

# UNIVERSITY OF GLASGOW

## Academic Standards Committee – Summer Powers

### Periodic Subject Review: Report of the Review of Geographical and Earth Sciences held on 16 and 17 February 2015

Ryan Reed, Clerk to the Review Panel

**Review Panel:** Professor Jim Conroy (Convener), Dr Alan Boyle (University of Liverpool), Professor Mike Heffernan (University of Nottingham), Mr Liam King (SRC Students Representative), Professor John McColl (Cognate Academic), Professor Karen Lury (Senate Assessor on Court), Dr Amanda Sykes (Learning and Teaching Centre), Mr Ryan Reed (Clerk to Review)

## 1. Introduction

### 1.1 Background information

Teaching of both Geography and Earth Sciences has a long and distinguished history at the University of Glasgow stretching back over 100 years. The School of Geographical and Earth Sciences (GES) was formed in 2010 during a major restructuring exercise at the University of Glasgow, in which GES became one of seven Schools in the newly constituted College of Science and Engineering. Prior to 2010 the School, in its present configuration, was a Department in the Faculty of Physical Sciences. The major reorganisation leading to the structure still in place within GES was a merger, in 2005, of the former Department of Geography & Geomatics with the then Division of Earth Sciences. GES is based in two locations; on one side of the East Quad of the Gilbert Scott Building and in the Gregory Building.

The School offers two undergraduate programmes. Geography is offered as a Single or Joint Honours degree and there are a very wide range of Joint Honours options available across the Colleges of Science and Engineering, Arts and Social Sciences. The BSc in Earth Sciences is also offered with Joint honours in Archaeology. There are eight taught postgraduate degrees offered, including an MRes in Human Geography.

The School operates under a single management structure and there is a School Learning and Teaching Committee (SLTC) which oversees learning and teaching activity across the School. The SLTC is convened by the School's Head of Learning and Teaching. There are also Heads of Teaching appointed to the disciplines of Geography and Earth Science.

In 2014/15 the School had 512 (FTE) undergraduate and 63 (FTE) postgraduate students. At the time of the review there were 30 FTE teaching staff, meaning that the staff-to-student ratio across the School was 1:19.2. However, the Panel acknowledges that this ratio belies the considerable variations that exist across the disciplines within the School.

The Panel received a Self-Evaluation Report (SER) from the School which was produced by a core group of staff, but which involved and invited input from all staff and students. The SER was well-structured and provided much reflective analysis, which was of great help to the Review Panel in carrying out the Periodic Subject Review (PSR). The Panel **commends** the high quality SER and the levels of engagement of both staff and students from across the School in the development of the report and the wider process of the PSR.

During the review the Panel met with both students and staff, and were given a tour of the School's buildings and facilities. The Panel met with a total of 32 undergraduate

students from both disciplines and 8 postgraduate students. Staff meetings were very well attended by staff (academic, technical and management and administrative) from within the School. The Panel would like to thank all of the students and staff who attended the sessions as part of the Review for their time, enthusiasm and constructive input.

## **2. Context and Strategy**

### **2.1 Context and Vision**

The vision of the School was to enable the University to be recognised as a world-class institution for the teaching of Geography and Earth Sciences. In the context of both UK and Global league tables the School were already succeeding in the realisation of this vision, with rankings in the top-ten of many of the UK subject tables and in the top 50 of a number of the global subject tables.

The School explained that their *approach* was to exploit strengths developed through multi-disciplinary research, to provide innovative and research-led teaching and student engagement. The *goal* of this was to ensure that students had the breadth and depth of subject-specific and generic skills to succeed in their chosen profession and endeavours, particularly considering the fast-changing world into which students would graduate.

In regard to research-led teaching the School had a great many strengths to draw upon, as the recent REF 2014 results had emphasised. Research, considered across two units of assessment, had led to the School's Human Geography research being ranked first in the UK for world-leading and internationally excellent (4\*+3\*) research and for published work. The School's Earth Science research was first in Scotland for world-leading (4\*) publications and the School was considered the best research environment in Scotland for Earth Sciences.

The Panel found a strong alignment between the Schools' stated vision, approach and goals, and the evidence received by the Panel both before and during the review visit. In particular the focus on quality and innovation within learning and teaching practice was very clearly a priority for the School and there was evidence that this was embraced across disciplines.

### **2.2 Strategic approach to enhancing learning and teaching**

The Panel was of the impression that learning and teaching was of high quality, and this was supported by the comments of students both through formal surveys and during the review. The National Student Survey (NSS), for example, showed that 100% of respondents across the School felt that 'staff were good at explaining things' and that 89% of Geography and 97% of Earth Science respondents felt that 'staff [had] made the subject interesting'. In the course of the review and on their own volition a significant proportion of undergraduate and postgraduate students commented that staff in GES were excellent at delivering interesting and dynamic content, both through lectures and in the field.

There was clear engagement with the development of the 'scholarship of learning and teaching'<sup>1</sup> and the School and individual members of staff were clearly prioritising the experience of students, from both an academic and pastoral point of view. The student experience was of the School as a 'learning community'. There was a clear awareness

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<sup>1</sup> Geography and Earth Sciences, PSR Self-Evaluation Report 2015, para 2.1.1

of the important role that residential fieldwork, peer relationships, and communication between staff and students played in supporting learning and teaching. A conscious engagement with these, ostensibly less tangible, but very important factors was plainly evident in the comments from both individual students and members of staff.

The Panel **commends** the School for the strong and productive relationships between students and staff within a cohesive 'learning community', which undoubtedly underpins the enhancement of learning and teaching.

The high number of successful applications to the University's Learning and Teaching Development Fund (LTDF) and the Chancellor's Fund, was indicative of the efforts made by the School to build coherent links between School, College and University strategies and plans.

The Panel **commends** the School for the excellent work done at all levels to deliver interesting and relevant programmes, supported by the continuing enhancement of learning and teaching.

To *further* develop a strategic approach, the Panel **recommends** that the School consider how it might disseminate examples of good practice in learning and teaching across the School in order that a strategic and, where appropriate, systematic approach to enhancement can be secured. Whilst the Panel acknowledged the need to maintain distinct disciplines within the School, and that learning and teaching approaches would be necessarily different depending on both the students and the courses and programmes being delivered, it was of the view that some practices could be more effectively shared and embedded across the School, perhaps in some cases leading to greater efficiency.

### **3. Enhancing the Student Experience**

#### **3.1 Admissions, Retention and Success**

In common with many other undergraduate degrees at the University there was a very flexible programme structure in place for both the Geography and Earth Sciences undergraduate degrees. Students were able to choose relatively freely from a wide range of courses offered across a number of Colleges.

The proportion of students who identified either Geography or Earth Sciences on UCAS applications had been relatively consistent and retention within the School of this initial proportion was very good, at approximately 95%. There was a significant movement of students from the Geography to the Earth Sciences degree at Honours Level, however this was not considered to be a concern given the current levels of movement from one to the other. This trend may have reflected the fact that Earth Science was not a subject explored in any depth through the school curriculum, and therefore students may be discovering their interest in this discipline as part of their experience at the University.

Level 1 and 2 student numbers were, to a significant extent, made up of students not intending to study GES Subjects at Honours. College entry to GES programmes, amongst a number of other factors, had caused large fluctuations in student numbers and the impact of this on staff and facilities was significant. Level 1 numbers within Earth Science were growing significantly and in both 2013 and 2014 the number had been more than double those in 2011 and 2012, and was significantly above the ideal maximum numbers for the subject. There was a concern that many students (10 – 15%) were there because they had 'no other choice' available to them, and were therefore less likely to be invested in their study.

Members of the School leadership and academic staff considered that changes to College regulations in other parts of the University had placed additional pressures on

GES during the last two years in particular, because of the impact of such changes on Level 1 intake. The School was entirely supportive of the flexible degree model which exists at Glasgow, however it was clear that this did create difficulties when the overall movement of students was not monitored and policies and regulations not coordinated at a strategic level. If the numbers continued to grow the Panel was of the view that the School and/or College may have to consider whether capping course numbers would be appropriate and what steps would be required to put this into effect.

The Panel **recommends** that the College of Science and Engineering, and where appropriate other colleges, consider how changes to regulations across colleges, capping of student numbers on some courses (not in GES), and the resulting movement of students is impacting on GES and other Schools or Subjects. Further, there should be consideration by the College of Science and Engineering of what could or should be done to alleviate any particular pressures. Academic Standard Committee may wish to consider any response from the College(s) and decide whether any further action is required. The levers available to Schools to mitigate against such adverse impacts were limited within the current flexible structures. This made operational management of the associated issues extremely challenging. For example, coping with large fluctuations in student numbers from year to year, and the impact of high numbers on accommodation, the organisation, staffing, and timetabling of sustainable laboratory and field courses, the supervision of undergraduate research projects and related use of specialist equipment, and on the overall workload of teaching staff presented the School with particular difficulties (discussed further at 5.2).

### **3.2 Equality and Diversity**

The School had recently secured an Athena Swan Bronze Award for its work on supporting and promoting equality. The Panel **commends** the School for this achievement. More generally, it was evident to the Panel that staff had an appropriate awareness of equality and diversity issues. Staff and students who were asked about equality and diversity were of the view that there were no known issues within the School. It was pointed out that the student (particularly postgraduate), and indeed the staff, population was internationally diverse.

One area where issues of equality were raised was in regard to fieldwork, especially residential fieldwork, and particularly that undertaken during holidays. This, in turn, was linked to the issue of professional accreditation for the Earth Science undergraduate degree, which is explored further at 6.1.2. The School acknowledged that fieldwork imposed additional costs on GES students as fieldwork was not funded or subsidised by the University, but maintained that it was absolutely critical to the development of subject knowledge and skills.

The accessibility of some fieldwork experiences, and indeed the School buildings, to students with physical disabilities was raised by the Panel. The School explained that reasonable adjustments could and would always be made to allow the fullest possible participation and access. However, in the case of fieldwork, the School acknowledged that there was the possibility that some needs may not be accommodated where the need to undertake field classes was a fundamental and integral element of developing the necessary disciplinary skills and/or knowledge, and the necessary adjustments would render the fieldwork experience ineffective in that regard. The School worked with applicants at an early stage to establish the needs of learners and was able to provide advice so that potential students could make an informed decision about the suitability of the programmes offered.

### **3.3 Supporting Students in their Learning**

#### **3.3.1 Support mechanisms**

The School focused heavily on providing a welcoming and supportive learning environment. To a significant extent the strategy of the School in supporting students was dependent on staff engaging with students on an individual basis – there was a *culture* of providing support and ‘being human with students’, as one member of staff described the approach, rather than a rigid *system*. This was clearly an extremely important element of the positive student perceptions of the support they received. Academic, technical and administrative staff all played an important role in supporting students. Students explained that they received high levels of individual attention in terms of supporting their learning and many commented that staff were always available to provide advice should they be asked.

Academic staff clearly ‘knew’ their students well and had a good understanding of their learning needs. All staff took on guidance roles, formally or informally, through an ‘open door’ policy which was particularly valued by students. Students said they felt part of a ‘community’ and valued the inclusive and equitable culture which engaged both undergraduate and postgraduate students in the academic life of the School and its staff. It was evident that in many ways the high levels of support offered to, and the associated awareness that staff developed of, their individual students, provided a firm foundation for the delivery of high quality and well-pitched learning and teaching.

It was important to recognise that students themselves played an important role in supporting one another, both through formal and structured roles such as acting as Student Demonstrators or Graduate Teaching Assistants, or in less formal capacities such as through student societies. Student participation also underpinned the provision of a buddy system for international students.

The Panel **commends** the School on the high levels of student support provided and the *culture* of support that exists across the School at all levels.

### 3.3.2 Support for transition and induction

The School was aware of the importance of supporting transitions into, within, and beyond the programmes offered, and this was detailed in the SER.

A number of strategies were used to support new students and to address concerns or questions, for example by using ‘clicker’ surveys and providing access to panels of current students to address questions from a student perspective. Individual concerns from undergraduate students were also passed to Level 1 teaching staff so that on-going support could be provided in the early stages of study. Approaches to learning and teaching and the structure of laboratories and seminars were intended to encourage the creation of peer relationships, for example by requiring group activities. Dedicated Level 1 teaching staff (Earth Sciences), Undergraduate Demonstrators and GTAs provided consistent and familiar points of contact, further supporting transition into the programmes.

New postgraduate students undertook a three day induction process, including tailored sessions for individual programmes or groups. This process comprised a general introduction to the University, the nature and expectation of Master’s level study, University regulations, and the programme handbook. Arrangements were also made for writing skills sessions, visits to the library, and joint social gatherings with the opportunity to meet staff across the programmes. Postgraduate students were allocated to an Advisor of Studies, normally a Programme Leader. Additionally, students on postgraduate programmes benefitted from out-of-hours access to the School’s facilities, including two study rooms.

Students were generally very well supported through transitions *during* their study and curricular progression appeared to be well conceived. Writing skills courses were

provided at Level 1 (as above, as part of induction) and Level 4 to support new students and those about to undertake their undergraduate dissertation respectively. However, the Panel suggests that the School consider providing the Level 4 input on writing skills earlier in the programme, perhaps at the start of Level 3 study. This would ensure that students had the benefit of this during Junior Honours and had the opportunity to develop their skills from a better foundation at that point.

Support for the transition to graduation was provided informally from a relatively early point in the degree programmes. Staff were reported as willing to provide a wide range of career advice or advice on further study. The School reported that the use of and access to Alumni groups on LinkedIn was becoming established. These matters are explored further below in the Employability section at 3.4.2.

### 3.4 Student Engagement

**Clerk's note:** Student engagement includes consideration of how students are engaged with the process of learning, often as a *result* of learning and teaching practices, the experiences provided or facilitated, and the suitability and alignment of those practices and experiences with the needs and aspirations of learners. However, it can also refer to the engagement of students in the development, construction or enhancement of their learning; for example, through engagement in curriculum design. In short, it is concerned with how students are engaged *in* providing the inputs to an effective and engaging curriculum or series of learning experiences, and how engaged they are *by* the delivery of and their experience of the end product. This section deals with both aspects.

The School had developed a number of approaches to engage students in their learning. Some approaches were simply necessary for the teaching of practical skills associated with the Subjects, for example in being able to conduct fieldwork, or do laboratory work. However, the School had capitalised effectively on the opportunities that such approaches presented to further engage students. Students were particularly enthusiastic about the value of fieldwork, in building a deep understanding of the subject and developing associated skills. An example of this was the Level 3 Geography fieldwork in Mallorca, where the students were required to play a major role in designing, planning and executing their individual project work. The residential aspect of fieldwork was also mentioned as an excellent opportunity to build wider relationships and was highly valued by students.

Students were encouraged and supported to take an active role in the development of their own projects and research. Students commented that these opportunities were valuable in helping them to articulate their knowledge, skills and achievements to others. Staff and students had also collaborated and published articles in academic journals, providing students with real research experience.

Students were increasingly involved in curriculum development, for example in developing the Science Skills course. The School was of the view that this had enhanced engagement across all levels and programmes and that feedback had 'certainly highlight[ed] the importance placed by students on being more closely involved in the design and execution of their own curriculum.'<sup>2</sup>

Student involvement in peer-to-peer learning mechanisms, such as the use of student demonstrators in Level 1 and 2 laboratory classes was popular among students. There were, in their view, opportunities for progression from these roles if they were to pursue Postgraduate studies, for example in the role of a Graduate Teaching Assistant.

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<sup>2</sup> Geography and Earth Sciences, PSR Self-Evaluation Report 2015, para 3.4.1

The Panel **commends** the School on the levels of student engagement within the School, both from the point of view of their engagement *with* the *process* of learning through relevant and challenging experiences, and their engagement *in* the design, creation and support of their own and others learning. It was clear that the student experience and student engagement was a priority for the School.

Some approaches to engaging students were particularly innovative. An example of good and innovative practice was the creation and use of 'Rock Around the University'. This resource addressed one of the basic skills in Earth Sciences, the ability to reconstruct objects in 3D, while observing them in 2D.<sup>3</sup> The resource provided an accessible, familiar environment in which key geoscience skills could be developed on the University campus. The Panel **commends as good practice** the innovative development and use of 'Rock Around the University'<sup>4</sup> to engage and develop students' knowledge and skills and to enhance the teaching resources available to the School.

### 3.4.1 Graduate Attributes

The development of graduate attributes was embedded in the curriculum, and Intended Learning Outcomes (ILOs) incorporated these effectively. Staff encouraged students to use e-portfolios to record and reflect upon their developing skills and attributes. Students were able to talk comfortably about the attributes they were developing through study in the School.

The School has been a recipient of a number of Learning and Teaching Development Fund (LTDF) awards – nine in total since 2010-11. A proportion of these were intended to support the development and recording of graduate attributes. For example, one project focused on the use of Mahara to build e-portfolios detailing the development of graduate attributes for a group of students in the School, with a view to sharing these experiences across the University.<sup>5</sup>

The School had been proactive in identifying, and developing a response to, the need to develop entrepreneurship in students. A session on entrepreneurship was organised for Level 4 students in 2013-14, with contributions from the Scottish Institute for Entrepreneurship (SIE) and the University's Enterprise Manager. The School explained, however, that this was poorly attended and that the University's Enterprise Manager suggested that it might be more appropriate to trial this with Level 2 students. This was taken forward in 2014-15 but engagement was still less than optimal. There were reports that some students did not see the relevance of such sessions.

The Panel suggests that in regard to engaging with entrepreneurship, in the first instance the School focuses its efforts on the development of enterprise skills, rather than on entrepreneurship education; "[e]nterprise is defined here as the application of creative ideas and innovations to practical situations. This is a generic concept that can be applied across all areas of education. It combines creativity, ideas development and problem solving with expression, communication and practical action. This definition is distinct from the generic use of the word in reference to a project or business venture."<sup>6</sup> The Panel was of the view that both Geography and Earth Sciences, as disciplines, provided ample opportunity for the development of enterprise skills, and indeed was of the view that these skills were already being developed in students. It may be that

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<sup>3</sup> <http://www.gla.ac.uk/schools/ges/rockaround/>

<sup>4</sup> LTDF Report available: [http://www.gla.ac.uk/media/media\\_293568\\_en.pdf](http://www.gla.ac.uk/media/media_293568_en.pdf)

<sup>5</sup> LTDF Report available: [http://www.gla.ac.uk/media/media\\_293566\\_en.pdf](http://www.gla.ac.uk/media/media_293566_en.pdf)

<sup>6</sup> From a useful QAA overview on the matter, accessed on 1.4.15 <http://www.gaa.ac.uk/en/Publications/Documents/enterprise-entrepreneurship-guidance.pdf>

students need to be made more aware of the applicability of these generic skills to an enterprise environment. Their development as an integrated and embedded part of the student learning experience should be highlighted wherever possible. It may also be that, should this happen, later exposure to focussed input on entrepreneurship would sit more coherently within the student experience and might lead to higher levels of engagement.

### 3.4.2 Employability

The School was aware of the importance of employability and there were evidently efforts to support students in terms of building an understanding of the relevant employment markets and providing more systematic opportunities to access advice. Students consulted individual GES staff about career prospects and opportunities, as a consequence of the School's Open Door policy. Drop-in e-portfolio sessions were also advertised to all Geography and Earth Science honours students as part of careers provision. A dedicated session on e-portfolios and online professional networking (Mahara and LinkedIn) was delivered to all taught postgraduate students. The School utilised professionals working in the relevant sectors to provide components of some courses.

The use of Alumni groups, particularly on LinkedIn, embedded within the University's wider Alumni network was welcomed by students. The School reported that these groups contained approximately 300 members and now covered Geomatics, Earth Sciences and Geography. Students commented during the review that a more structured use of Alumni networks would be beneficial and valued. An organised network of peers, who could provide informal careers advice and perhaps opportunities, would be particularly desirable. Further, some students suggested that broader examples of career opportunities, linked to the generic skillset and graduate attributes developed particularly through the study of Geography may be beneficial. Some students studying Earth Sciences suggested that there could sometimes be a narrow focus on careers in the oil and gas sector, and that whilst this was usually appropriate there were inherent uncertainties surrounding career opportunities in that sector.

The use of industry specific software and technologies was important to students, and some suggested that the use of this software more extensively and consistently throughout the programmes offered within the School may enhance employability. The Panel **recommends** that the School consider an 'ideal state' in regard to the physical and I.T resources that might be made available to students in light of the forthcoming campus redevelopment and investments and develop this into a plan that could potentially be used to present information and guide decisions in this area. This might be linked to a broader plan highlighted as part of the recommendation at 5.2. The Panel also suggests that the School keep under review the type of industry software which might enhance student employability and wherever practicable ensure that this is utilised as fully as possible in the programmes and courses on offer.

### 3.4.3 Internationalisation

The School had increased numbers of incoming and outgoing study abroad students over the last two years, although overall numbers remained relatively low – 6% of home students took part in a study abroad experience and there were 29 outgoing students expected (as of May 2015) which achieves the University target of 20% for academic year 2015-16.

The School had taken a number of steps to internationalise the curriculum and to provide students with an international experience as part of their study. For example,



the Earth Science 'Problem Solving' course involved students being informed in advance that they would be expected to attend a briefing in an 'overseas country', which was delivered as a presentation in Italian with appropriate illustrations and technical terminology. The entire exercise, which required the students to prepare a report for their 'company', was then completed in a single 2-hour session and included commentary from staff on how to prepare for such briefing sessions.

International recruitment into Undergraduate programmes in Geography and Earth Sciences was low, however 25% of taught Postgraduate students were international. Approximately 30% of teaching staff within the School were from outside of the UK and this provided an important international perspective to students.

The School had established some international collaborative activity which is outlined in section 7.

#### 3.4.4 Effectiveness of Feedback mechanisms

Students were of the view that suggestions and issues raised with staff were acted upon. A number of Postgraduate students commented that when they questioned a particular change, there had been an explanation that those changes were in response to student suggestions - the rationale for these was articulated fully. Students thought that this was valuable. Even though in some cases students would only be studying at the University for one year, they could see that their engagement in feedback mechanisms would have a positive impact on future students and this was motivational.

The School was systematic in its gathering of student feedback, both informally through individual and group interactions between staff and students and through the use of student questionnaires. There was strong documentary evidence that student feedback was considered in Teaching Review meetings and that wherever possible proper account was taken of student views on enhancement. This had led to a number of changes to learning and teaching approaches, the curriculum and the broader student experience within the School.

## 4. Enhancement in Learning and Teaching

### 4.1 Learning and Teaching

The School maintained a proactive culture of innovation and enhancement, both in terms of learning and teaching practice and curriculum design. The School explained that innovation at all levels, supported by staff-student partnerships, was integral to its approach.

The Panel recognised the School's efforts to enhance learning and teaching practice through promotion of the scholarship of learning and teaching. Staff were encouraged to take ownership of course design and develop their own practice in this area.

The Panel **recommends** that the School undertake a systematic curriculum mapping and review exercise to address a number of recommendations below which suggest approaches to increasing efficiency and further enhancing the excellent learning and teaching practice within the School. The Panel makes this recommendation in acknowledgement of the pressures explicated by the School in terms of staffing and physical resources. Further recommendations and suggestions below at 4.1.1, 4.2.1 and 4.2.4 cross-reference this paragraph and should be considered as expanding on this recommendation.

#### 4.1.1 Approach to Intended Learning Outcomes

Intended Learning Outcomes (ILOs) were appropriately constructed and on the whole made good use of observable and measurable active verbs, thus lending themselves to valid and reliable methods of assessment.

The School incorporated an appropriate mix of ILOs to cover knowledge and understanding, and skills and other attributes relevant to the disciplines of the programmes that it offered. There was also evidence, particularly in the programme level ILOs, of the importance of graduate attributes and their integration into the programmes on offer.

The Panel **recommends** that the School consider how, whilst continuing to support strong independent scholarship and practice, it might be possible to find further common ground in the development and delivery of shared or generic curriculum content. For example, where there is overlap in ILOs linked to the development of transferable skills, or other generic curriculum content, across programmes this should be highlighted to ensure that curriculum design and development takes this into account. This might lead to the delivery of additional common courses/teaching across programmes in Earth Sciences and Geography. This should be considered as part of the review recommended at 4.1

#### 4.1.2 Technology Enhanced Learning and Teaching

The School had already reflected upon and acknowledged the greater role that technology could play in the enhancement of learning and teaching. However, good use was already made of the University's Virtual Learning Environment (VLE) and this received positive comments from students.

The School is encouraged to pursue the actions already set down in its action plan to secure the recording of lectures in line with University policy,<sup>7</sup> and to further explore potential for the development of online and blended courses.<sup>8</sup>

### 4.2 Assessment and Feedback

#### 4.2.1 Range of assessment methods

The School used a wide range of formative and summative assessment methods. The weighting of assessment in terms of continual assessment versus examination was generally appropriate taking into account the credit value of courses on offer.

Staff were aware of the value of assessment as a tool for providing learning opportunities to students. For example, conducting summative assessment and providing almost real-time formal feedback during field classes to reinforce the development of discipline specific skills, despite the labour intensive nature of such approaches. This practice really added value to the learning experience of the students.

There had been suggestions from some external examiners that the *number* of assessments may be excessive. There were also a number of suggestions about the amount and type of feedback provided to students and its usefulness (considered at 4.2.4). The Panel was of the view that these issues may well be related; with the number of assessments perhaps necessitating the need for relatively brief feedback in

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<sup>7</sup> Geography and Earth Sciences, PSR Self-Evaluation Report 2015, para 7.1.8 (Action 3)

<sup>8</sup> *Ibid* (Action 5)

some cases, although it was acknowledged that assessment related activity was only a small part of staff workload.

The Panel **recommends** that the School undertake a mapping of programme and course level ILOs to their associated schemes of assessment, ensuring that ILOs are appropriately and sufficiently assessed but that there is not an unnecessary burden placed on students, or indeed staff. This exercise should ensure that a holistic view is taken of the number and type of assessments across courses, subjects and disciplines, appropriately linked to the aims and ILOs of the relevant *programmes*. The Leading Enhancements in Assessment and Feedback (LEAF) project would be a natural vehicle for these actions. Should an extension to the project be secured then the School might consider participating, and in any case may benefit from exploring the Curriculum Mapping and Assessment Blueprinting (CMAB) methodology utilised as part of the LEAF project.<sup>9</sup> Where necessary, assessment should be rationalised or modified and aligned to an agreed School and programme level plan for assessment. This should be carried out as part of the mapping and review exercise recommended at 4.1.

#### 4.2.2 Engagement with the Code of Assessment and assessment policy

The Panel were generally content that assessment practices were compliant with the Code of Assessment and were an effective implementation of the University's assessment policies. However, the Panel was made aware that there had been an agreed practice of only using three of the five secondary bands available under the primary grade 'A', meaning that in each individual assessment, students could receive a grade of A1, A3 or A5, but not A2 or A4. All five secondary bands were used when describing aggregate performance. There was a decision within the School to maintain this approach, as noted in the minutes of the School Learning and Teaching Committee held in December 2013.

The Panel **recommends** that the Academic Standards Committee consider whether the School should reinstate the use of the full range of secondary bands within all primary grades for each piece of assessment which is marked within the School. This issue was considered by the previous DPTLA review in 2008 and, at that time, in consultation with the Convenor of the Code of Assessment working Group a view was taken that the application of the Code of Assessment was appropriate. The Panel is of the view that this issue should be reconsidered by Academic Standards Committee, given the time that has passed and potential changes in practice since the time of the last review. This was last considered by the Academic Standards Committee in May 2009.

#### 4.2.3 Student performance and achievement

The Panel did not explore student performance in detail during the review, but was satisfied that performance was in line with Russell Group and Scottish sector norms. The School had provided the Panel with a detailed synopsis of trends in student performance and achievement and the overall picture was of increasing levels of performance. The number of 1<sup>st</sup> Class degrees awarded had also increased in recent years.

There was a suggestion that increases in performance might be attributed to increasing entry tariffs and that historical differences in performance according to route of entry (i.e.

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<sup>9</sup> See: <http://www.enhancementthemes.ac.uk/docs/report/dsc-final-report--university-of-glasgow.pdf?sfvrsn=12>

which College) were becoming less evident due to entry standards parity between colleges taking effect.

#### 4.2.4 Provision of feedback

The School had acknowledged that the provision of feedback to students was an area where the School could improve its performance considerably. Whilst NSS scores were on the whole extremely positive, they were less favourable with regard to feedback. The School had identified this as an area for development and had included actions to improve the provision of feedback in its action plan.<sup>10</sup>

The Panel was of the view that over assessment may have been adding to the workload of staff unnecessarily, and therefore limiting ability to provide timeous and detailed feedback. The Panel acknowledged that the School and each discipline had been responding to varied suggestions from External Examiners. The Panel believed that, if the School were to undertake a comprehensive and strategic review of assessment across the curriculum, as recommended at 4.2.1, it would provide greater insight into how well and how much students were being assessed. The Panel was of the view that this would then enable the School and each discipline to confidently respond to comments from External Examiners and support the assessment plans of the School and each discipline with a strong rationale. In turn, this would make providing timeous and constructive feedback more manageable.

The Panel agreed with the School's view that it may be that students did not always recognise when they were being provided with feedback, perhaps linking the notion of feedback closely to the written comments accompanying formal grades on summative pieces of work. The Panel agrees with the School that timetabling feedback sessions into courses is a good way of ensuring students recognise that they are being provided with formative feedback, by making this more explicit and visible.

The Panel recognised that many members of staff were providing feedback on demand to students through the School's open door policy. A number of students explained that they could ask staff for feedback and felt comfortable in doing so. However, as positive as this was, the Panel was keen to highlight that this should not be relied upon as many students would not be comfortable in doing this and, even if they were, providing feedback in this way is time consuming when dealing with large numbers.

The Panel **recommends** that the School review its provision of feedback to students and explore the introduction of timetabled feedback sessions, as outlined in its action plan. The School should ensure that there is consistency in the format and detail of feedback where possible and should continue to use 'feedback monitoring forms' as it does currently. The provision of feedback should be considered as part of the review recommended at 4.2.1. and again, the School may find the use of Curriculum Mapping and Assessment Blueprinting (CMAB) methodology helpful when considering the use of feedback.

## 5. Engaging and Supporting Staff

The staff from the School were actively engaged in the PSR process and a great many of them (nearly all) attended staff meetings during the review to share their views and provide constructive contributions. It was clear to the Panel that staff were dedicated,

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<sup>10</sup> Geography and Earth Sciences, PSR Self-Evaluation Report 2015, para 7.1.8 (Actions 6 & 7)

extremely hard-working and passionate about their disciplines and about the success of the School.

Staff were consistently clear that the needs of students were their first priority and it was evident that even when staff felt that they were stretched in terms of workload they were happy to 'go the extra mile' to support and prioritise students. Staff attitudes toward students were consistently warm and positive. The Panel was, nonetheless, made aware that resource and workload distribution across the School was a source of some concern for certain groups of staff, who felt that they were on occasion being disproportionately burdened, whether by nature of the particular requirements for certain sets of expertise or by reason of the staffing resource available to them. A simplified and transparent work load model would be helpful in addressing this issue; this is explored at 5.2. The 'open door' policy in the School was a major strength in the view of the Panel, however it did mean there was the possibility that workload distribution would be difficult to manage and the Panel discussed the importance of the School having this in mind when considering it approaches to workload modelling and distribution.

Issues of resources aside, the Panel was of the view that whilst there was a single School management structure there were certainly issues which were related to a specific disciplines within the School. Staff were keen to highlight that they remained advocates for all disciplines and all of their colleagues within the School, but maintained that the diversity and differences between the disciplines, Programmes and associated approaches to Learning and Teaching within the School were necessary and beneficial. The Panel acknowledged the diversity that existed within the School and recognised that each programme would necessarily have its own characteristics and features – this was to be nurtured and supported. The Panel was of the view, however, that there remained opportunities to share practice across disciplines without diluting the coherence of programmes or the disciplinary identities that remain strong within the School.

### **5.1 On-going support and development**

Whilst the Panel did not explore the issue of on-going support in detail as part of the Review, there was nothing to suggest that support for members of staff was deficient in any respect. All newly appointed staff were assigned an experienced mentor who worked with them to set objectives. The effectiveness of this approach depended on the interaction between the mentor and the new member of staff, which was monitored by a 6 monthly meeting between the Head of School and each new member of staff. The Panel was of the view that the strong 'community' ethos of the School provided a generally supportive and collegiate environment for experienced and new staff alike.

There was a feeling among some staff that in addition to managing a demanding academic workload they were on occasion being asked to undertake a great deal of administrative work; for example, allocating students to workshops or seminars. There was a perception that this work sometimes fell to University Teachers in particular, although examples of Senior Lecturers undertaking this work were also mentioned. Many staff suggested that the appointment of a Teaching Administrator would help to support staff more effectively and ease pressure on staff time. The Panel was informed that the College of Science and Engineering was already considering this issue and would be advising further in due course.

In order to reduce the administrative workload on academic staff the Panel **recommends** that the School consider how existing administrative staff might be supported to take a further proportion of the administrative workload. In the first instance, this might be facilitated through a review of convening roles, asking incumbents to identify the range of administrative tasks that are being undertaken by academic staff. In the longer term the School should liaise with the College of Science and Engineering on the possible appointment of a Teaching Administrator.

There had been a high turnover amongst University Teachers within the School in recent years and there were suggestions that a perception existed that there were limited opportunities for progression and development. There were also suggestions that contract renewals were executed at relatively short notice, leading to feelings of insecurity. In one case the Panel was informed that a University Teacher had been moved into a research and teaching position ahead of REF 2014 and then returned to a teaching only position afterwards. The Panel was of the view that this was not an acceptable practice, even though there was no suggestion that the motives for this were anything other than positive i.e. providing an opportunity to participate and ultimately gain from the experience. The Panel **recommends** that the School seek guidance from College Human Resources on the development and promotion of University Teachers to ensure that School practice is in line with University policy and that its University Teachers are provided with the best advice possible on advancing their careers. They may also wish to consult Human Resources on the existing roles and responsibilities of University Teachers employed in the different disciplines within the School.

#### 5.1.1 Support and training for GTAs

The support for Graduate Teaching Assistants (GTAs) was effective. There was a feeling amongst GTAs, in Geography in particular, that there was a structured framework for progression. Levels of responsibility were increased as GTAs gained in experience. Workshops were run by GES staff on aspects such as classroom management and teaching portfolios in order to create confidence in teaching but also to aid in career progression. GTAs in Geography had weekly teaching discussion meetings, received guidance from permanent staff and were also supported through feedback sessions. Lab leaders took part in a video feedback sessions, where the introduction to their class was filmed and then discussed at a later session with all of the lab leaders. Tutors were peer-reviewed and offered written and oral feedback on the observation. The Panel **commends as good practice** the support and guidance provided to GTAs in Geography, within GES.

### 5.2 Resources for Learning and Teaching (staffing and physical)

The nature of the programmes offered within GES, and the specific skills required to deliver some elements of the programmes, meant that the simple measure of the staff-to-student ratio was not wholly appropriate in managing staffing resources. The balance of certain responsibilities could fall on staff with the required skills disproportionately in some cases. With this in mind, it was extremely important that a transparent and effective staff workload model was implemented and shared across the School. The School did operate a workload model and was very aware of managing workloads effectively. The Panel **recommends** that the School audit its workload model with a view to ensuring that it is as effective, simple and transparent as possible.

Physical resources for learning and teaching within the School were being particularly stretched by the growing size of Level 1 classes, in particular in Earth Science. Some lectures were being delivered twice to accommodate numbers. Laboratories were reported to be at their absolute physical limit in terms of accommodating students. I.T facilities were reported to be inadequate for the current class sizes (see 3.4.2.) and some laboratory classes were also being repeated and timetables adjusted to cope.

The School was split over two sites and a number of suggestions were made that co-location would help to alleviate at least some of these issues. The recent refurbishment of three laboratories in the Gregory Building had helped to alleviate some pressures in Earth Sciences but shortages of some equipment and facilities continued to cause concern and difficulty to the School.

The Panel **recommends** that the School, in consultation with the College of Science and Engineering, considers its needs for the development of adequate facilities over the medium and longer term and develops a plan based on an 'ideal state' in this respect. Whilst it was beyond the remit of the Panel to recommend that further resources be allocated or facilities be provided, it was of the view that a documented and coherent plan, linked to the growth in student numbers and current plans for *future* growth, would support the School in articulating its needs effectively in the context of future campus investments.

## 6. Academic Standards

### 6.1 Approach to setting, maintaining and reviewing academic standards

The Panel was confident that the approach, processes and procedures employed to set, maintain and review academic standards were appropriate. The Review Panel, guided by the views of the External Subject Specialists, **confirms** that the programmes offered by the School/Subject Area remain current and valid in light of developing knowledge in the discipline, and practice in its application.

The School followed the correct policies and processes for course and programme approval, annual monitoring and external examining. The Panel agrees with the School that it could further enhance academic standards, particularly efficiency in academic administration, by consolidating and aligning processes for the sharing of practice across the School. The Panel encourages the School to pursue this.

#### 6.1.1 Subject Benchmark Statements

The School and subject disciplines had engaged effectively with QAA Subject Benchmark Statements, and had been involved in their development as appropriate. The Panel suggests that the School consider the recently developed Subject Benchmark Statement for Geography which was published in June 2014, if it has not already done so. This may be of particular use as part of the curriculum mapping process referred to at 4.1.

#### 6.1.2 Accreditation requirements

The undergraduate programmes within the School were currently both unaccredited. There was no professional body in operation with regard to accreditation of the Geography programme. Certain requirements of the professional body operating in the field of Earth Sciences meant that the School had decided against pursuing accreditation for the Earth Science programme.

The School was of the view that a requirement for a certain number of 'field days' by the relevant professional body for the Earth Sciences, the Geological Society of London, meant that seeking accreditation would at least to some extent increase the possibility of indirect discrimination where certain groups with protected characteristics were disadvantaged by the timing and cost of such fieldwork days. The School recognised that a large number of institutions with substantial and respected Earth Science programmes had sought and received accreditation, but highlighted that in many of those cases field courses were supported financially by the institution, with that support being derived from fees. The compounding nature of fieldwork taking place during holidays, and therefore restricting some students ability to earn or potentially care for dependents, in addition to the greater cost potentially incurred by increasing the number of compulsory field days was highlighted.

The School explained further that the minimum requirement of days was intended to ensure proper skills development. However, the School was of the view that the measure used by the professional body was not appropriate. Using 'days' of experience

to measure the efficacy of a programme to develop skills was not providing a balanced view of the various approaches that could be and were used to support students' development, and therefore had no sound pedagogical foundation.

Students who were asked about this issue explained that in their view the accreditation of the programme was not a significant factor in their selection of their place of study or the programme they applied for. More important was the standing of the Subject with UK and international league tables. There was a feeling that most employers seeking Earth Science graduates were not concerned about accreditation, and for this reason they did not foresee this diminishing graduate employability. The view of students that were asked about this issue supported the view of the School, that there were no tangible benefits to seeking accreditation.

The Panel **recommends** that the School revisit what options are available to secure accreditation for the Earth Sciences programme. If the School remains of the view that accreditation is inappropriate it should set out a clear and considered rationale which is available to students and anybody else with an interest. Whilst the Panel recognises and acknowledges the School's concerns both about the impact of additional field day requirements on students, and the Schools views on the relevance and efficacy of field days as a measure of student skills development, it is very important to be *absolutely clear* about the reasons for not pursuing the relevant professional recognition of the programme. The School is also encouraged to work in partnership with other institutions to make its concerns known to the Geological Society of London in a coordinated and concerted way.

#### 6.1.3 Other external references

The School had suggested in the SER that it may seek to benchmark programmes against those of other prestigious and internationally recognised institutions. This was suggested in part to alleviate any concerns about the lack of accreditation for the Earth Science undergraduate programme. However, the Panel was of the view that, subject to the recommendation at 6.1.2, this was not necessary unless the School believed there were other benefits to undertaking this benchmarking exercise.

## 7. Collaborative provision

The School had established an articulation arrangement with Sun Yat Sen University (SYSU) in China for the Earth Sciences undergraduate programme, which also incorporated the possibility of SYSU students undertaking a study abroad year at Glasgow. A jointly awarded MSc in Environmental Management was also being offered with the Nankai University, China, as part of the Glasgow–Nankai Joint Graduate School. These were recent developments and students had yet to be enrolled.

## 8. Summary of perceived strengths and areas for improvement

### 8.1 Key strengths

The Panel was of the overall impression that the School of Geographical and Earth Sciences was providing a high quality experience to students, underpinned by excellent learning and teaching practice and a supportive learning environment. A major asset of the School was the clear commitment and passion of members of teaching staff, School senior management and administrative staff, who were clearly prioritising the needs of students.

Students themselves were extremely positive and complimentary about their learning experiences and the support they receive. Indeed, the Panel was very aware of the close and productive relationships that had been established between students and staff



and believed that these relationships were the bedrock on which other achievements and successes were founded.

Particular strengths of the School included:

- Committed and passionate staff at all levels who prioritise the student experience and student needs.
- An inclusive environment, which is supportive and nurtures positive relationships between students and staff.
- Innovative and relevant learning and teaching practice, which is informed by impressive research strengths across the School.
- High levels of student support and satisfaction.
- High levels of student engagement, through both formal mechanisms and at an individual level.
- High levels of support for GTAs, particularly in Geography.

## **8.2 Areas for improvement**

The Panel found that there were some areas where changes could be made, or actions taken, that may help to increase efficiency and manage the workload of staff:

- Undertaking a curriculum mapping and review process in order to:
  - Identify opportunities for efficiency through the delivery of common curriculum content, or transferable skills sessions, across programmes.
  - Map programme and course ILOs to associated schemes of assessment and if necessary rationalise or amend the number or type of assessments where there is duplication.
  - Consider at a programme and School level how much feedback, of what type, is provided to students. This opportunity should be used to consider the development of a common feedback plan, with associated mechanisms (such as forms) and timetabled feedback sessions.
  - Consider the amount of administrative support required, linked to the curriculum, which is being provided by academic staff. This may be conducted through a related but independent audit of roles linked to courses, perhaps through conveners.

The Panel also made a number of more general observations and recommendations for action intended to support improvement and enhancement. The School should:

- Explore opportunities to more systematically share practice across the School.
- Consider how student numbers may be managed through work with other colleges.
- Consider more extensive use of industry software and technologies, with consideration given to the resources required to support this.
- Use the full range of secondary bands within all primary grades for each piece of assessment which is marked within the School.
- Seek guidance on the development and promotion of University Teachers to ensure that School practice is in line with University policy and that University Teachers are provided with the best advice possible on advancing their careers.
- Audit its workload model with a view to ensuring that it is as effective, simple and transparent as possible.

## **8.3 Conclusion**

### 8.3.1 Commendations

#### **Commendation 1:**

The Panel **commends** the high quality SER and the levels of engagement of both staff and students from across the School in the development of the report and the wider process of the PSR. [Paragraph 1.1]

#### **Commendation 2:**

The Panel **commends** the School for the strong and productive relationships between students and staff within a cohesive 'learning community', which undoubtedly underpins the enhancement of learning and teaching. [Paragraph 2.2]

#### **Commendation 3:**

The Panel **commends** the School for the excellent work done at all levels to deliver interesting and relevant programmes, supported by the continuing enhancement of learning and teaching. [Paragraph 2.2]

#### **Commendation 4:**

The Panel **commends** the School on the high levels of student support provided and the *culture* of support that exists across the School at all levels. [Paragraph 3.3.1]

#### **Commendation 5:**

The Panel **commends** the School on the levels of student engagement within the School, both from the point of view of their engagement *with* the *process* of learning through relevant and challenging experiences, and their engagement *in* the design, creation and support of their own and others learning. It was clear that the student experience and student engagement was a priority for the School. [Paragraph 3.4]

#### **Commendation 6:**

The Panel **commends as good practice** the innovative development and use of 'Rock Around the University'<sup>11</sup> to engage and develop students' knowledge and skills and to enhance the teaching resources available to the School. [Paragraph 3.4]

#### **Commendation 7:**

The Panel **commends as good practice** the support and guidance provided to GTAs in Geography, within GES. [Paragraph 5.1.1]

### 8.3.2 Recommendations

The Panel recognised the generally excellent experience of students within the School and the good practice and commitment of staff. However, in order to further enhance provision within the School and in order to increase efficiency, the Panel makes the following **related** recommendations:

#### **Recommendation 1:**

The Panel **recommends** that the School undertake a systematic curriculum mapping and review exercise to address a number of recommendations below which suggest approaches to increasing efficiency and further enhancing the excellent learning and teaching practice within the School. The Panel makes this recommendation in acknowledgement of the pressures explicated by the School in terms of staffing and physical resources. The further recommendations and suggestions below cross-

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<sup>11</sup> LTDF Report available: [http://www.gla.ac.uk/media/media\\_293568\\_en.pdf](http://www.gla.ac.uk/media/media_293568_en.pdf)

reference this paragraph and should be considered as expanding on this recommendation. [Paragraph 4.1]

For the attention of: **Head of School**

***Recommendation 2:***

The Panel **recommends** that the School consider how, whilst continuing to support strong independent scholarship and practice, it might be possible to find further common ground in the development and delivery of shared or generic curriculum content. For example, where there is overlap in ILOs linked to the development of transferable skills, or other generic curriculum content, across programmes this should be highlighted to ensure that curriculum design and development takes this into account. This might lead to the delivery of additional common courses/teaching across programmes in Earth Sciences and Geography. This should be considered as part of the review recommended at 4.1 [Paragraph 4.1.1]

For the attention of: **Head of School**

***Recommendation 3:***

The Panel **recommends** that the School undertake a mapping of programme and course level ILOs to their associated schemes of assessment, ensuring that ILOs are appropriately and sufficiently assessed but that there is not an unnecessary burden placed on students, or indeed staff. This exercise should ensure that a holistic view is taken of the number and type of assessments across courses, subjects and disciplines, appropriately linked to the aims and ILOs of the relevant *programmes*. The Leading Enhancements in Assessment and Feedback (LEAF) project would be a natural vehicle for these actions. Should an extension to the project be secured then the School might consider participating, and in any case may benefit from exploring the Curriculum Mapping and Assessment Blueprinting (CMAB) methodology utilised as part of the LEAF project. Where necessary, assessment should be rationalised or modified and aligned to an agreed School and programme level plan for assessment. This should be carried out as part of the mapping and review exercise recommended at 4.1.

For the attention of: **Head of School**

***Recommendation 4:***

The Panel **recommends** that the School review its provision of feedback to students and explore the introduction of timetabled feedback sessions, as outlined in its action plan. The School should ensure that there is consistency in the format and detail of feedback where possible and should continue to use 'feedback monitoring forms' as it does currently. The provision of feedback should be considered as part of the review recommended at 4.2.1. and again, the School may find the use of Curriculum Mapping and Assessment Blueprinting (CMAB) methodology helpful when considering the use of feedback. [Paragraph 4.2.4]

For the attention of: **Head of School**

***Recommendation 5:***

In order to reduce the administrative workload on academic staff the Panel **recommends** that the School consider how existing administrative staff might be supported to take a further proportion of the administrative workload. In the first instance, this might be facilitated through a review of convening roles, asking incumbents to identify the range of administrative tasks that are being undertaken by academic staff. In the longer term the School should liaise with the College of Science

and Engineering on the possible appointment of a Teaching Administrator. [Paragraph 5.1]

For the attention of: **Head of School**

For information: **Head of College of Science and Engineering**

8.3.3 The Panel also makes the following recommendations:

***Recommendation 6:***

To *further* develop a strategic approach, the Panel **recommends** that the School consider how it might disseminate examples of good practice in learning and teaching across the School in order that a strategic and, where appropriate, systematic approach to enhancement can be secured. Whilst the Panel acknowledged the need to maintain distinct disciplines within the School, and that learning and teaching approaches would be necessarily different depending on both the students and the courses and programmes being delivered, it was of the view that some practices could be more effectively shared and embedded across the School, perhaps in some cases leading to greater efficiency. [Paragraph 2.2]

For the attention of: **Head of School**

***Recommendation 7:***

The Panel **recommends** that the College of Science and Engineering, and where appropriate other colleges, consider how changes to regulations across colleges, capping of student numbers on some courses (not in GES), and the resulting movement of students is impacting on GES and other Schools or Subjects. Further, there should be consideration by the College of Science and Engineering of what could or should be done to alleviate any particular pressures. Academic Standard Committee may wish to consider any response from the College(s) and decide whether any further action is required. The levers available to Schools to mitigate against such adverse impacts were limited within the current flexible structures. This made operational management of the associated issues extremely challenging. For example, coping with large fluctuations in student numbers from year to year, and the impact of high numbers on accommodation, the organisation, staffing, and timetabling of sustainable laboratory and field courses, the supervision of undergraduate research projects and related use of specialist equipment, and on the overall workload of teaching staff presented the School with particular difficulties (discussed further at 5.2). [Paragraph 3.1]

For the attention of: **Head of College of Science and Engineering, Dean of Learning and Teaching (College of Science and Engineering), Academic Standards Committee**

For information: **Deans of Learning and Teaching**

***Recommendation 8:***

The use of industry specific software and technologies was important to students, and some suggested that the use of this software more extensively and consistently throughout the programmes offered within the School may enhance employability. The Panel **recommends** that the School consider an 'ideal state' in regard to the physical and I.T resources that might be made available to students in light of the forthcoming campus redevelopment and investments and develop this into a plan that could

potentially be used to present information and guide decisions in this area. This might be linked to a broader plan highlighted as part of the recommendation at 5.2. The Panel also suggests that the School keep under review the type of industry software which might enhance student employability and wherever practicable ensure that this is utilised as fully as possible in the programmes and courses on offer. [Paragraph 3.4.2]

For the attention of: **Head of School**

***Recommendation 9:***

The Panel **recommends** that the Academic Standards Committee consider whether the School should reinstate the use of the full range of secondary bands within all primary grades for each piece of assessment which is marked within the School. This issue was considered by the previous DPTLA review in 2008 and, at that time, in consultation with the Convenor of the Code of Assessment working Group a view was taken that the application of the Code of Assessment was appropriate. The Panel is of the view that this issue should be reconsidered by Academic Standards Committee, given the time that has passed and potential changes in practice since the time of the last review. This was last considered by the Academic Standards Committee in May 2009. [Paragraph 4.2.2]

For the attention of: **Academic Standards Committee**

For information: **Head of School, Dean of Learning and Teaching (College of Science and Engineering)**

***Recommendation 10:***

The Panel **recommends** that the School seek guidance from College Human Resources on the development and promotion of University Teachers to ensure that School practice is in line with University policy and that its University Teachers are provided with the best advice possible on advancing their careers. They may also wish to consult Human Resources on the existing roles and responsibilities of University Teachers employed in the different disciplines within the School. [Paragraph 5.1]

For the attention of: **Head of School**

For information: **Head of Human Resources, College of Science and Engineering**

***Recommendation 11:***

The Panel **recommends** that the School audit its workload model with a view to ensuring that it is as effective, simple and transparent as possible. [Paragraph 5.2]

For the attention of: **Head of School**

***Recommendation 12:***

The Panel **recommends** that the School, in consultation with the College of Science and Engineering, considers its needs for the development of adequate facilities over the medium and longer term and develops a plan based on an 'ideal state' in this respect. Whilst it was beyond the remit of the Panel to recommend that further resources be allocated or facilities be provided, it was of the view that a documented and coherent plan, linked to the growth in student numbers and current plans for *future* growth, would support the School in articulating its needs effectively in the context of future campus investments. [Paragraph 5.2]

For the attention of: **Head of School**

For information: **Head of College of Science and Engineering**

***Recommendation 13:***

The Panel **recommends** that the School revisit what options are available to secure accreditation for the Earth Sciences programme. If the School remains of the view that accreditation is inappropriate it should set out a clear and considered rationale which is available to students and anybody else with an interest. Whilst the Panel recognises and acknowledges the School's concerns both about the impact of additional field day requirements on students, and the Schools views on the relevance and efficacy of field days as a measure of student skills development, it is very important to be *absolutely clear* about the reasons for not pursuing the relevant professional recognition of the programme. The School is also encouraged to work in partnership with other institutions to make its concerns known to the Geological Society of London in a coordinated and concerted way. [Paragraph 6.1.2]

For the attention of: **Head of School**