respondent

	Male	Female	Blank
Professor	46	4	1
Reader	19	7	1
Senior Lecturer	29	6	
Lecturer	23	13	
Other	7	3	1
Total	**124**	**33**	**3**

5.2.5.2 College survey respondents

	Male	Female
Professor	4	0
Reader	6	1
Senior Lecturer	8	2
Lecturer	7	5
Other	17	17
Total	**42**	**25**

5.2.5.3 UTO and College survey respondents combined

	Male	Female	Blank
Professor	50	4	1
Reader	25	8	1
Senior Lecturer	37	8	
Lecturer	30	18	
Other	24	20	1
Total	**166**	**58**	**3**

5.2.5.4 Gender and College rank

	Male	Female
Director of Study (**DOS**)	22	7
Assistant DOS (**ADOS**)	4	0
College Teaching Officer (**CTO**)	1	0
CTO and DOS	9	15
CTO and ADOS	3	3
Question left Blank	3	
Total	**42**	**25**

5.2.6 Participant sample broken down by School and Gender

5.2.6.1 UTO survey respondents only

	Total	Male	Female	Blank
Arts and Humanities	**27**	21	6	
Humanities and Social Sciences	**33**	16	16	1
Biological Sciences	**24**	20	4	
Physical Sciences	**23**	20	2	1
Technology	**23**	23	-	
Clinical Medicine	**3**	2	1	
Blank	**27**	22	4	1

5.2.6.2 College survey respondents only

	Male	Female	**Total**
Arts and Humanities	6	5	**11**
Humanities and Social Sciences	7	8	**15**
Biological Sciences	13	4	**17**
Physical Sciences	9	7	**16**
Technology	5		**5**
Blank			**3**

5.2.6.3 UTO and College survey respondents combined

	Male	Female	Blank	**Total**
Arts and Humanities	27	11		**38**
Humanities and Social Sciences	23	24	1	**48**
Biological Sciences	33	8		**41**
Physical Sciences	29	9	1	**39**
Technology	28	-		**28**
Clinical Medicine	2	1		**3**
Blank	24	5	1	**30**

5.2.7 Participant sample broken down by Rank, Age and Gender

5.2.7.1 UTO Survey respondents

	Under 35 (17)		36- 49 (62)		Over 50 (81)	
	Male	Female	Male	Female	Male	female
Professor	0	0	11	0	35	4 (1B)
Reader	0	0	9	4	10	3 (1B)
Senior Lecturer	2	0	11	5	16	1
Lecturer	10	4	12	7	1	2
Other	0	1	1	1 (1B)	6	1

(B = question left blank: gender not given)

In terms of population, four points can be made which will have repercussions on later observations and recommendations. First, in terms of rank, whereas 32% of UTO respondents carried the rank of Professor, only 6% of College survey respondents carried this rank. The involvement of senior academics in College teaching will be discussed later in relation to investment and reward.

Secondly, in terms of gender, there were no female respondents from the School of Technology despite some female lecturers in the Computer Laboratory and Engineering Department being heavily involved in teaching issues. Only male respondents are represented in the group of those attaining the rank of Professor before the age of 50. There were proportionately more female respondents in the College survey and they were of lower rank and younger than those females in the UTO survey.

Thirdly, within the two surveys College survey respondents were younger than University survey respondents (age was not asked for in Discussion Groups). In the UTO survey 50% were over 50 years whereas in the College survey this figure was 33%.

Fourthly, in terms of School, there were only five participants from the School of Clinical Medicine for the UTO investigation and none within the College investigation.

The following sections give details of respondents' answers to the various questions in the online survey.

5.3 Motivation for the teaching role

5.3.1 I became an academic...

	Primarily for research	Primarily For teaching	Equally motivated by both roles	Other reasons	Blank
Professor	M25 F 3	M1 B1	20 M 1F	2M	2 M
Reader	13M 4 F	1F	12M 4F 1B		
Senior Lecturer	13M 2F	3M	19M 6 F	1M	1M
Lecturer	8M 6F	2M 3F	20M 9F		
Other	8M 8F	5M 1F	7M 11F 1B	3M 1F	

Source: Combined survey

5.3.2 Currently I am motivated...

	UTO survey	CTO/DoS survey
Primarily by research	35%	30%
Primarily by teaching	7%	14%
Equally motivated by both roles	54%	48%

Source: UTO survey

In terms of rank, it is striking that few participants of any rank gave teaching as their primary motivation for entering academia. At the highest rank those motivated by research and those motivated equally by research and teaching are approximately equal in number (28 v.21); At the lower ranks more respondents tended to be motivated by both teaching and research, than primarily by research.

Overall the highest percentage of respondents is equally motivated by research and teaching. 48% of College respondents and 54% of UTOs are currently motivated by this combination and overall 50% became an academic for this reason. Those who teach in College were more likely to state having the teaching role as a primary motivation. Female respondents were also more likely to have teaching as primary motivation or be equally interested in both roles.

5.4 Workload breakdown and reward

5.4.1 My teaching role as a proportion of the total academic workload over the academic year is...

	Less than 10%	11-30%	31-50 %	51-70 %	more than 70%
Professor	6M IF	22M 1F 1B	15M 1F	3M 1F	
Reader	-	7M 3F	9M 2F 1B	3M 1F	1F
Senior Lecturer	1M	9M	11M 3F	7M 3F	1M
Lecturer	1M 1F	3M 1F	8M 1F	8M 10F	3M
Other	1M 1F	3M 1F	1M 1F 1B	1M	1M

Source: UTO survey

5.4.2 This workload breakdown ...

	is one that I am happy with	I would like more teaching	I would like less teaching	Blank
Professor	36 M 3F IB	0	9M 1F	1M
Reader	9M 3F IB	0	10M 4F	
Senior Lecturer	16 M 2F	3M 1F	9M 3F	1M
Lecturer	9M 4F	1M 1F	13M 8F	
Other	6M 2F	1F	1M I B	

Source: UTO survey

5.5 Career strategy, teaching load and rank: UTOs

5.5.1 In my career strategy, I see my current investment in teaching as...

By rank

	Hindering my prospects	Helping my prospects	Makes no difference	I have no strategy	I have reached the height of my career	Blank
Professor	9M 2F	5M	6M 1F	17M	7M 1F 1B	2M
Reader	13M 2F 1B	1M 2F	5M 2F	1F	-	
Senior Lecturer	11M 3F	2M 1F	7M 1F	8M	1M	1F
Lecturer	8M 8F	5M 1F	6M 4F	3M	0	1M
Other	1M 1F	1M 2F	2M	2M 1B	1M	

Source: UTO survey

5.5.2 In my career strategy, I see my current investment in teaching as...

By teaching role as %age overall time

	Hindering my prospects	Helping my prospects	Make no difference	I have no strategy	I have reached the height of my career	Blank
Less than 10%	3M	1F	2M 2F	1M	2M	1M
11-30%	9M1F	7M1F	10M 2F	12M 1F	5M 1F 1B	1M
31-50%	20M 4F 1B	5M 3 F	8M1F	9M1B	1M	1M
51-70%	9M 10F	2M 1F	3M 3F	7M	1M	1F
70% +	1M 1F		3M	1M		

Source: UTO survey

5.6 Career strategy, teaching load and rank: College teachers

5.6.1 My teaching role as a proportion of the total academic workload over the academic year is...

	Less than 10%	11-30%	31-50 %	51-70%	70%+	Blank
Professor	-	2 M	2M	-	-	
Reader	-	2M 1F	3M	1M		
Senior Lecturer	-	2M	5M 1F	1F	1 M	
Lecturer	-	1M 1F	1M 1F	3M 2 F	2M 1F	
Other	4M	3M 1F	5M 4F	1M 6F	3M 6F	1M

Source: College survey

5.6.2 My teaching role as a proportion of the total academic workload over the academic year is...

By gender

	Male	Female
Less than 10%	4	0
11-30%	10	3
31-50%	16 (30)	6 (9)
51-70%	5	9
70% plus	6 (11)	7 (16)
Blank	1	0

Source: College Survey

5.6.3 My teaching role as a proportion of the total academic workload over the academic year is...

By rank

	Less than 10%	11-30%	31-50	51-70	70+	Blank
Professor	-	2 M	2M	-	-	
Reader	-	2M 1F	3M	1M		
Senior Lecturer	-	2M	5M 1F	1F	1 M	
Lecturer	-	1M 1F	1M 1F	3M 2 F	2M 1F	
Other	4M	3M 1F	5M 4F	1M 6F	3M 6F	1M

Source: College Survey

5.6.4 In my career strategy, I see my current investment in teaching as...

By gender

	Male	Female
Hindering	11	14
Helping	5	0
Making no difference	15	7
I have no strategy	6	2
I have reached the height of my career goals	4	1
Blank	1	1

Source: College Survey

5.6.5 I am motivated by...

By teaching role as %age overall time

	Less than 10%	11-30%	31-50	51-70	70+	Blank
Primarily research	3M	4M 2F	4M 1F	1M 3F	1M IF	
Primarily teaching	-	-	1M 1F	1M	4M 2F	
Equally motivated	1 M	4M	10M 4F	3M 6F	1 M 3F	
Other	-	2M 1F	1M	-	-	1M
Blank					1F	

Source: College Survey

5.6.6 My primary reason for engaging with College teaching is...

	Male	Female
Interest in teaching	23	10
Career advancement	2	3
Financial imperative	4	
Contractual obligation	5	9
Other	7	3
Blank	1	

Source: College Survey

In terms of attitude, 45% of College respondents rated their attitude to teaching as 'fresh and enthusiastic' with a slightly lower figure of 41% for UTOs.

There was a variation among those with a teaching workload of less than 50% of the total academic workload. 59% of the College respondents recorded a teaching workload of less than 50% whereas this increased to 73% among UTOs. This may explain why a slightly lower percentage of College teachers, i.e. 52%, were happy with their workload breakdown compared with the 57% figure for UTOs. In both cases, 38% would prefer a reduced teaching load. In both groups the same percentage sees their current investment in teaching as hindering their career prospects. Only 8% of College teachers see their current teaching workload as helping their career prospects as opposed to 13% of UTOs.

Within the College survey, it must be pointed out that the figures for teaching workload are considerably different for those who can be identified as CTOs or UTOs. Within the 33 UTO respondents in the College survey, 24 had a teaching workload of less than 50% with only 4 respondents carrying more than 70% of the total academic workload. However, in the case of CTOs, only 12 had a teaching workload of less than 50% and 9 had one which constituted more than 70% of the total academic workload. Whereas 50% assume College teaching duties out of 'an interest in teaching', 21% do so out of contractual obligation and this latter figure represents twice as many females as males. Less than 10% of this group of respondents assume this form of teaching for career or financial imperatives.

Within both surveys, there were also considerable gender differences, with females consistently carrying greater teaching loads, seeing College teaching as a contractual obligation and seeing workload as hindering career prospects.

5.7 Support for the teaching role versus pedagogic support

A need for greater support for the teaching role as opposed to pedagogic support facilities was frequently voiced both in the surveys and Discussion Groups. On several occasions the argument was put that support for this role should be expected in a Collegiate University which prides itself so much on the teaching that makes a contribution to and is a badge of its world ranking. It was considered that this contribution should be rewarded. Currently, a lack of support in the recognition and reward of teaching as a core mission was seen to

exist. The need for an environment that recognized the role of all teaching, including College teaching, was also voiced. Not only is recognition of and reward for existing investment in teaching sought, but also reward in terms of career progression. Such increased investment is seen as possibly leading to better or more innovative teaching.

Participants' responses to the invitation to list any other (i.e. non-pedagogic) support needs that they might have included:

> "Recognition of my teaching as something of value - ideally as part of a career progression". (Participant 20, College survey)

> "Treating CTOs as equals in respecting their ability to produce high quality teaching and research; at the moment the Faculty attitude to most CTOs seems to be that they are 2nd rate; there isn't enough recognition that the main constraint on CTOs is our demanding teaching loads. A more open-minded attitude towards CTOs who apply for Faculty jobs". (Participant 59, College survey)

It is this recognition of teaching as a core mission, in contrast to its being a hindrance to research, which some respondents emphasized.

> "There needs to be a change in culture so that teaching is seen as something requiring serious commitment and not an obstruction to the main activity of bolstering the RAE score" (Participant 56, UTO survey)

> "Creating incentives to teach well (I don't just mean prizes but promotion etc.) so that there would be more interest/support for teaching within the dept. rather than it being seen as a worthless enterprise and students an impediment to research. I was laughed at when I last suggested that we have a Teaching Committee" (Participant 71, UTO survey)

Participants advocated that teaching excellence should be rewarded. Lack of reward, among other things, is seen to hinder investment in improving teaching. However, it was thought by some that developing such competence could be counterproductive: getting a reputation for being a good teacher could mean that one's teaching load was increased.

38% of respondents wanted a reduced teaching load and the same percentage saw their current teaching workload as hindering their career. It was felt that a reduced workload would help to facilitate improvement in the quality of teaching as well as help career prospects.

> "CTOs are often DoSs too and therefore the supervisors of 'last resort'. We are often left having to spend large amounts of time preparing teaching material for subjects that are not in our specific area of expertise - taking time away from research. This happens to me *a lot*. (This year I am teaching 6 out of the 9 core papers across all 3 years of the [X] Tripos.) Problems all exacerbated by the fact that UTOs are concentrated in a very small number of colleges."(Participant 59, College survey)

> "The reality of the job is that you race from one thing to the next and hope for the best. The most exhilarating thing in the teaching is the moment when you feel you're getting through to your students: get them enthusiastic for the subject and show them that learning an academic subject is not an isolated exercise but an education for life and living." (Participant 62, College survey)

These time pressures were seen as working against teaching quality and career advancement. Rather than simply reward good teaching, some respondents think it should be the sine qua non of promotion.

> "Provide career opportunities driven by teaching quality AND research (rather than just research)." (Participant 20, College survey)

> "Make it impossible to be promoted without teaching conscientiously and well in both faculty and college" (Participant 45, UTO survey)

> "The weariness and frustration sets in because if you show any interest in teaching then you get lumbered...and then you are drowning and so can't reflect on teaching and learning. (Participant 71, UTO survey)"

Some participants sounded an alarm in relation to future provision of teaching within Colleges:

> "It's really a problem in the sciences but increasingly it's going to spread, that people appointed to UTO posts will not become Fellows of Colleges and if they do it's on the basis that they will not teach...We are now in the situation where Heads of Departments tell all newly appointed UTOs that they should not get involved in college teaching." (Participant 18, UTO discussion group)

As well as this perception of increasing number of new recruits who hesitate to take up Fellowships, there is an increasing number of Professors in the total UTO population. Respondents pointed out that Professors, according to Statutes and Ordinances, are not required to teach at all, although there is an expectation that they do so (Statutes and Ordinances, Statute D, Chapter XIV) and they must report each year to the General Board setting out how much teaching they have done (Statutes and Ordinances 2006, p. 636). The view was expressed that some post-holders see a Professorship as a reward for past performance rather than as a distinct role which could involve teaching duties. The shortage of College teachers was seen to be less acute in the sciences due to the large numbers of doctoral and postdoctoral students.

Other issues which respondents raised included the lack of recognition and reward for the teaching role which was thought to need redressing by the nurturing of a culture that values teaching quality and which defines the relationship between College and University teaching responsibilities more clearly. This was seen as requiring resistance to the 'troublesome audit culture' which does not recognize individual creative efforts, and initiatives to provide support for Teaching Officers, essential to a creative teaching culture. The question of whether change can occur in an evolutionary way was posed, since the current level of goodwill on the part of academics was thought likely soon to run out. Some respondents remarked that the undervaluing of teaching may make it more difficult to

attract new lecturers and that the recruitment and rewarding of truly inspiring teachers should take priority. Some respondents who are interested in teaching issues said that they had experienced contempt from senior academics.

In the following sections, it will become clearer that valuing teaching is often a precondition for investment in innovation, uptake of development activities or motivation to seek excellence in pedagogy. Such developments are seen as unlikely to occur if academic staff are hired and promoted mainly on the basis of research potential and/or success.

5.8 Pedagogic Innovation

Participants were asked for their views on whether there is a culture of pedagogic innovation in Cambridge and what factors in the University might hinder innovation. Pedagogic innovation is a somewhat subjective term and could include the incorporation of new knowledge content into the curriculum, or new methods of delivery, or assessment procedures. Research effort might ensure that new knowledge is created but incorporation into the curriculum takes time. Pedagogic innovation, then, often deals more with the other two areas of the curriculum i.e. delivery and assessment.

Although e-learning is only one form of innovation it featured largely in academics' definition of innovation. This construction of 'innovation' was often seen by respondents as being responsive to student needs as opposed to being pro-active. Lack of reward, time pressures and lack of resources, coupled with the belief in the inimitable value of the supervision both as a mode of curriculum delivery and formative assessment, were seen by some as leading to a lack of drive for innovation.

5.8.1. There is a culture of pedagogic innovation embedded within Cambridge

agree	53
not sure	83
disagree	81
Blank	10
Total	227

Overall, respondents from both surveys indicate that 23% agree that a culture of pedagogic innovation exists at Cambridge whereas 35% disagree and 36% are not sure.

5.8.2 Factors slowing down teaching innovation

Barriers to innovation featured largely in the discussions and the surveys. In answer to an explicit survey question, innovation was seen to be slowed down primarily by research pressures, Cambridge notion of academic success, lack of reward, and lack of financial resources.

5.8.2.1 Cambridge notion of success

The main barrier to teaching innovation was seen as a combination of 'the Cambridge notion of success' and 'the need to focus on research' which together accounted for 54% of responses. Although lack of reward is indicated by only 11% of respondents, this is inherently linked to the previous factors.

The following comments reveal the desire for recognition of the time investment necessary for teaching innovation and a desired link to career progression:

> "recognising the importance of the time invested into developing and improving courses; easily achieved through time accounting processes". (Participant 87, UTO survey)

> "I would be very interested in participating towards the development of innovative teaching methods but feel that, at present, my efforts along those lines would not be rewarded or lead to a career progression/promotion." (Participant 20 , College survey)

5.8.2.2 Lack of financial resources

E-learning innovation which goes beyond uploading a repository of materials to a website may require considerable financial support, and respondents remarked that no dedicated budget may exist for this at either Faculty/Department or School level. Even innovation which is resource neutral in terms of finance still demands time investment on the part of academics. Academics considered that they did not have time to mount bids for external funding of innovative pedagogic projects.

> "The University should make available a sum of money every year for initiatives and a serious sum of money .. and also facilitate joint grant applications" (Senior Lecturer, UTO Discussion Group)

5.8.2.3 Access to innovative techniques

It was recognised that the resources necessary for innovation, apart from financial resources, involves production of guidance and materials in accessible language.

> "Tell me what pedagogic innovation is. Can we have the explanation in normal English not eduspeeke, please?"(Participant 46, College survey)

It might also involve training in use of tools and confidence building. For older academics, such change was seen as possibly being more difficult.

It was felt that Teaching Officers may need to know where to locate the appropriate resources and to gain an understanding of the underpinning pedagogic principles.

> "Help me locate resources that are needed for bringing some innovation into my teaching" (Participant 89, UTO survey)

> "To help me familiarise myself with the potential of e-learning" (Participant 52, College survey).

Provision of guidance and materials in 'heavily digested form', and in accessible language, would help bridge the gap between the desire to innovate and the development and implementation of new ideas.

5.8.2.4. Lack of support among peers

All UTO and College respondents were asked whether, within their department, colleagues such as their Dead of Department or Chair of Teaching Committee actively foster or discourage teaching innovation. They responded:

Actively foster	63
Permit but do not actively encourage	114
Disapprove	6
Blank	44

Twice as many senior colleagues are perceived as permitting or positively disapproving as the number who actively foster innovation. Examples of attempts to innovate by some respondents were met with a set of reactions ranging from a mere lack of support to being sneered at.

> "...arrogance that the standards at Cambridge are so high that they shouldn't be questioned. Innovation and creativity is sneered at by some more conventional educators in the university...". (Participant 69, UTO survey)

> "Innovation is frowned on by those who control faculty." (Participant 63, UTO survey)

When this lack of support comes from senior academics, lower ranking Teaching Officers feel that they may have to put career rather than professional development to the forefront and much creative teaching potential may be lost.

5.8.2.5 Poor pedagogic underpinning

Seeing computer-based learning as a possible form of teaching innovation, some respondents felt that this would stifle the development of useful study or transferable skills:

> "Learning to take good notes results from basic lecturing and is a very valuable skill in all walks of life. This is stifled by computer based learning and providing too detailed handouts, as is communication between teacher and pupil." (Participant 135, UTO survey).

5.9 Introduction of innovation in teaching

Despite these barriers, out of the survey sample of 227, 65% reported having introduced a high or a moderate degree of innovation and all of this population regarded this introduction as successful or, at least, as having made some positive difference. They indicated that their inspirations to introduce innovation were: the result of personal reflection (29%), informal discussion with colleagues (13%), and availability of technology (9%). Only 3% were inspired by a new conception of how students learn.

Besides these sources of inspiration, some respondents reflected at greater length on their involvement in specific initiatives and the problems which innovation sought to address. Examples included:

- Research by a medical practitioner revealed the lack of development of 'soft' or communication skills in doctors. This led to his developing a course on Communication skills which later won a National Prize.

- The Language Centre moved from educating specialist language learners to non specialists. The question of how to educate so many while upholding the standards of excellence of Cambridge University arose. In order to cope with both quantity and quality, it was decided to support learners, putting them at the centre of the learning process. This process had to be efficient (to achieve the goals) and appropriate (using best resources). It was accepted that human, technological and on-line resources could be used together to produce a superior effect to that of human resources alone. An analysis of all resources was carried out, what each could do best and how to use all resources together was studied. Learner needs, environment and financial constraints, as well as many other factors, were taken into consideration. This effort also won a National Prize for Innovation.

Another problem which innovation was seen as a tool to address was school-University transition:

> "The main problem facing Cambridge teachers is the increasing gap between the expectation of Cambridge courses and the degree of preparation of students educated in the UK system. Adapting to this does not so much involve innovation as reverting to teaching methods which used to be current in secondary schools". (Participant 11, UTO survey)

One solution to bridging this gap was seen as complementing supervisions with on-line learning:

> "Supervisions are very expensive (in terms of staff time) and a large proportion of supervision time is devoted to showing students how to 'turn a handle'. This can be done via on-line teaching materials, freeing up supervision time to concentrate on conceptual understanding. I think that the number of supervisions should be reduced in the long term, both to reduce the cost to students and to reduce the demand on staff time." (Participant 125, UTO Survey)

A respondent who is part of a National Steering Group on e-learning, expounded on the benefits of e-learning: the opportunities afforded were multiple and at various levels; although the process of preparing on-line learning was extremely time consuming in the short term, it could save a lot of time later; this very process leads to reflection on the rationale for one's pedagogy; having to represent knowledge on-line forces one to select various layers of knowledge which will work in different environments and therefore to ask ' how do I represent my knowledge differently?'. A Senior Lecturer in Engineering echoed this view. Thinking through the purpose of lectures would force lecturers to think about learning objectives and consider whether on-line type lectures would be helpful. It was

remarked that many scientists are questioning the value of first year supervisions. Students lack basis skills, graduate students who teach may not have the necessary teaching skills, and supervisions may not always be the best way of helping these first year students. However, the current investigation would suggest that not every Teaching Officer is ready for such a fundamental interrogation of educational modes.

5.10 Use of existing support resources

The University already provides some formal support structures and invests some core funding in teaching support, but most funding for support resources currently comes from HEFCE's ring-fenced Teaching Quality Enhancement Fund. Generic teaching support resource is currently mainly within CARET, Academic Staff Development, and the Education Section. Other resources, for example, national and international websites are also available in the University as in the rest of the sector.

Respondents were asked about their current use of both internal and external resources and their responses indicated that such resources are currently underused by Teaching Officers. Respondents advanced various reasons for this under-use (see below). Some respondents thought that a change was possible in the degree to which these resources were used, but many felt that issues of career reward gave little incentive for academics to engage with resources. Furthermore, it was indicated that access to some resources would require financial input on the part of Faculties and Departments.

	No of respondents who have used this resource	No of respondents who may use this resource	No of respondents who do not see how this could help them
CARET	20	26	67
Lunches	14	73	64
Education Section Website	33		46
Academic Staff Development	17	90	62

A large percentage of respondents did not answer these sections. Overall figures show a low uptake and expression of openness to future use was also low, with around a quarter of respondents not being convinced that support resources within the University could help them. Senior academics indicated that they are less likely to use these resources. There is a slightly greater openness on the part of female respondents towards using these resources in the future.

In terms of rating for provision of support the current provision of Cambridge University is given a score of 3.01 out of 5 in the UTO survey (on a scale of 5 = perfect, 1 = totally inadequate for my needs). In the College survey, College provision was rated individually by College and the highest score was 3.24 out of 5. Departmental provision received an

average score of 3.13 by College teachers, and University resources scored 3.05 with this constituency.

Respondents were also asked about their use of resources outside Cambridge. Their views are summarised in the following tables.

Use of the Higher Education Academy website

	Frequently	Sometimes	Vever	Blank
Professor	1M	2M	41M; 4 F	3
Reader	1	2	21	3
Senior Lecturer	1	8	24	2
Lecturer		4	31	1
Other		2	9	
Total	**3**	**18**	**130**	**9**

Use of websites of cognate institutions

	Use frequently	Use sometimes	Use never	Blank
Professor	1	4	44	2
Reader	0	5	19	3
Senior Lecturer	0	6	27	2
Lecturer	0	6	30	
Other			10	1
Total	**1**	**21**	**130**	**8**

Those accessing the HEA website and cognate institutions' websites constitute about 10% of the survey sample. In addition, 89 % of respondents never attend conferences on HE teaching and 88% never consult teaching websites. However, more than half state that they consult literature on how to teach or assess their subject.

Various reasons are seen as underpinning the low uptake of resources. These are discussed next.

5.10.1 Barriers to engagement: awareness of the existence of resources

Both the Discussion Groups and the surveys identified a lack of awareness of the existence of current support provision. In the case of the College Survey, it was apparent that from 38% to 77% were not aware of the existence of these support services. The need for departments to pass on information about what is happening nationally and what resources are available internally and externally was voiced. Some Discussion Group participants had never heard of the Good Practice lunches despite the existence of Quality Contacts in every Faculty and Department who are responsible for the communication of such matters.

Dissemination of information about internal resources would make some difference to respondents, who requested

> "Informing me of information/courses etc provided by CARET, the Education Section, the HEAcad, MIT, etc" (Participant 153, UTO survey)

> "Giving more publicity to support resources that are available - I did not know of any of those listed above. Where does one find out about them without simply trawling the website?" (Participant 12, UTO survey)

However, this information alone is seen not to be sufficient.

> "I feel cut off from national teaching resources and strategies, so maybe these could be passed on more. I am a bit sceptical about their usefulness though". (Participant 117, UTO survey)

5.10.2 Barriers to engagement: Level and standard of resources provided

The issue of level of resources arose frequently and the general perception was of an inappropriate or restricted level of expertise offered.

For example, CARET was seen to be excellent at what it did but lacking an essential layer of workforce. It was seen to offer practical and accessible advice.

> "They are extremely good at what they do and what they do is implementation. So they're very good at the computing side of things and very good at the interface side of things...The problem we found was that in order to get to produce a tool which was something more than an online questionnaire or something kind of low level like that, they can't help with anything more sophisticated. You actually need the academic knowledge to do it and if it's worth doing which actually requires a great deal of investment of time by someone who is expert, this could either be your UTOs but actually given that much pressure on UTOs at the moment, with some of the grind that goes into this you actually need an academic research assistant to do anything serious. So there's a gap between what the vision is, what the provision is needed to be, the technical implementation. ... when it comes to embedding sophisticated information, then it can't do it, there's a gap. That's what I find is the biggest problem... That would require, if the University wanted to do it, much more in terms of in resources"

> "lacking that middle level of manpower...CARET don't really form a focus for educational operations – they are facilitators, they are technical facilitators but they're not actually doing anything else." (Both from Participant 18, UTO Discussion Groups)

The need for academics, or at least those with sufficient academic knowledge, for example, research assistants, to be available to design and provide input into teaching resources, the lack of time, and the lack of financial resources available at University level are all perceived as sources of the problem of lack of engagement.

A lack of clarity as to the role and identity of CARET was perceived. It was seen to have a research function, but was not included in the RAE. It was recognised by some that

although CARET was set up to carry out research, its role had now changed to including support and maintenance. Another drawback mentioned was that despite being a service provider, users were cncerned that they had to pay for everything beyond the use of generic tools.

The issue of level was also raised in relation to Academic Staff Development:

> "My overall impression is that it's ... just not effective. The level that staff development is aimed at is so basic that it's not usually very helpful". (Senior Lecturer, UTO discussion group)

However, some respondents see provision of such basic skills courses as useful as they can raise awareness of otherwise hidden determinants of effective learning. The course for new supervisors was found to be variably useful depending on whether participants were already Oxbridge graduates and so familiar with the system. Some participants would like to learn a range of approaches to teaching, e.g. the incorporation of e-learning, as opposed to a focus on specific areas; or broadening one's repertory beyond seeing the role of the supervisor as explaining less familiar or unclear concepts. So as far as provision of resources is concerned, respondents pointed to needing a breath of provision, as well as appropriate level of provision.

5.10.3 Barriers to engagement: Provision is too generic

Some respondents were sceptical about generic pedagogic support and expressed a need for discipline specific pedagogy; here the alternative of spending time with colleagues is preferred to generic courses, as the following statements demonstrate. Respondents suggested:

> "Encourage innovation and change through formal and informal discussion among academics in similar fields (which many of us already do) ..." (Participant 45, UTO survey)

> "In my experience (at other universities; I haven't done educational support training here) central university teaching support sessions tend to have some interesting and useful ideas but too few and too generic to justify the substantial amount of time they take. Actually sitting down and talking with my colleagues over a cup of coffee about how to teach is probably the most stimulating and time-effective way to come up with new ideas which might work for my students." (Participant 86, UTO survey)

5.10.4. Barriers to engagement: Provision is not congruent with academics' conception of professional development

The following quotations are examples which illustrate the preference for developing teaching expertise within disciplinary groupings of peers, rather than attendance at formal training sessions. Modes of professional development are linked to definitions of good teaching.

> "the keys to good teaching are a passionate commitment to one's subject and a bit of natural talent in communicating ideas. Lunches and education conferences are no substitute for those two qualities." (Participant 26, UTO survey)

"beyond certain basics, teaching at this level has very little to do with training and everything to do with mastery of the subject and ability to put this over" (Participant 45, UTO survey)

5.10.5 Barriers to engagement: Little recognition for time invested

Respondents identified lack of recognition of the time invested in use of pedagogic resources as a barrier to their use. Some respondents wished to have attendance at development activities counted as stint points or through financial rewards.

"it would be even better to incentivise such things i.e. through discretionary pay budgets for staff taking training modules - at present their is almost no incentive if you feel your teaching is already good - even if it could get better" (Participant 126, UTO survey)

5.11 Support Needs

Participants were asked to prioritise their pedagogic support needs. They were invited to choose from a list of possible needs, and to add others in a free text response. The latter revealed administrative and technical support needs, as well as pedagogic needs, *sensu stricto*. Various strategies were suggested to improve matters. The table below shows the top six most mentioned needs:

	UTO survey	CTO/DOS survey
1	Developing some degree of e-learning (56 mentions)	Information on changing curriculum in secondary school and implications for HE teaching (31 mentions)
2	Information on changing curriculum in secondary school and implications for HE teaching (52 mentions)	A better understanding of how students learn my discipline (19 mentions) (but only 7 mentions of 'Training on how to teach')
3	Observation and feedback on teaching performance (42 mentions)	More time for professional development (17 mentions)
4	More time for professional development (42 mentions)	Developing some degree of e-learning (16 mentions)
5	A better understanding of how students learn my discipline (41 mentions) (but only 7 mentions of 'Training on how to teach')	Money to undertake teaching projects (16 mentions)
6	Money to undertake teaching projects (35 mentions)	Observation and feedback on teaching performance (14 mentions)

Combining mentions of support needs in both surveys, the following picture of priorities emerges. Each of the support needs is discussed in more detail below.

Priority	Support need	Number of mentions within 2 surveys
1	School-University transition	83
2	E-learning	72
3	Discipline specific pedagogy	60
4	Time for development	59
5	Observation and feedback	56
6	Money for teaching projects	51

5.11.1 Pedagogic support for School-University transition

The issues of transition and access to Higher Education highlighted the inadequate preparation of some members of this generation of school students for university education. It was considered that the capacity to think logically and the opportunity to gain an overall perspective were not developed by the modular system at A Level. On the basis of responses, a profile of the 'new Cambridge learner' was drawn up. He/She has come from an outcomes based education system with little appreciation of learning process. He/she is highly motivated, 'learns' in order to pass an examination because examination success is linked to future job prospects. He/ she is less interested in exploratory learning or indeed in discussing the 'big questions' in life or in dealing with uncertainty.

That first year of University life is seen by some respondents as a form of remedial year and it is sometimes only by the fourth year that all students on a course have reached the same level. Respondents considered that if access is to be taken seriously, a support infrastructure needs to be put in place, along with additional teaching if necessary. If students are selected on the basis of potential, rather than what they have already achieved, one solution would be to have a dedicated group of specially trained teachers to cope. New lecturers are selected primarily on the basis of their ability to do research and it was felt to be unfair to ask them to provide remedial teaching which might be looked down upon intellectually. On the other hand, existing and experienced lecturers may not wish to teach basic skills.

At the same time, it was considered that school-transition problems should not be shifted to university teachers and that Cambridge should send a message back to government about the ill-preparedness of students. In their efforts to help what some saw as 'innocent victims of the system' to achieve their potential, it was felt that academics, in turn, become the victims of the changing secondary school system, as well as of government-imposed university access policies. In order to fulfil their ethical contract/duty of care, some teaching officers felt sometimes overworked with the number of contact hours per week being extended due to ill-preparedness of some of these students. This humanities lecturer explains the dilemma:

> "I need more variety in teaching, particularly some relief from the huge burden of supervision in [subject]. The treadmill of supervisions (and, to a lesser extent, lectures) repeated each year is slowly but surely destroying my interest in teaching. I do not consider it to be good practice by an employer in a "knowledge economy" to treat me little differently from a nineteenth century factory worker in terms of developing and varying my career as a teacher. I also need

support in bringing students up to standard in written communication skills, research skills and skills of analysis and synthesis. They are generally bright young people, but their schooling manifestly does not prepare them for the independent study of life at Cambridge. I am not, nor ever had any intention of becoming, a (remedial) secondary school teacher. I recognise the immense value of school teaching - both my parents were teachers - but school teaching is not the career I chose or wish to choose. I am now tired of conferences etc on educational methods. I am very well aware of what is wrong with the teaching system as it affects me, and I want action, not more words." (UTO survey, Participant 100)

One solution proposed was to have an entrance examination as in France, where social justice is combined with high ability.

Opinions differed as to the extent of the need for supervisions in first and even second year teaching.

5.11.2 Support for E-learning

With the broadening of pedagogic practices to include the new mode of curriculum delivery typified as e-learning, there is widespread disagreement as to the use of what are seen as 'gadgets', either as a complement or a substitute for an inborn teaching talent or the use of tried and tested teaching ideas. The consideration of what e-learning can do better than face to face contact and what it cannot do as well was considered to be discipline specific. A respondent who had carried out 11 years of applied research in pedagogy was keen to see how this expertise could be transferred to other disciplines.

Variable levels of support were considered necessary for delivery of e-learning. Technically proficient support staff at a departmental level who could help with putting teaching material on the web would be helpful. This would include such tasks as transcribing slides onto Powerpoint. At a different level, instructional designers who could help develop on-line teaching resources/ support materials and who could provide advice on formats, thus combining the best pedagogic rationale with technical possibilities, were seen to be needed. One participant wanted

"Help designing course websites & automatically registering students to those websites - i.e. a centralised system that is superior to those currently offered by CARET (which require student registration)" (Participant 126, UTO Survey)

and others

"Efficient and easy-to-use Camtools system in order to run a Part II course electronically. It should allow instant on-line update of lecture list, enable lecture presentations and PDF files of original articles to be uploaded by organiser and downloaded by students, provide a discussion forum for issues arising from lectures or seminars, enable links between lecture list entries and coursework material, provide the organiser with ability to control access to course material at several levels. hold a student database and provide links to student reports.(Camcors)" (Participant 7, College Survey)

"Help with developing on-line facilities (i.e. support staff to do it for me so I can concentrate on teaching and research)" (Participant 70, UTO Survey

The need for support with updating of the lecture list, the setting up of discussion fora, the uploading of presentations and articles and the need to enable variable levels of access to course materials were all linked to possible CARET provision.

The provision of a uniform and user friendly IT system, both for students and staff, with all using the same software with site wide licences was also suggested. There was also perceived to be a widespread need for training in the use of audio-visual tools and multi-media facilities and the provision of laptops in teaching rooms.

Although it was suggested that CARET could help with some of the technical areas, it was acknowledged that Faculties and Departments do not have a budget to pay for such outsourcing.

5.11.3 Discipline specific pedagogy and feedback on teaching

In their list of priorities respondents prioritised discipline-specific pedagogic more highly than generic pedagogy support. Discipline-embedded support, the need for discipline-specific learning, a subject-based process run by subject specialists, discipline-specific refresher courses, the running of subject-specific meetings for those interested in teaching, organising peer discussion groups were all stated as needs. Other more generic pedagogic needs, such as advice on how to use case studies and role plays effectively, as well as the need for ongoing training in teaching methods, were also mentioned. However, the caveat was that such courses should be at an advanced level.

Respondents saw this support as including meetings/seminars to discuss teaching methods and quality with their peers. Such peer discussion groups would need to be exploratory and supportive to their members, without the identification of issues being seen as weakness. Exposure to good practice through an improvement of the dissemination of such, either in the form of outside expertise or more collective reflection on teaching one's discipline, were also cited. The linking up with others who carry out clinical one-to-one teaching, advice on dealing with students who lack confidence, advice on how to support students in Maths when it is not their major, and advice on examination technique were also cited. There was some emphasis on getting positive input from educationalists who worked in the area of applied research. Such staff could provide feedback on teaching performance. It was thought that having one's teaching video-recorded could be a waste of time, if no expertise existed to provide informed and constructive feedback.

5.11.4 Time for professional development

The UK higher education model has been interpreted as one of increasing heteronomy where external quality control increases administrative loads. A proliferation of changes in the administrative burden associated with quality assurance has emerged in response to external pressures, yet these developments can be seen as leaving less space for reflection about that very teaching role which is supposed to be improved by such measures.

Time pressures are also seen to have increased due to RAE productivity measures, ill-preparedness of first year students and increased administrative loads. Respondents perceived a need to reduce the teaching load by delegation, particularly of the undergraduate teaching load. Incentives were thought to be needed to encourage Faculties and Departments to undertake such teaching. Participants mentioned a need for a more widespread use of graduate and postdoctoral students to teach undergraduates and on the availability of more Language Teaching Officers. However, delegation to graduate students was thought sometimes to breach the 'duty of care' contract on the part of the collegiate University. One respondent advocated

> "A less competitive approach towards teaching, e.g. some UTO lecturers will supervise for their own colleges leaving students at other colleges with ...provision by graduate student 'teaching fellows' - about whom students make repeated legitimate complaints (work doesn't get properly marked, supervisions aren't intelligible because the graduate student isn't fluent in English etc. etc.)." (Participant 59, College survey)

Some respondents ask for a shift from undergraduate to graduate teaching as the principal activity of the University. The idea of having dedicated American-style Teaching Assistants to help was mooted. One respondent suggested

> "offer greater teaching support in the manner of American Ivy League universities which focus Faculty time on graduate training, final year students, & undergraduate lectures - leaving most assessment and student guidance to Teaching assistants". (Participant 126, UTO survey)

The need for more teaching Fellows to share the workload was one solution suggested. UTOs were seen to be concentrated in too few Colleges and therefore CTOs may have to teach a range of papers which were not within their area of expertise. An example was given of a CTO teaching across 6 out of 9 core papers. The issue of having UTOs rather than graduate students teach in Departments in order to provide consistency of standards was raised.

Other proposed solutions at the level of teaching itself included the creation of more academic posts and a workload management scheme within the Faculty/Department so that a few people were not doing all the teaching

Another solution is on the level of administration. Reducing administrative burdens, for example, by having examination marking handled by teaching assistants or by having support staff who could collate marks, prepare TQAs, prepare handouts, Powerpoint slides, prepare figures, prepare teaching materials, and help with timetabling and examinations would enable Teaching Officers to use their time more productively. One responded noted

> "...for many tasks I feel like a highly paid secretary who could be spending my time more usefully on other things." (Participant 8, CTO Survey)

Some respondents wished to emphasize that, when secretarial support was allocated to serve the core function of teaching, it should be kept there and not get sidelined to serve non-teaching functions, such as health and safety.

In general, it was thought that by delegating teaching and administrative tasks to support staff, the time of academics would be freed up and might help them to invest more in teaching and in developing and sharing innovative approaches. The time necessary for the reflective part of teaching, for preparation, and for personal development would then be released. In some cases, this time could be used for research and thus lead to career development. It was considered that inspiring lecturers might be overworked and need some support to help them. It was felt that Cambridge is not simply a research institute and that teaching is a core function of the institution which needs to be recognized, and that support mechanisms needed to be aligned to this vision.

5.11.5 Help with funding

There are three areas where the provision of finance for teaching support would be welcomed. Some Teaching Officers wish to attend either discipline specific or generic Higher Education teaching conferences. By being exposed to leading edge teaching ideas innovation could be fostered. Innovation, even when not linked to e-learning, may involve financial outlay. This might involve small feasibility studies, small research projects or material outlay. It is in the area of e-learning where considerable funding may be required. Some projects require considerable funds for sustainability and curation. Therefore, the suggestion of joint grant application where learning support resources could be shared across cognate disciplines. Academics do not have the time or the pedagogic grounding to mount such bids and therefore help with such would be appreciated.

5.12 Setting up a Pedagogic Support Unit

Respondents were asked whether the University needs a Pedagogic and Innovation Support Unit. Their responses are tabulated below.

There is a clear need	25	50%
There is some need	88	
There is little need	64	37%
There is absolutely no need	19	
Blank	31	13%

50% see a clear or some need for such a Unit and 37% see little or absolutely no need for such a Unit. These percentages were exactly the same for both surveys. However, there are some slight differences in the perception of this need in various subgroupings of the respondents, as the following tables illustrate.

5.12.1 Attitude towards a pedagogic unit by gender of respondent

	Male	Female	Blank
Clear need for a Unit	11	14	
Some need for a Unit	67	21	
Little need for a Unit	51	12	1
Absolutely no need for a Unit	14	4	1
No opinion	23	7	1
Total responses	166	58	3

5.12.2 Attitude towards a pedagogic unit by rank of respondent

	Clear need	Some need	Little need	Absolutely no need	Blank
Professor	2	18	17	8	10
Reader	3	13	10	2	6
Senior Lecturer	4	23	13	2	3
Lecturer	8	14	18	3	5
Other	6	14	5	3	5
n/a	2	6	1	1	2

Taking into account this and accompanying data, the group of Teaching Officers which sees a need for a unit is i) primarily female; ii) not primarily motivated by research; iii) made up of Senior Lecturers; and iv) over 35; the School of Biological Sciences is disproportionately represented in this group. Less enthusiastic were those of Professorial rank, those with low teaching workload, those primarily motivated by research, male respondents, and particularly from the School of Technology.

The gender specific response is well marked: despite females representing only one third of respondents, responses from females outnumbered those from males in the 'clear need' response category. With age there was no strong correlation.

5.12.3 Functions and needs which a Pedagogic Unit should address

It was noted earlier (5.11) that the following support needs had been identified by respondents:

Priority	Support need	Number of mentions within 2 surveys
1	School-University Transition	83
2	E-learning	72
3	Discipline specific pedagogy	60
4	Time for development	59
5	Observation and feedback	56
6	Money for teaching projects	51

Some of the suggestions produced when respondents were asked how a Pedagogic Unit could help them have a bearing on meeting these needs:

In terms of the school-university transition (1), it was suggested that a centrally co-ordinated unit or facility could help with provision of information. It could be a focal point to which Teaching Officers could go as a first point of reference to become aware of existing resources both within and outside Cambridge University.

A unit could help in providing support for E-learning (2) in terms of strategy, design, training, implementation, equipment and general support. It could also help with the provision of an IT support framework. It should be noted that respondents wished to maintain autonomy over their teaching activities and projects and to be able to choose the degree of collaboration with central providers such as CARET.

Such a centre could serve many other functions also. It could help with nurturance, design and implementation of innovative teaching using ideas generated by lecturers; help locate appropriate human or material resources; improve the quality of teaching through the sharing of good practice; help develop efficient teaching; provide feedback on teaching performance; organise peer review; provide a Teaching Certificate in HE; update pedagogic knowledge; and provide relevant pedagogic advice in easily digestible form.

For discipline-specific pedagogy (3), a unit could provide a forum for co-ordination. This could involve dealing with change across the university which cannot be done within a single Faculty, or opening up relationships between Faculties.

A unit could help with funding (6) by providing assistance to help mount bids to gain funding for educational development.

In summary, respondents see this facility as being able to support a culture of teaching. It could help to raise the profile of teaching work, in encouraging teaching initiatives to count towards stint points, and help lecturers to gain rewards for taking extra training modules 'to make good better'. By facilitating reflection on teaching as a serious academic endeavour in its own right, a unit could raise the status of teaching, particularly if development of teaching were then to be linked to reward mechanisms.

5.12.4 Criteria proposed for mission, staffing, institutional structure, and financing of a Pedagogic Support Unit

Respondents were given a list of possible characteristics of a pedagogic support unit for the University and asked to put them into an order of priority. The following priorities emerged: