

**Graduate School Review – College of Science and Engineering
13 and 14 June 2012, Kelvin Meeting Room
Number 11, The Square**

Panel Members:

Prof Steve Beaumont (Convenor)
Prof Eleanor Gordon (Senate Assessor)
Prof Gerard Graham (Internal Panel Member)
Prof Patrick Godfrey (University of Bristol – External Panel Member)
Ms. Catherine Shi (SRC Representative – Student Panel Member)
Ms. Mary Beth Kneafsey (Clerk to the Panel)

Review Meeting Attendance:

Key Staff Meeting

Prof Jon Cooper (Dean of Graduate Studies, College of Science and Engineering (COSE))
Mrs. Pat Duncan (Head of Academic and Student Administration, COSE)
Ms. Heather Lambie (Graduate School Administrator, COSE)
Dr. Monika Harvey (Psychology, PG Convenor)
Prof Graeme Cooke (Chemistry, PG Convenor)
Dr. Domenico Gallipoli (Engineering, PG Convenor)

Student Meeting

Ms. Helen Armstrong (Chemistry)
Mr. Alex Munnoch (Chemistry - GSB Member)
Mr. Bo Yao (Psychology)
Mr. Danilo Ferreira de Lima (P&A)
Mr. Ross McLachlan (Computing)
Mr. Ben Smith (GES)
Ms. Chiara Martino (Engineering)

Supervisor Meeting

Prof Iain Thayne (Engineering)
Prof Simon Wheeler (Engineering)
Dr. Monika Harvey (Psychology)
Prof Joe Sventek (Computing)
Dr. Nick Kamenos (GES)
Dr. Justin Hargreaves (Chemistry)
Prof Jon Cooper (Dean of Graduate Studies, College of Science and Engineering (COSE))
Ms. Heather Lambie (Graduate School Administrator, COSE)

Final Review Meeting

Prof Jon Cooper (Dean of Graduate Studies, College of Science and Engineering (COSE))
Mrs. Pat Duncan (Head of Academic and Student Administration, COSE)
Ms. Heather Lambie (Graduate School Administrator, COSE)

Purpose of the Review

All higher education institutions in the UK are individually responsible for the quality of their educational provision. However, to help ensure that quality is maintained and enhanced throughout the sector, the Scottish Funding Council, through the sector's Quality Assurance Agency (QAA), has developed and recommended a Quality Enhancement Framework (QEF) for use by all institutions. This includes:

- institutional responsibility for quality, incorporating institution-led/self-evaluation and review;

- external review (by QAA in the Scottish University sector – Enhancement-led institution review (ELIR));
- student engagement in quality arrangements;
- information for stakeholders and the public on quality; and
- the promotion of enhancement, for example through thematic approaches in university strategies.

All elements of the QEF are interdependent as one process closely relates to and is referred to by other processes within the Framework.

The purpose and benefit of an internal graduate school review is threefold:

- to provide an opportunity for the University to evaluate its provision, the processes it uses to support its students and the resources available to ensure that provision is of a consistently high quality across the institution;
- to build the case for investment and institutional change to support postgraduate research; and
- to enable the University to provide evidence of the high quality of its postgraduate research provision when required.

The operation of a system of institutional self-evaluation and review demonstrates the University's commitment to quality to students, external reviewers and other relevant stakeholders.

The Graduate School Review process provides a formal opportunity for a Graduate School to reflect on and critically evaluate its PGR provision and to benefit from a constructive dialogue with senior academics from outwith the College. It is intended to be a positive and constructive activity, supporting Graduate Schools in the enhancement of their provision; it is not punitive or intended to be confrontational.

The Graduate School Review refers to the University's Code of Practice for Postgraduate Research Degrees (<http://www.gla.ac.uk/services/postgraduateresearch/pgrcodeofpractice/>) which is based on the UK Quality Code for Higher Education, and in particular Chapter B11: Research Degrees. It covers the following aspects of postgraduate research provision within each Graduate School:

- academic assessment standards for postgraduate research;
- structure to support PGR provision both academic and administrative (e.g. staff structure, procedures and policies specific to the Graduate School); and
- how the Graduate School ensures and enhances the quality of PGR provision.

Aims of the Graduate School Review Process

The aims of the review are to provide support to the Graduate School in enhancing its postgraduate research provision through:

- an evaluation of:
 - the relevance of research, for which PGR supervision is provided, to the overall aims of the Graduate School;
 - the currency and validity of the research supported in terms of developing knowledge within the discipline, the application of that knowledge in practice, advancement of high quality research, and developing well qualified and well prepared researchers;
 - the effectiveness of supervision and assessment methods in meeting the intended outcomes for the Graduate School's postgraduate research provision;
 - the correlation of provision with the UK Quality Code for Higher Education and the requirements of external regulators and funders;
 - the effectiveness of the measures in place to assure the quality of provision and maintain standards; and
 - recent and proposed enhancements to the quality of provision.

- a discussion with Graduate School and relevant staff, students and stakeholders on:
 - the quality of postgraduate research provision, facilities, equipment and resources;
 - the Graduate School's approach to enhancement of provision including recent developments and future plans;
 - the quality of the postgraduate researcher experience and ways in which it might be enhanced; and
 - ways of promoting postgraduate researchers' effective achievement of their research degrees.

Introduction to the Review

It was agreed to review the Graduate School (GS) of the College of Science and Engineering (COSE) in 2011/2012 as this GS, including its component parts (previously 'Faculties') prior to the 2010 restructuring of the University, had not been subject to a Graduate School Review process since these reviews commenced in 2008. This GS had also faced a number of challenges in consolidating disparate academic units during the post-structure period as a larger number of academic units came under the umbrella of the COSE and the GS than were the case in the other newly-formed Colleges.

Indeed this issue of the challenges and opportunities inherent in the diversity of research areas and organisational units of the GS was highlighted in the initial panel discussions as something to be explored within the Review discussions. In particular, how the GS has dealt with the diversity they have inherited without compromising the independence of the academic units or the ability of the GS to be effective in its role. The documentation submitted by the GS was thorough and provided some useful reflections. The Review process provided an opportunity to further discuss and reflect on these issues.

Issues that were initially highlighted for exploration based on the reflective review and accompanying documents submitted by the GS were:

- lack of an evident strategy in the documentation and/or how GS or College-level strategies linked to each other and to institutional strategies;
- communications issues with staff and students, both due to the complexity of the College and to the information overload that is reported as a recurrent problem across the University;
- areas of weakness in the Postgraduate Research Survey results, especially around induction and career development for students;
- apparent declining or static student numbers;
- the development of a robust research culture / community within the GS and the College more broadly.

Areas of Strength

The Panel noted that a laudable accomplishment of the GS is that they have succeeded in establishing robust processes and procedures in the face of a number of challenges – for example, the complexities of reorganisation due to the restructuring process, the diverse nature of the College and its Schools, and the additional workload associated with the implementation of MyCampus with a limited staff complement. Even with significant staff changes, such as the change in Graduate School Administrator for the second time in less than two years, they have a team that works well together and seem to have clear lines of responsibility and processes that are fit for purpose. The College also employs a Business Development Manager to focus on industry partnerships and is in the process of hiring a Recruitment Conversion and Marketing Officer to improve communications, such as on the GS web pages – both of these posts work very closely with the GS.

The GS has also developed robust systems for allocating scholarship monies and attracting external industrial partners to increase the number of students they are able to fund from their studentship grants. This was especially reflected in discussions with Postgraduate Convenors and supervisors who were very appreciative of the system and their ability to leverage their funding into additional studentships. Further, studentships within the School of Engineering are all badged as James Watt Scholarships to give a sense of coherence and identity to the scheme.

Scholarships and recruitment processes are an area where PG Convenors and supervisors feel that their relationship with the GS works very well. Processes are clear and funding issues are handled quickly which is very useful to supervisors. Further, the flexibility that comes with GS level administration of funding has meant that more students are able to be funded and more staff engaged to get funding for their students.

While the Panel was concerned that student numbers were static, and perhaps declining, the GS disagreed that this should be perceived as a negative trend. They noted that considering the decline in studentship grant money and the challenges faced by international students in navigating visa requirements that the GS was succeeding by maintaining numbers and in attracting external partners to stretch their studentship income. It was further noted that while student numbers seemed static, that application numbers were up and that it was a matter of getting the best students that they could afford to support through studentships rather than just getting more students. Further, there were unresolved issues around the quality of the data on student numbers available centrally due to the migration of information from the old student system to the new student system and this made it difficult to be certain that the current year's information was entirely accurate for the purposes of comparison.

The GS actively encourages academic staff to bring companies into various types of engagement with the GS and estimate that this proactive approach had brought in around £600,000 of additional funding. This is further developed in the promotion and development by the Graduation School of 'industry days', of which two have been held to foster connections with external partners.

The development of international opportunities was quite strong within the GS. While some opportunities are primarily at an undergraduate level at the moment, e.g. delivering the BEng in Singapore and China (Chengdu), it is anticipated that the further development of these relationships will result in additional PGT and PGR students, opportunities for student and staff mobility and productive research relationships. The GS has recognised that while income (and therefore motivation to pursue these opportunities) comes from undergraduate programmes which can cater for large numbers, the possibility for developing robust and interesting research links stems from alliances made in forging these undergraduate partnerships. Further Professor Cooper has spent a significant amount of time travelling in China and the Far East to meet with potential partners and provide them with details of the models of external engagement developed by the University. These partnerships potentially will enable students from the College to have additional opportunities for mobility and to develop international experience.

Induction is an area that was discussed at length with the students attending the Panel. While, they did not express consistently positive views of induction as they have experienced it, the GS has clearly tried, during the two years since the restructure, to develop a coherent and wide ranging programme and to fine-tune this based on feedback from students. This is an ongoing process of improvement but one the GS has embraced.

Collecting student feedback and creating student-led opportunities was also evident in the GS' reflective report. Where processes or changes had to be implemented, the GS made efforts to directly collect the views of students to inform their decision making. They have a

PGR student representative who sits on their Graduate School Board and is able to give a student perspective to management decision-making within the GS. The GS has developed two sets of thematic workshops, 'Changing the World' and 'Technologies of the Mind' which are meant to be student-led and foster community across the diverse subject areas. While the numbers of students actually engaged in providing feedback is relatively low, in terms of surveys responses or numbers of student representatives, the GS felt that the engagement achieved was more personal and meaningful.

When queried about processes surrounding Progress Review, the GS confirmed that they and the Graduate School Board have fully reviewed their current processes during the previous year and adopted the standard review form agreed by the Deans of Graduate Studies Committee. Progress reviews were currently underway and not all students would have been through the refined process as of the date of the Review. However, anecdotally, supervisors felt that students appreciated the value of the process after having completed it.

The Graduate School also informed the Panel of their plans to develop and implement a formal programme of supervisor training during 2012/13. This has been agreed by all of the Deans of Graduate Studies for implementation across the institution but Professor Cooper was emphatic about the positive role that this training programme would have in developing community, improving communications and the knock-on effect for the student experience of greater supervisor awareness of policies and procedures.

Areas reported to be under development by the Graduate School, with the intention to increase awareness, communication and community are:

- the development of a more robust induction period for students;
- the development of a transferable skills training brochure to better inform students and their supervisors of available training opportunities;
- further development of their web pages;
- the development and delivery of a supervisor training programme.

Areas for Development

While there were a number of notable strengths demonstrated by the Graduate School, there were several areas highlighted that might benefit from additional attention or resources devoted to their development.

The lack of a visible strategy was noted by the Panel. It was felt that the GS should invest some effort in taking stock of where they are and where they want to go / want to achieve and link this in to a broader College strategy. It was agreed that a clear sense of the purpose and vision of the GS should be articulated and that this would help them to develop a sense of identity and more of a sense of community and belonging with their internal stakeholders. The GS needs to find better ways to demonstrably add value to students and supervisors so that it is widely understood what their role is and what positive contributions they make to the PGR experience. The response of the GS to this discussion was that while there was no overarching strategy in existence currently, the GS felt that the sum of their current activities amounted to a strategy, however loosely articulated. The Panel agreed that a more joined up approach would be beneficial.

It was also noted that a stronger dialogue with stakeholders, both internal and external, might be useful. The GS has a wide range of links with external industrial partners but there was less evidence of strategic partners in evidence with multi-level or multi-student relationships. The relationships with external partners tended to be ad-hoc and bottom up, driven by individual staff members. However, the GS does participate in Doctoral Training Centres, in the delivery of the EngD with the Institute for System Level Integration and in various international agreements.

The Panel suggested that a Strategic Advisory Board be set up to provide some guidance to the GS and to help tap into the external community. It was felt that opportunities had been missed to engage with users and industry in ways that are not just about funding but also about enhancing recruitment and creating career development and mobility opportunities for students. Further, the Panel suggested that involving stakeholders such as alumni and industry partners might be helpful in bringing vibrancy to the community they were trying to establish as well as having other benefits in the relationships and partnerships that could be facilitated.

Restructuring was, among other things, meant to facilitate inter-disciplinarity and it was perceived that the GS could be missing opportunities to develop a vibrant and diverse research culture. Students reflected that their primary relationships was with their group or School and didn't have an understanding of the role of the Graduate School. There was tension, not necessarily in a negative sense, between establishing culture and community as well as a sense of belonging to the GS without interfering with School relationships. This College in particular is large and complex and the GS has found it challenging to establish their identity and the value that they add in ways that are clear to students and supervisors. Clearly, achievements in building community and identity are a process over time rather than a single event but the Panel did feel that this was an area in which the GS had an opportunity to develop its role.

It was also clear to the panel that the Graduate School was under-resourced. While the GS took great pains to prioritise work that was related to PGR students, it was clear that they were battling to keep abreast of the workload. Additional resource would improve this situation as well as allow staff some space to reflect on their achievements and the challenges ahead.

The Student Experience

Students reported to the Panel that by and large they engage with and feel an allegiance to their research groups and their Schools, and in some cases Scotland-wide Research Pools, but not particularly with the GS or College. They, however, report that this is not perceived as something that is missing in and of itself. Discussions, however, highlighted some areas for development, such as induction processes and professional and career development where the Graduate School might carve a very useful place for itself.

Communications issues featured quite strongly in discussions with students and they expressed a lack of awareness of the opportunities, such as workshops and training courses, which were available to them through the Graduate School as well as across the institution. In exploring this issue, it was apparent to the Panel that there are number of challenges in providing information to students, not all of which can be addressed directly by the Graduate School. Students are inundated with information and highly focused locally on their work, supervisors and research groups. Students noted as well that they often have a number of email addresses which adds to the traffic in their email accounts, not all of which they check regularly.

Students reported that there were a number of research group or School level activities in which they were required to participate which reduced the amount of time available to them to undertake other courses or attend events, seminars or workshops of interest to them. There was confusion between what was compulsory at School level, what other requirements or opportunities there were in addition to these compulsory activities and how training linked in with the Progress Review process. This latter issue about Progress Review should be resolved as the GS has examined their processes and implemented a new form (agreed by all 4 GSs) to record progress review information. All students from 11/12 will have experienced the enhanced form at their Progress Review – but not all student Panel members will have undertaken their Progress Review by the date of this Review. Further,

the Graduate School is in the process of compiling a transferable skills training brochure which should clarify what is available as well as what the annual requirements are.

Students also mentioned a perceived lack of opportunity to meet with other students in quasi-professional settings, such as for internal poster competitions, student conferences, etc. While there is no lack of available training or available developmental activity outside their research groups, students are not always aware of what is available. It is particularly notable that students were mostly unaware of the interdisciplinary research networks that exist across campus and of their entitlement to join them.

The Graduate School, while unable to influence the volume of communications sent to students from across the institution, should be mindful of the challenges inherent in getting their messages heard by students when choosing how they communicate. Centrally, the PGR Service should review how information about centrally organised seminars, training courses and competitions are communicated, how information about research networks and network events are communicated and ways to better foster student engagement with the networks.

Both student feedback and the Postgraduate Research Experience Survey (PRES) results indicated that the current induction processes would benefit from further development.

Students offered a number of criticisms:

- it was a one-off event with no follow up so engagement was limited;
- too much information was presented at once and not all information was relevant at the time it was presented;
- it was too 'one size fits all' as students started their PGR life from different points – some already had been students at Glasgow;
- it was mainly a series of presentations or talks and too few opportunities for interaction.

Students did however report that they kept some of the documentation provided to them at induction for ongoing reference.

Students highlighted that they had concerns about their future career development and did not feel well-supported in this area. They reported not really knowing where to begin to explore opportunities outside academia, except in subjects such as chemistry where it was perhaps more common to move into a career in industry. While there a number of services that may take a role in facilitating an exploration of future employment prospects, such as the Careers Service, the PGR Service and the Learning and Teaching Centre, it was felt by the Panel to be a potential opportunity for the GS to develop their role in this area.

Students also noted that they were not sure who to speak to if they did not wish to discuss certain issues with their supervisors and felt a lack of pastoral support or mentoring. The GS supplement to the PGR Code of Practice stipulates that students should have a second supervisor (as distinct from a co-supervisor) that should fulfil this more pastoral role. However, in practice, it appears that students are not sufficiently aware of this.

Students and staff noted both confusion and dissatisfaction with MyCampus (where they had experienced issues such as difficulty registering, incorrect taxation, delays to payments and over- or under- payments). This is a central issue for the institution rather than for the Graduate School. Efforts are being made in the 'Lessons Learned' evaluation process taking place during the Summer of 2012 to learn at an institutional level from the issues that students experienced. Further, staff working on the Student Lifecycle Support and Development Team (SLSD) are engaging front line staff in a series of 'liaison groups' and 'specialist user groups' and feeding this into ongoing operational improvements to the system. Supervisors and PG Convenors were not always able to provide guidance about

these issues as they also experienced a lack of information and/or information overload in trying to interpret what was available and how the new system worked.

Recommendations and Conclusions

The recommendations of the Panel can be summarised as follows

Broadly:

- the GS needs to develop a strategy and articulate a clear sense of purpose and vision and the University and/or College should assist the GS in creating space for strategic thinking;
- more effective communication loops need to be developed in order to get relevant messages out to students and to staff and to be clear about the role and value of the GS;
- the GS should be looking for ways to take the lead in generating a sense of belonging for staff and students without interfering in existing relationships;
- the GS should be taking the lead in developing a vibrant research culture and fostering inter-disciplinarity;
- alumni should be more involved in a number of ways such as to provide links to industry, developing placement opportunities and to mentor and support students.

Specifically:

- the GS should produce a strategy and this should be linked to and supportive of (or possibly embedded within) a College-level Research Strategy;
- the GS should consider the institution of a Strategic Advisory Board;
- additional resource should be made available for the GS in the form administrative support and possibly in the appointment of a Deputy Dean(s);
- induction processes need to be improved and the GS needs to find ways to extend and enhance this opportunity for engagement with students;
- students have expressed the need for a mentor / advisor to support them and the GS should examine ways to make this possible;
- students have expressed a lack of support for developing their understanding of career prospects and the GS should consider developing their role in this area;
- GS plans to develop a training brochure and to enhance their web pages should be realised.

External to the Graduate School

- the Research Strategy and Innovation Office and the research networks need to examine how they attempt to engage with students and improve student awareness of the potential benefits of becoming involved with the networks;
- the Research Strategy and Innovation Office should review the ways in which they communicate opportunities to students to ensure maximum engagement with the opportunities made available for PGR students;
- the Deans of Graduate Studies Committee should review the wording of the institution-level PGR Code of Practice around the role of second supervisors and consider the variations to how this role is perceived or implemented in other Colleges;
- the University should consider articulating its strategy with regard to pursuing Centres for Doctoral Training and provide leadership to the GS's in order to facilitate the development of these centres;
- the University, in particular the SLSD team, should continue the work it has begun to examine the 'lessons learned' from the implementation of MyCampus, continue to work with its stakeholder groups and continue to make improvements on how PGR student data is managed and to how students experience the system.

In conclusion, the Panel wishes to acknowledge the size of the challenge and the complexity of issues that the GS has faced and note that their achievements to date are significant. The GS has provided a detailed response to the Panel and reflected usefully on the current state of play within their operations. It was acknowledged that the processes in place for managing students (such as applications, registration, etc.) and maximising scholarship income were robust and effective and that the GS was working hard to make sure that University policies were fully implemented and adhered to by staff and students. The Panel also noted the diverse range of subject areas that come under the umbrella of the GS and that there are no issues with the currency or validity of the research being conducted. Indeed the GS has developed a thriving scholarship programme which attracts high quality students and lucrative external partnerships.