

Case study 2: Leading, creating and adapting Postgraduate programmes in Computing Science - demonstrating “significant impact upon the co-ordination, support, supervision, management and/or mentoring of others (whether individuals and/or teams), in relation to teaching and learning” – February 2015¹

Stage 1

I joined Glasgow University in December 2001 as the Programme Director of the MSc(Information Technology), a conversion programme that had been running for around 15 years, and which had an enrolment of around 140. At the time, the Scottish Government gave an unlimited number of funded places for this programme. The programme was intended for students with degrees in any discipline other than computing science, as a way of introducing them to fundamental programming and IT skills.

The programme was very interdisciplinary, with contributions from the departments of Humanities Media Studies, Music, Archaeology, Business and Management, Finance, Physics. I therefore took over a role which entailed leading a team (within Computing Science) of four academics whose primary responsibility was teaching in the MSc(IT), a further six academics who had MSc(IT) teaching as part of their duties, three administrative staff and two support staff; and (in other departments) of seven academics who taught courses on the MSc(IT) (vii).

I encouraged regular team communication and collaborative support through weekly lunch gatherings, which were always well attended. Much of my focus was on mentoring the three associate lecturers who were employed solely to deliver the core material for the programme and to supervise the majority of the summer projects – I was aware that they might feel peripheral, and it was important that their value was clearly and frequently acknowledged, and that they were adequately supported. One specific challenge was leading the academic staff from the other departments in which I had no formal role, since their contribution to the MSc(IT) was not always their highest priority (vii).

I was commended several times by external examiners for this programme on my excellent management, communication and organisation skills.

Stage 2

As funding for this programme became more difficult to obtain, and we received more and more applications from computing science graduates, it became clear that we needed to diversify. I initiated the process of extending our MSc portfolio to include programmes for computing science graduates – initially with a research-focussed MSc(Advanced Computing Science) in 2004/5, and then, when it became clear that these applicants were more interested in extending the breadth of their Computing Science knowledge than perusing a research career, an MSc(Computing Science) in 2006/7. (V2)

¹ Note: References in brackets here and in the case studies refer to the dimensions of the UKPS framework (A,K,V), and the associated descriptors for Senior Fellow of the Higher Education Academy (i,ii..vii).

Extending our portfolio was not without its problems. Colleagues who objected to Computing Science postgraduate teaching that was not wholly research-focussed needed persuading that introducing these new programmes was essential for our growth and profile, would extend our student population to include more richness and diversity, and would bring valuable skills and knowledge to the department. (V4)

I led a team of six Computing Science academics in defining the new MSc programmes over a period of three years (2004-2007). As well as defining the overall new programme structures, new courses needed to be defined, and existing courses that could be upgraded to the Masters level needed to be identified, together with learning outcomes appropriate for MSc level (K2). I was responsible for preparing all the programme and course documentation required by our Science Faculty for the university's approval process.

Integrating the delivery of the MSc(CS) with our existing Honours and MSc(IT) programmes so as to enable reasonable sharing of teaching resources was difficult and controversial – while I was constantly aware that the students' experience should be the primary concern, this was not always reflected in some of the final management decisions that were made – decisions typically made on the grounds of expediency. A particular challenge was the clarification of the new, rather complex, examination arrangements for shared courses. Since this process occurred around the same time as the university introduced a new 22-point assessment scale, my role included advising other members of staff on the appropriate use of this unfamiliar assessment scale (K2).

In parallel with leading the new curriculum design, I supported the delivery of the MSc programmes in other ways: I led the applications team (introducing a new and more efficient decision-making process), co-ordinated publicity and recruitment activities, streamlined the processes for giving personal advice to the MSc students (many of whom were international students who often had complex personal and/or social problems) (A4), and initiated a start-up week that allowed students to gauge their abilities against our required standards and to change their MSc programme early if they wished.

My focus during all these changes was in ensuring that the new students would have a well-supported learning environment, and an excellent student experience. Curriculum design aside, I attempted this in more personal ways: writing extensive new detailed and useful handbook documentation, holding social events, and ensuring that I taught a course that all MSc students were required to attend so that I could get to know them by name, and so that they knew me well enough to come to talk to me if they had any concerns about their programme (V1, A4).

The new MSc(ACS) curriculum required some new courses to be offered at Masters level (SCQF level 11). I defined and ran a new 20 credit 'Research Readings in Computing Science' course, intended to develop students' reading, critical analysis, presentation, collaboration and discussion skills, while becoming versed in a wide range of computing science research topics (A1, A2, K2). This new style of course required students to read up to four given research papers a week, with different students presenting summaries of the papers and leading the discussion of them each week. While the students found this very hard work during the semester, at the end of the course "*the summary writing process was much more smooth - almost automatic - with students becoming more adept at writing... The students, including myself, were particularly happy with the course covering a new topic each week providing an interesting breadth of knowledge both in terms of the style of research observed and its*

content.” [student feedback comment]. This course was commended by our external examiner (an subsequently replicated at her own institution).

Based on my experience with this research-focussed course, I defined and ran a 10 credit ‘Readings in Computing Science’ course for the MSc(CS) students. This used the same principles as the Research Readings course, but covering broader CS topics of general interest (rather than papers of specific research focus) (see case study 1) (K2).

Stage 3

Since relinquishing the role of co-ordinator of the MSc programmes in 2009 (when I went on sabbatical), I have still maintained an active interest in these programmes, taking on supplementary roles – in particular, in recruitment and publicity, in formal approval processes, and in contributing to discussions on further changes to and restructuring of these programmes.

Reflection

Leading the MSc programmes for seven years, including continual adaptation for improvement and wider participation (A1,V2), was both demanding and rewarding. It required skills in leadership and organisation (v, vii), broad subject-specific knowledge over the whole of computing science (K1, K2), as well as awareness of and sensitivity towards colleagues and how their own particular areas of interest are best placed and taught within a new curriculum (K3).

While it was pleasing to see that the changes I initiated and saw through resulted in an increase in the number and nature of students who wanted to extend their computing science skills (V2), most rewarding was the interaction with the students themselves (V1). Many of these students were international students (only in Glasgow for one year, with little or no local personal support, and strong pressures from their families) and many were mature students with extensive prior employment. The challenge was in recognising what useful and interesting background knowledge these students already had that they could bring to their learning experience here, and enabling them to integrate it into their studies. This was particularly important in the Professional Skills course that I taught to all Masters and Honours students, where the students had widely varying attitudes towards ethical matters relating to IT practise, often informed by the policies and laws of their home countries, or by their own prior experience in the workplace (V1).

The MSc programmes continue to run successfully – minor changes have been made to their composition, but the original framework of flexibility and rigor on which the new programmes were based remains.