

Grade Point Average  
A paper by Doug Hunt – Deputy President (Education)

Grade Point Average is a grading system mainly used in the USA, where a given number represents the average of a student's grades during their time at an institution and is usually weighted by the number of credits given for their enrolled course. Most American universities use a four-point system, where the maximum grade point is 4.0)

A group of Russell Group universities (Birmingham, Nottingham, LSE, Sheffield, Warwick, UCL, York and Bristol) considered alternatives to the existing degree classification system. The group determined its preferences for introducing a form of the Grade Point Average (GPA) system.<sup>1</sup>

After the group contacted other universities, the initial group expanded to the universities shown below by September 2012:

- Birmingham
- Bristol
- King's College London
- Leeds
- LSE (they are now against GPA)
- Manchester
- Nottingham
- Oxford Brookes
- Sheffield
- Southampton
- Warwick
- UCL
- York

Their proposed GPA system is shown in appendix 1.

Arguments for the GPA scheme

- In your final year a student will work harder, regardless if they are near a borderline, which provides an incentive to students to maximise their performance
- More transparent and more able to reflect different levels of attainment, so a graduate company will know straight away if you just missed out on a 2.1 or a 1<sup>st</sup>
- It is an internationally understood grading system

Arguments against the GPA scheme

- The emphasis on a student trying to improve their grade, may lead to grade inflation and more students will pick the "easier" elective modules. This takes place in the USA and because of this LSE now don't want to use the GPA system.
- The American higher education (HE) system is not the same as the British, so should we use the same grading system? If we do, we still need to convert British GPA to US GPA, since our HE system is totally different.
- The proposed GPA scheme goes up to 4.25 (not 4.0) and different GPAs correspond to different percentages for different subjects. This is more confusing than the current grading system we have.

- The GPA grading system doesn't align itself with the one for A-levels, which is letter grade and percentages.
- Graduate companies can already ask for transcripts and do at assessment centres, if they wish to know your exact grades.
- Graduate companies may start asking for more than 3.00 (equiv. to 60% - a 2.1) to get less students applying and having to pay less for their HR department.
- Students may experience more stress if they are worrying over every mark and may make the student body more competitive.
- Changing from our current grading system to GPA will require a considerable amount of work and College resources. Is it really worth the effort?

Discussion points

Do we think Imperial should adopt a GPA scheme?

Will we be disadvantaged in some way by their proposed GPA scale, taking into account that we are a STEM only university?

Do you think UK universities should adopt one?

**Appendix 1 – Proposed UK GPA scale<sup>1</sup>**

Grade	Standard	Grade Point	UK current descriptor	Possible % equivalence in qualitative subjects	Possible % equivalence in quantitative subjects
A+	Excellent	4.25	Top 1st	75+	85+
A	Excellent	4.00	Good 1st	72-74	78-85
A-	Excellent	3.75	Low 1st	70-71	70-77
B+	Good	3.50	High 2-1	66-69	66-69
B	Good	3.25	Mid 2-1	63-65	63-65
B-	Good/Satisfactory	3.00	Low 2-1	60-62	60-62
C+	Satisfactory	2.75	High 2-2	56-59	56-59
C	Satisfactory	2.50	Mid 2-2	53-55	53-55
C-	Satisfactory	2.25	Low 2-2	50-52	50-52
D+	Adequate	2.00	3 <sup>rd</sup>	43-49	43-49
D	Pass	1.00	Low 3 <sup>rd</sup> or pass	40-42	40-42
D-	Marginal Fail	0.50 for qual; 0.75 for quant	Marginal Fail	35-39	35-39
F	Fail	0.00 for qual; 0.5 for quant	Fail	>35	25-34
F-	Low Fail (quant. only)	0.00	Fail	NA	0-24

**References**

1. Introducing a Grade Point Average System to the UK Working paper: A review of the proposals and evidence, September 2012

**Introducing a Grade Point Average System to the UK**  
**Working paper: A review of the proposals and evidence**  
**September 2012**

## **1. Background**

A group of Russell Group universities (Birmingham, LSE, Nottingham, Sheffield, Warwick, UCL, York, and latterly Bristol) began meeting in early 2011 to consider alternatives to the existing degree classification system. After considering various options, the group determined its preference for introducing a form of the Grade Point Average system. All strongly agreed that a significant block of universities would need to move together to implement such a change.

After a series of communications with other universities, the group has now expanded. To date, the following universities have expressed an interest in being part of the discussions:

- Birmingham
- Bristol
- King's College London
- Leeds
- LSE
- Manchester
- Nottingham
- Oxford Brookes
- Sheffield
- Southampton
- Warwick
- UCL
- York

Appendix 3 includes a GPA status update for some of these institutions.

## **2. Reasons for change**

The desire for change is based on these universities' conviction that as UK students graduate into an increasingly global marketplace, universities must make certain that the system of measuring achievement at undergraduate level is sufficiently flexible and internationally well-understood to ensure that UK graduates are best-placed to compete in that marketplace. The universities are also seeking a measure that can be a motivational tool for students during their university study and give employers and others the information they need following graduation.

The universities considered several alternatives. They concluded that incremental change within the system would involve considerable effort without delivering the step change they seek. The European model and the North American Grade Point Average (GPA) model both have international currency. While the former sits as an overlay to many national systems, the latter has a longer track record and is better-known globally, thus making it the group's preferred option.

The group made this decision public in June 2011 (Times Higher Education, 23 June 2011). Since then they have been working together to develop a single GPA model that would be both appropriate to the specificities of the UK and salient internationally. Coordinated action is fundamental to the success of this initiative, as a plurality of approaches risks confusing students and employers and reducing the credibility of the universities and any subsequent attempt to reform degree classifications. Key objectives for the single GPA model include that it be

- More transparent and better able to reflect different levels of attainment,
- Providing incentive to students to maximise performance,
- Globally understood, and
- Reflective of and compatible with the culture and norms of marking in UK higher education.

### **3. The proposed model**

The group developed its proposed model using the US approach to GPA as a starting point, although it also considered approaches used in countries such as China, Hong Kong, and Australia. In undertaking its initial modelling, the group acknowledged a number of concerns about the US approach to GPA. However, the principles underpinning GPA were felt to be sound, and the considerable diversity of practice inside and outside the USA in implementing GPA gave the group assurance that developing a UK-specific approach to GPA was credible and justifiable. There are aspects to academic practice in the UK, including marking culture, second marking, marking criteria, and external examination, which can indeed help to counteract some of the concerns about the US experience of GPA. These are explored in more detail in Section 6.

Therefore, the group chose to benchmark aspects of its proposed approach on the US system but to diverge from the US practice where it would either run counter to the UK's marking culture or to the underlying aims of the group's work. The aim is not replication or line by line conversion to the US system. At the same time, the group were aware of the need to generate GPA numbers that do not immediately disadvantage UK students vis-à-vis US students and others from GPA backgrounds.

A proposed approach was developed and has been refined based on consultation with both academic and professional services colleagues, most of which has been undertaken at Birmingham and Nottingham. The US model, subject specificities, and academic regulations have been considered. A key distinction has been identified between “qualitative” subjects, by which is meant those subjects where marking involves a high level of judgement, and “quantitative” subjects, by which is meant those where answers may be judged “right” or “wrong” with much greater precision. Further operational questions remain to be considered, but the work to date has led to the creation of a “straw man” model, with variants for qualitative and quantitative subjects, which can be considered both for matters of principle and also to allow detailed modelling against current systems in individual universities. A more detailed statement about the use of GPA in quantitative subjects, developed at Birmingham, has been included in this report as Appendix 2.

The proposed approach entails changes not just in how summative marks are reported, but in fact in the practice of marking at the most granular level. In qualitative subjects, the percentage scales currently in use would be replaced entirely by letter grades, based on agreed marking criteria for each letter grade – and for the most part, the current marking criteria that relate to a percentage can be readily translated to an equivalent letter grade. In quantitative subjects, percentage-based marking would still be more appropriate at assessment level in many cases, with conversion to a letter grade to define summative performance in a module. The conversions would be agreed to ensure that similar levels of

achievement in quantitative disciplines lead to comparable letter grades as in the qualitative subjects. This approach brings several important benefits, namely:

- Fuller use of the marking scale, especially in qualitative disciplines
- Greater comparability across disciplines and between qualitative and quantitative disciplines, facilitated by appropriate “conversion” points to letter grades.

Calibration of the UK scale must not disadvantage UK graduates competing internationally for jobs, postgraduate study, or funding. Although the aim is not to create exact parity between UK and US GPAs, it was agreed to define the bottom of the 2:1 class as equivalent to 3.00 as a key “hinge” between degree classifications and GPA. This approach does mean that the majority of GPAs will cluster between 3.00 and 4.00, but in adopting a system already affected by grade inflation in its largest “market” we must make allowances to ensure that our graduates are not disadvantaged. There are still 100 possible GPAs between 3.00 and 4.00 (if GPAs are recorded to 2 decimal places), which provides a level of granularity impossible with degree classifications. This will make more transparent how much variation of achievement exists within current degree classes and how small the difference may be between those who fall on either side of a degree class divide.

Contrary to prevailing practice in the US, high achievement would be recognised by retaining both the A+ grade and weighting it higher than an A. While returning a raw GPA of greater than 4.00 might cause confusion (as this is rarely done now in North America), an alternative could be creating a starred 4.00, drawing on a convention now widely accepted in the UK and hopefully easily understood internationally to recognise superlative achievement.

This calibration and the desire to recognise A+ meant that the model being proposed has diverged from the standard US approach to converting core letter grades to whole grade points (A=4, B=3, etc.). By adopting a more nuanced approach, we can fit a wider range of achievement between 3.00 and 4.00, thus reflecting and supporting the UK's more rigorous marking culture, providing additional “headroom” at the top of the scale, and implementing the “hinge” point described above. As a result, 0.25 steps have been proposed between each grade point. In the qualitative subjects, at the lower end of the scale some bunching is inevitable to avoid a meaninglessly long scale (noting that this bunching has been forced upon us by grade inflation in the US rather than by any principled decision). The UK concept of marginal fail has been maintained as equivalent to D-. However, quantitative subjects may be able to make more meaningful use of the scale at the lower end, and this is reflected in the “straw man” proposed below.

The UK concept of exit velocity could be maintained within this system. The original group has an overall bias towards exit velocity, but it was felt that any approach to weighting should be left to each institution on the basis of their provision.

### Proposed UK GPA scale

Grade	Standard	Grade Point	UK current descriptor	Possible % equivalence in qualitative subjects	Possible % equivalence in quantitative subjects
<b>A+</b>	Excellent	4.25	Top 1st	75+	85+
<b>A</b>	Excellent	4.00	Good 1st	72-74	78-85
<b>A-</b>	Excellent	3.75	Low 1st	70-71	70-77
<b>B+</b>	Good	3.50	High 2-1	66-69	66-69
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<b>C+</b>	Satisfactory	2.75	High 2-2	56-59	56-59
<b>C</b>	Satisfactory	2.50	Mid 2-2	53-55	53-55
<b>C-</b>	Satisfactory	2.25	Low 2-2	50-52	50-52
<b>D+</b>	Adequate	2.00	3 <sup>rd</sup>	43-49	43-49
<b>D</b>	Pass	1.00	Low 3 <sup>rd</sup> or pass	40-42	40-42
<b>D-</b>	Marginal Fail	0.50 for qual; 0.75 for quant	Marginal Fail	35-39	35-39
<b>F</b>	Fail	0.00 for qual; 0.5 for quant	Fail	>35	25-34
<b>F-</b>	Low Fail (quant only)	0.00	Fail	NA	0-24

#### 4. Modelling

The Universities of Birmingham and Nottingham have each done some simple modelling the proposed GPA scale against results for student cohorts across a number of disciplines. This modelling looked at students by degree class, and captured the minimum and maximum GPA for each class. The data include individual students who were elevated on the basis of profiling, and thus classes overlap in some cases.

The initial modelling demonstrated the following:

- Relative consistency, with the top and bottom of the degree classification ranges at both universities mapping to similar GPAs. This suggests that the GPA approach is at least as a robust and comparable way of measuring achievement as the current system.
- The boundary between 2.1 and 2.2 does seem to sit at or just below 3.00. This confirms in general terms the proposed calibration, although some further fine-tuning may be required.

The chart below captures the directly comparable data from Nottingham and Birmingham. Appendix 4 includes the full data set from both universities.

	BIOSCIENCES		MATHEMATICS	
	Upper end GPA	Lower end GPA	Upper end GPA	Lower end GPA
First - Nott	4.11	3.58	4.25	3.57
First - Birm	4.08	3.46	4.25	2.98
2.1 - Nott	3.59	2.77	3.68	2.75
2.1 - Birm	3.59	2.78	3.64	2.35
2.2 - Nott	2.85	2.08	2.89	2.01
2.2 - Birm	2.89	1.88	2.89	1.55
Third – Nott			2.14	1.08
Third - Birm			2.21	1.42

A useful next step would be to bring other universities' modelling into this picture and to do more detailed modelling around distributions of putative GPAs within the different degree classifications.

## 5. Implementation

The Birmingham and Nottingham group have also considered how a transfer to a GPA system might be implemented, and the impact on marking, moderation, exam boards, appeals, and reporting of student results.

The major question feeding into many of the implementation issues explored by this group is of dual running or transition periods.

Dual running of the GPA system with the current degree classification system was the initial intention of most of the national group. Subsequent consultation by the University of Nottingham has suggested that dual running would help to mitigate concerns raised by colleagues, student and employers.

There are however some possible important implementation issues around dual running, most of which hinge on what is meant by "dual running". There would appear to be two main options:

1. A dual system could be run all the way down to the granularity of individual assignments and modules (so each would receive a percentage mark and a letter grade). Letter grades would then be used to derive GPAs whilst percentages would be used to derive degree classifications, including the profiling of borderline candidates, as is current practice in many institutions. However, the complexity of such an approach with respect to marking, systems, and appeals would be enormous and very problematic. This approach is therefore not recommended.
2. Degrees would be classified by GPA with an indicative 'read across' to notional degree classes. For example, GPAs of 3.75 to 4.25 would translate to a first. A GPA of 3.5 would be described as 'on the 2i/l borderline' (and not further defined), and



GPA of 3.25 and 3 as 'in the 2i class'. Whilst it would be possible to describe the latter as 'mid and low 2is' respectively, as the translation is not precise, this may not be necessary or desirable. This approach would be simpler to implement but possibly less robust in the case of appeal.

An unavoidable dual running issue is that exam boards dealing with multiple cohorts will continue to have to "switch hats", as there is no appetite for moving a cohort to the new system after it has started.

A subsidiary implementation issue is whether to introduce GPA for taught postgraduate students at the same time as for undergraduate students (noting that undergraduate is here defined as "first degree", including students on integrated masters who frequently receive classified results). Initial discussions at Birmingham suggest that there may be some appetite for this amongst taught postgraduate students. There may also be some problems with marking where undergraduate and postgraduate students are taught alongside each other if different systems are maintained. However, some universities may understandably feel that it is wise to "walk before you run" with respect to a transition of this magnitude.

There are a number of other technical implementation issues which are covered in more detail in Appendix 1.

## **6. Concerns about GPA**

A number of concerns have been raised about the integrity of the GPA system, with questions about whether in adopting GPA we would simply be adopting a weak or "rotten" system and thus just importing problems already being experienced by US colleagues. The national group and the Birmingham and Nottingham group have considered these concerns, sought advice from colleagues with experience in the US system, and reflected upon the specificities of the UK system.

The overall conclusion of this work has been, as stated above, that the principles underpinning GPA are sound, and that aspects of marking practice in the UK, which would not, and indeed could not, change within our QAA environment, help to ameliorate the impact of the forces which have caused concerns. There is no obvious reason to think that GPA would put us into a worse situation vis-à-vis any of these concerns than degree classifications.

These concerns can be grouped into a number of categories.

### **1. Grade inflation**

Concerns about grade inflation are widespread in the US, even though there is little agreement about its cause or how or whether to combat it. A few universities have tried to push back with mixed success, whilst others have had to raise the bar on certain honours such as "Dean's List" and Latin Honours.

US mark distributions tend towards a negative skew – with most grades at the highest end of the range and a tail of lower marks. It may be that any marking system will over time experience grade inflation: there has been a clear shift upwards in the distribution of A Level

grades, and the number of students achieving firsts and 2.1s has steadily increased. Despite this, UK marks still tend towards normal distributions much more than is true in the US.

However, despite this UK HE is objectively in a much more robust position to control grade inflation than US HE. Our marking criteria give us a tool to control the upwards creep, buttressed by second marking and the external examination system. We should be confident and proud of these systems and their ability to help us manage this challenge.

A related point to note is that in the US system, norm-referenced marking (scaling, marking to a curve) is widely used, especially in quantitative subjects, and letter grades in these subjects are frequently derived based on norm-referencing rather than conversion scales from percentages. This is sometimes a counter to grade inflation. As this approach to marking is not generally used in the UK, we believe the conversion scales suggested provide a robust solution, with the onus on the lecturer to set assessments at an appropriate level.

## 2. Lack of comparability / consistency

It is well-known and indeed accepted in the US that marking standards differ across different institutions. In many ways, this makes it easier for us to introduce a slightly different approach to GPA, and should ameliorate concerns expressed by some colleagues about how our students might fare in the US postgraduate or employment market (raised by LSE amongst others). Their system is already used to compensating for variability and complexity, and if a large number of universities in the UK introduce a system which is fundamental comprehensible to them and which they can learn once – rather than having to compensate for each institutional difference – we should be in no worse a situation than we are currently.

A separate issue which merits more exploration is how the GPA system can be mapped to the European Credit Transfer system, especially recognising that while the majority of UK students do not have an automatic right to work in the US labour market, they do in Europe.

## 3. “Shopping” behaviour by students to manage their GPA

Many US students are thought to “shop around” for easy markers and easy courses in order to get the highest possible GPA. This behaviour is facilitated by the relatively free structure of most US degrees, even those which are not technically “liberal arts”.

In the UK, our degrees are as a rule more structured, with more requirements about meeting defined subject benchmarks, rules on progression between years, and students are less able to pick and mix modules in the instrumental way described above. Inevitably some of this will occur, but it is likely that this already occurs.

## **7. External stakeholders**

The initial group held strongly to the position that any change to degree classifications should be made first and foremost for educational and academic reasons, rather than because of the needs or reaction of external stakeholders. This does not mean that external stakeholders’ concerns should be ignored, but that they should be put into a larger context.

There are several groups of key stakeholders to consider. Discussions have been initiated with most of them; a more comprehensive consultation will need to occur, although the timescales and scope of this consultation have yet to be determined. The issues raised to date are valid but not insurmountable, and many of them diminish or disappear if a large group of universities move together.

1. **Government / regulatory agencies:** Discussions with HEFCE, QAA, and BIS suggest that while these bodies would not push the sector to move to a GPA, their preference would be for any such move to be to one particular form of a GPA system.
2. **Employers:** Initial discussions have been held with a number of employer groups, including Association of Graduate Recruiters, CIHE and CBI. There is interest from both AGR and CIHE. CBI were not enthusiastic, but neither were they opposed. The University of Nottingham's Careers and Employability Service has consulted with AGR and key recruiters of Nottingham students in more detail. These discussions suggest that many are not yet ready to take a formal view on GPA, but that their main concerns would arise around the challenges of handling a small number of institutions adopting a change or managing two systems for a long period.
3. **Burgess Group:** In recommending the HEAR for adoption, the Burgess Group did not close the door on future exploration of GPA. Informal discussions have been held with Professor Bob Burgess and the Burgess Group has recently conducted its own exploration of GPA. We will continue to share developments around our GPA initiative with the Burgess Group.
4. **Students and graduates:** The NUS has held the position for a number of years that the degree classification system was no longer fit for purpose, but further discussions will need to occur with them going forward. Nottingham's Students Union conducted a consultation with Nottingham students in March 2012, which concluded that students were in broadly in favour of the move to a GPA as long as Nottingham was not the only university to make such a move. There were concerns about employers' familiarity with GPA and it was felt that there should be a transition period.

## 8. Discussion points and possible next steps

This report has been prepared in advance of the first meeting of the broader GPA group, within the auspices of the meeting of Russell Group PVCs for Education (as all but one of the universities in the group are now Russell Group universities).

This meeting should allow the group to

- Consider the new evidence/information presented in this paper
- Agree a timescale and next steps

Possible next steps include

- Launching a fuller external consultation
- Creating an implementation group of academic registrars or similar to consider implementation plans in more detail (this group could also examine questions about read-across with ECTS)

- Further modelling of the proposed scale against existing cohorts to allow fine-tuning of the scale and consideration of the “conversion points”

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*6 September 2012*

**Appendices Attached:**

1. Implementation Issues
2. Applicability of the National Group GPA model to the Physical Sciences and Quantitative Disciplines
3. The state of GPA discussions – July 2012
4. GPA Modelling – Nottingham and Birmingham

## Appendix 1: Implementation Issues

The Birmingham/Nottingham group has explored a number of implementation issues as part of its work, and some possible responses to those issues identified are outlined below:

- i) *Should there be an immediate move to letter grade system or should we operate a dual system?*

An immediate move to a letter grade, rather than operating a dual percentage/letter grade, would be less confusing, more transparent, and easier to implement. Marking criteria would relate specifically to letter grades – particularly in the non-quantitative disciplines - rather than being attached to percentages that would then be translated into grades as an additional step. During implementation, the marking criteria currently used for percentage marks could be migrated to letter grades using the translation matrix contained in the proposed national model. Of course, even if there is a move to GPA only, there will still be some students graduating with a degree class and some with a GPA at the same time in the early years following implementation. In addition, the issue of marginal profiling will decline through the transition period if an either/or model for implementation is chosen.
- ii) *Some work is assessed by multiple choice questions where the result is a percentage. How would we deal with this?*

In these instances, the marking criteria for letter grades would need to include the manner in which the proportion of right answers in a multiple choice examination equates to a particular letter grade. This may enable greater flexibility in how percentage marks map across the grades – for example the current scale which is applicable to highly quantitative and non-quantitative disciplines equally suggests any mark over 75% could be an A+; under a new model, highly quantitative disciplines might choose to set a percentage mark of 85% to equal an A grade.
- iii) *How would pass/fail marks in professional practice courses equate to a GPA?*

There are modules or module components that students need to pass in order to satisfy professional practice requirements. Those elements would not be awarded a letter grade and therefore could simply be excluded from the overall GPA calculation. The Diploma Supplement could show Pass/Fail in those elements.
- iv) *What is the threshold level of attainment for award of a degree?*

This question reflects existing diversity of practice amongst institutions with respect to how degrees are awarded. Issues that might be considered included the number of credits awarded, the minimum grade/GPA, professional, statutory and regulatory body (PSRB) requirements, the level of the degree being awarded, and how to handle resit grades. Some of these items may be resolved at institutional level.

v) *There is a concern that there will be two systems operating nationally and therefore a 2i mapping will be required for, for example, league tables and HESA comparisons. Highly competitive masters courses set a minimum degree classification for recruitment so this is another reason for some conversion in early years.*

vi) *How do we flag the very best students e.g. cum laude, Dean's list or something by which we can recognise people who are getting consistently high marks and producing work of quality?*

The concepts of cum laude or Dean's list do not have resonance in the UK. It is suggested that the system should be simple and that flagging of exceptional performance should be brought out in student references and through an enhanced transcript. Work done by UCL early in the working group's life suggested that the GPA itself identifies exceptionally high and consistently high work better than the current system, and the suggestion is to have a "starred" 4.00 measure to identify the most outstanding students.

vii) *What is the role of External Examiners or Boards of Examiners under this system?*

External examiners would continue to have a role in assuring the standards of grades awarded in a GPA system, but there would be an opportunity to look at the role of Boards of Examiners.

The introduction of a GPA system could see a move to a system whereby the School holds a Module Board with external examiner presence. This Board would consider the marks for modules offered by that school and issues of standards. Once the Module Boards had met, calculation of overall progression and award would occur at Progression and Award Boards convened at the University level. Extenuating Circumstances would be considered at School level and decisions made in relation to first sits/resits would be passed to the Progression and Award Boards to be factored into progression/award decisions.

Universities of Nottingham and Birmingham

## **Applicability of the National Group GPA model to the Physical Sciences and Quantitative Disciplines**

### *Background*

There is a widely held perception across HE that there is a 'reluctance' in the Arts and Humanities to use the 'full mark scale' (0 – 100%) whereas this is not the case in the Physical Sciences and 'quantitative disciplines' (e.g. Physics, Mathematics). The explanation for these different approaches between subject disciplines seem to lie in part in the history and culture of assessment in Arts and Humanities, and in the nature of the assessment itself i.e. if a student in a Mathematics examination produces correct calculations and derivation of equations, the marking scheme may indicate that a mark of 90%+ is appropriate. By contrast, the concept of 'perfection' is less easily defined in 'essay-based' subjects, particularly in the Arts and Humanities, thus very high marks are awarded more rarely. This in turn raises the question of whether the proposed National Group GPA model can be applied readily to academic disciplines that under current practice do not use the 0 - 100% marking scale in a similar way. To address this question, a small group of academic staff at Birmingham from the Physical Sciences and Social Sciences (where the latter involves a substantial proportion of numerical assessment) considered the National Group model and issues that may arise in its application to such disciplines. The following points emerged from these discussions:

### *Challenges in transition to GPA*

1. Introduction of the proposed National Group model would benefit assessment in both the Physical Sciences and the Arts and Humanities, providing more freedom and sensitivity than current methods to accurately describe student performance. In particular, whereas current marking practice maps on to a broad 5 point scale (1, 2i, 2ii, 3 and Fail), GPA is effectively a 13 point scale.
2. In academic disciplines where current marking criteria are expressed in written statements and mapped on to a % (or to a mark within a % range), it may be relatively easy to replace the % mark by a letter grade and GPA e.g. an existing marking criterion for an essay examination answer might say 'Comprehensive and well written with few omissions, but relies entirely on lecture material with no evidence of wider reading' = 65%. The same written criterion could be used to allocate a letter grade of B = Good, and a GPA of 3.25. Thus, with some careful wording and appropriate discriminatory statements, for many subject areas, existing marking criteria would appear to be readily translatable to GPAs. However, the Physical Sciences and quantitative disciplines by their nature do not have equivalent written criteria that map to % marks, so a direct translation to letter grades and GPAs is more difficult.

### *Adapting the National Group model for Physical Sciences and quantitative disciplines*

3. In the National Group model the highest letter grade (A+) equates to a GPA of 4.25 and a % equivalent mark of 75%+. For reasons related to the discipline, a mark of 75%+ in the Arts and Humanities might be described as 'truly exceptional' or at least, 'exceptional'. By contrast, in Mathematics, a mark of 75% might be described as 'very good', a mark of 80%+ might be 'excellent', but a truly exceptional mark might be 90%+. If in future the marking of numerical subjects continues to produce a numerical mark, or a mark that is then converted to a % (e.g. 20/25 = 80%), which is then translated to a letter grade and a GPA, there would be benefit in not compressing the letter grades of A- to A+ (and GPAs of 3.75 to 4.25) to a % mark

range between 70 to 75%+, as in the National Group model. The current % marking system gives flexibility in the 70%+ mark range (to distinguish between students) and also in the 40% and below range, which allows some 'averaging out' of poor performance across different assessments within a module and between modules. Rather than try to map an exceptional performance of 90% in the Physical Sciences to the same level of performance of 75% in Arts and Humanities via 'mark manipulation' (i.e. 90% = 75% and so on), it would be preferable to recognize that these broad disciplinary differences exist. For example, a possible translation of letter grades to %s for the quantitative disciplines might be: A- = 70 to 77%, A = 78 to 85% and A+ = 85+

4. There is a further issue to consider in the relationship between the letter grades/GPA and %s at the 'top end' for assessments that in future will still produce initially a numerical mark or a %. Whereas 75% equates to the highest letter grade (A+) and GPA (4.25) in the National Group model for UG degrees, Schools and Departments recruiting PGT and PhD students to Mathematics would expect some students to have performed at an 80%+ level in their first degree, and this would not be reflected in a system that equates the highest GPA to a mark of 75%.
5. In general, the National Group model for letter grades B+ to D (GPA from 3.5 to 1) can be applied to the Physical Sciences and related disciplines.
6. The proposed %s and GPA scores for the D- and F grades may not be appropriate to the Physical Sciences. For example, in examinations in quantitative subjects it would be more common than in 'Arts and Humanities essays' for a student to achieve fail marks of around 30% or less for a question, especially weaker students. For the quantitative disciplines therefore, whilst the D- and F letter grades are appropriate, it may be necessary to modify the % boundary within which a fail mark is described as 'marginal' and also the associated GPA score. For example, in the 2011 Mathematics graduating cohort at Birmingham, 9 students were awarded a third class degree. These students took a total of 54 20 credit modules, of which 8 marks were in the 30-39 range, 3 between 20 and 29, and 3 less than 20. A concept that could be adopted would be to identify a mark that reflected a genuine effort at the question/assessment, even if the approach was incorrect; as such, for the quantitative disciplines, marks between 39 and 25 could be regarded as a 'marginal fail' with a GPA score of 0.5. As an alternative (and with a similar approach to the discrimination of marks at the top end), marks between 39 and 35 could be described as marginal fails (D-) but equate to a GPA of 0.75 (rather than 0.5), marks between 34 and 25 returned as fails (F) with a GPA of 0.5, with those marks of <25 (new grade of F-) receiving a GPA of 0. The key point is that more flexibility is required in the 'fail range' and associated GPAs for the quantitative disciplines. A revised National Group model for the Physical Sciences and related quantitative disciplines could therefore be structured as follows:

<b>Grade</b>	<b>Standard</b>	<b>Grade Point</b>	<b>% Equivalence</b>
A+	Exceptional	4.25	85+
A	Excellent	4	78-85
A-	Very good	3.75	70-77
	B+ to D as per National Group model		



D-	Marginal Fail	0.75	35-39
F	Fail	0.5	25-34
F-	Low Fail	0	0-24

#### *Other considerations*

7. If letter grades and GPAs are applied to all assessments within modules, the method by which the overall GPA is calculated becomes particularly important in the quantitative disciplines, where the initial mark might be a 'number', or a number that is then converted to a %. For example, under the current % marking system, if a student was required to answer 3 questions in an examination and achieved marks of 73%, 67% and 34%, the overall examination % mark would be 58%, equivalent to C+ and a GPA of 2.75. However, if marks below 36% are regarded as fails (as in the National Group model) and therefore as not qualifying toward the GPA, the overall % mark could be returned as 47% (D+ and GPA of 2). For this reason, the general principle that should be adopted is that the 'whole' examination should be regarded as the assessment for the purposes of translating a % to a letter grade and GPA (not individual questions), which also allows flexibility in the structure of the paper e.g. combining MCQs, short and long answer questions as appropriate. As an extension of this principle, where a module comprises more than one assessment (e.g. coursework and 'end of module' examination), and the examination contains a number of questions (sub-assessments), the % marks for all of the assessments and sub-assessments should be combined (and weighted accordingly) and only the single, final % for the module then translated to a letter grade and GPA.

In the Arts and Humanities and other 'essay-based' subjects for which there are established marking criteria, each piece of assessment and sub-assessment can be allocated both a letter grade and GPA directly, and overall GPA for the module derived from the separate weighted GPA scores.

8. The issue of scaling of marks, which is more common in the quantitative disciplines, is not directly relevant to the consideration of the use of GPA for these subject areas. Any scaling would be applied to the 'raw' marks; the issues raised above would then apply to the scaled marks.

#### *Conclusion and recommendation*

9. The National Group model can be applied to the Physical Sciences and related disciplines, but where the assessment mark is expressed as a numerical mark or %, consideration should be given to a different mapping of these marks to letter grades and GPAs at the top and bottom end of the proposed model.

*Professor Jeff Bale, Deputy Pro-Vice-Chancellor – Education, University of Birmingham, September 2012*

## **Appendix 3: The state of GPA discussions – July 2012**

### **University of Birmingham**

The University of Birmingham was a founding member of the GPA group, and the principle of replacing degree classifications with GPA, within the context of a national group of peers also moving to a new system, has considerable support from the University Executive Board. The University Senate has also expressed support in principle and asked the PVC for Education to continue to work with the national group to define the scale. University Education Committee has begun to explore how GPA might be implemented. The work, much of which has been facilitated by discussions with Nottingham, has focused to date on modelling GPA against existing cohorts, considering ways to enable dual running, and exploring how GPA could be developed to support quantitative disciplines.

The University remains committed to continuing these discussions, with an eye to introducing GPA for the undergraduate intake starting in 2014, assuming other universities make the transition to a similar timescale. We are assuming two years of dual running. However, a formal proposal to adopt GPA has not yet been taken to Senate.

Olivia Kew-Fickus, Director of Strategic Planning and Secretary to the GPA working group

### **Kings College London**

The College is committed to being involved in discussions on the development and introduction of a sector-wide GPA system. There is considerable support for the initiative across the College and at its meeting in June 2012 the Academic Board charged the College Assessment Board with bringing forward proposals during 2012-13 for the introduction of the GPA alongside the current degree classification system. The College Assessment Board has identified the following key areas that will inform discussions and consultations across the College.

- What system of GPA should the UK sector adopt? Although clearly not a decision for King's College London we look forward to playing a full and active role in discussions. We have already commented on the initial proposals.
- The development of grade point compliant marking schemes/criteria and how to map objective, numerical marking schemes such as used in mathematical subjects on to grade points.
- The retrospective modelling of past student performance using the proposed GPA system to assure faculty, students and employers that the introduction of a GPA system will not be associated with grade deflation or inflation.
- The resource implications surrounding the introduction of the GPA, notably those involving changes to student data management software and the overhaul of module and programme regulations.

Ian McFadzean, Chair, College Assessment board

## **University of Leeds**

During the academic year 2010-11, the University's Taught Student Education Board set up a working group to investigate moving towards a GPA. This was reported to the University Senate and senior executive group where the work was supported in principle and preliminary analysis work was done. No proposals have as yet been brought forward as it is recognised that there is a need for further detailed modelling of the implications and a thorough impact analysis before any decision can be taken. It is agreed that there would be significant benefits to be gained by moving forward in concert with peer institutions, not least in relation to the potential impact arising from employers' reaction to the introduction of this new means of expressing student achievement.

Leeds sees the preliminary model put forward by the national GPA group earlier this year as broadly workable. Agreement with other universities on key principles, and mapping of their implications for the Leeds classification system, would lead to a firm proposal for the introduction of GPA being considered through the deliberative structures during session 2012-13.

Vivien Jones, Pro-Vice-Chancellor

## **London School of Economics and Political Science**

Academic Board considered an oral report from Professor Hartley Pro-Director concerning the possible move to a GPA system across the sector. At her instigation the Board established a working group to examine the consequences of such a move with a view to reporting back in the autumn of 2012-13. The working group has met throughout the year and consulted with colleagues who have experience of working with a GPA system and it has also done some research amongst peer universities in the US. The preliminary discussions have raised a number of serious concerns that LSE would need to consider before a final decision to join a sector wide move to GPA.

- The enthusiasm amongst colleagues for a GPA system had more to do with US examination and assessment systems which are very different from the LSE's traditional model of double-blind examining than with the GPA as a method of recording assessment.
- Consequently the LSE would want to give serious consideration to possible wider consequences of moving to a GPA system in terms of its impact on the structure and composition of degrees.
- US universities have already gone through a process of grade inflation which will have an implication for the convertibility of a UK GPA into a US equivalent. We have a serious worry that our students might be disadvantaged in seeking entry to US graduate programmes.
- A UK GPA will be calculated over many fewer courses than is the case with most US peer institutions.
- In the US the conventions for dealing with appeals and mitigation are with the course teachers. This would be a major cultural shift if applied to UK examining practice or a system wide GPA.
- If there is a plural system (as in the US) will this give Employers more information than our current traditional classification? Would they be better served by a full transcript which need not have a GPA score.

- If there is to be a uniform system, will this disadvantage UK students relative to US students?

These issues have yet to be discussed in detail by the Academic Board. The LSE will continue to be part of the system-wide discussion but has no settled view on whether such a move is a strategic priority.

Paul Kelly, Pro-Director Designate

### **University of Manchester**

At Manchester consideration of whether to adopt a GPA has been tied up with first the development of the Higher Education Achievement Report (HEAR) and then a total revision of undergraduate and postgraduate degree regulations.

At the time we embarked upon developing the HEAR from 2008– after Prof. Burgess' report, (Beyond the honours degree classification, 2007) we confirmed at Senate (2009 ?) that we wouldn't be abandoning degree classification at that time while trailing the use of the HEAR.

In 2010 we embarked upon a revision of undergraduate and postgraduate degree regulations. As part of this review Senate was presented with revised regulations including the opportunity to change the marking system towards the GPA in much the same way has been presented recently from this group. This was an attempt to 'use the full marking range'. In fact we were looking at a 16 point scale while parts of the University already use a 20 point scale. In effect, while the degree regulation changes were supported the move to a GPA type marking scale was rejected. I feel this was a case of too much change all at once plus many issues from those who already use the full marking range of 0 to 100.

The degree regulations have now been accepted and are being implemented so it is timely to return to the issue of GPA in 2012 and I plan to use the work of the RG GPA group to take this forward. My 'enthusiasm' is still based, in part, upon a desire for Humanities to use the full mark range. I feel we will probably run the 2 systems in parallel sometime in the future (subject to Senate's approval!) but will use the GPA initially as a different way of presenting academic achievement. My concern is to only have one form of the GPA nationally and would want to know more about the proposals from the second (at least) group working on this i.e. Bob Burgess /HEA.

Clive Agnew, Vice-President

### **University of Nottingham**

The University's Senate gave support in principle in June 2012 for adopting the GPA system. Senate also agreed that the University should begin preparing for a move to a GPA system for undergraduate students entering from 2014 onwards (at the earliest). Confirmation of this move would be dependent on a sufficiently sized group of universities making the same commitment and a final decision would be taken by Senate when it was felt that this point had been reached.

Senate also agreed that degree classes should be retained for a fixed period alongside GPA scores, with the classes being based on ranges of GPA scores to be determined.

Senate further agreed that if there is a move to a GPA system for undergraduate students, there should be a move to a similar system for taught postgraduate students no later than two years afterwards (i.e. when undergraduate students on three year degree programmes have reached their final year).

Preparations at Nottingham for a move to GPA are commencing with the formation of a working party to map out the regulatory framework within which a GPA system would operate. This builds on the joint work that has been undertaken with the University of Birmingham on the implementation issues around GPA. Involvement of other universities in these more detailed discussions would be welcomed.

Professor Alan Ford is taking over from Saul Tendler as Pro-Vice-Chancellor for Teaching and Learning with effect from 1 August 2012 and will be leading Nottingham's activities in regard to GPA.

Robert Dowling, Academic Services Division

### **University of Sheffield**

The University's Senate gave its approval in June 2011 that Sheffield should be involved in discussions about moving to GPA. Questions were raised at the June 2012 Senate about the state of progress, and about points of detail in any changeover period. There is discernible enthusiasm among many senators for a move to GPA.

The University's Learning and Teaching Committee, and the Quality and Scrutiny Sub-Committee have also expressed their support for ongoing discussions about moving to GPA.

The University's Executive Board received and discussed the February 2012 paper outlining a possible scheme. There was considerable support from UEB members, although strong opposition was voiced from one Faculty PVC to the adoption of what could be seen as a 'non-linear' scale for the recording of performance.

Sheffield is awaiting the outcome of the analytical modelling and mapping that is being undertaken jointly by Birmingham and Nottingham. Successful outcomes from that, and from statements of interest from other universities, would lead to a firm proposal for the introduction of GPA being taken through internal consultation and governance routes during session 2012-13.

Paul White, Pro-Vice-Chancellor

### **University of York**

The national discussions regarding GPA were summarised to the University's Senate in July 2011. After wide-ranging discussion Senate gave its approval for continued involvement. In January 2012, Dr David Duncan (Registrar), the former representative to the national

discussion from York, established an internal group to consider the University's next steps. Following the teleconference on 30 January 2012, the associated paper "A Grade Point Average Proposal for UK Universities" was considered by the internal group and the Registrar fed back general support for the scheme as outlined there. Since then we have not taken any further steps. We are keen to learn about the outcome of the analytical modelling being done by Nottingham and Birmingham, and look forward to a renewal of the national discussion, after which firmer proposals will be offered for consideration by the internal group, then Standing Committee on Assessment, University Teaching Committee, and Senate.

John Robinson, Pro-Vice-Chancellor

## Appendix 4: GPA Modelling – Nottingham and Birmingham

Nottingham – February 2012

*National Group Model – conversion points used*

Grade	Standard	Grade Point	% Equivalence
A+	Excellent	4.25	77+
A	Excellent	4	74-76
A-	Excellent	3.75	70-73
B+	Good	3.5	67-69
B	Good	3.25	64-66
B-	Good/Satisfactory	3	60-63
C+	Satisfactory	2.75	57-59
C	Satisfactory	2.5	54-56
C-	Satisfactory	2.25	50-53
D+	Adequate	2	44-49
D	Pass	1	40-43
D-	Marginal Fail	0.5	37-39
F	Fail	0	>36

School/Department	Overall Percentage	Degree Classification	GPA Range (lower end-upper end)
Biosciences	70+	First	3.58 – 4.11
	60 – 69	2:1	2.77 – 3.59
	50 – 59	2:2	2.08 – 2.85
	40 – 49	3	1.83 – 1.98
	Below 40	Fail	0.31 – 1.26
Economics	70+	First	3.61 – 3.93
	60 – 69	2:1	2.8 – 3.62
	50 – 59	2:2	2.05 – 2.86
	40 – 49	3	1.37 – 2.03
	Below 40	Fail	0.59 – 1.37
Electrical Engineering	70+	First	3.44 – 4.08
	60 – 69	2:1	2.79 – 3.53
	50 – 59	2:2	2.08 – 2.72
	40 – 49	3	1.03 – 1.97
	Below 40	Fail	0.32 – 1.12
Mathematical Sciences	70+	First	3.57 – 4.25
	60 – 69	2:1	2.75 – 3.68
	50 – 59	2:2	2.01 – 2.89
	40 – 49	3	1.08 – 2.14
	Below 40	Fail	0.55 – 1.10
Physics and Astronomy	70+	First	3.58 – 4.22
	60 – 69	2:1	2.82 – 3.62
	50 – 59	2:2	1.98 – 2.88
	40 – 49	3	1.24 – 2.07
	Below 40	Fail	0.55 – 1.19

**Birmingham - March 2012**

***National Group Model – conversion points used***

Grade	Standard	Grade Point	% Equivalence
<b>A+</b>	Excellent	4.25	75+
<b>A</b>	Excellent	4	72-74
<b>A-</b>	Excellent	3.75	70-71
<b>B+</b>	Good	3.5	66-69
<b>B</b>	Good	3.25	63-65
<b>B-</b>	Good/Satisfactory	3	60-62
<b>C+</b>	Satisfactory	2.75	56-59
<b>C</b>	Satisfactory	2.5	53-55
<b>C-</b>	Satisfactory	2.25	50-52
<b>D+</b>	Adequate	2	43-49
<b>D</b>	Pass	1	40-42
<b>D-</b>	Marginal Fail	0.5	35-39
<b>F</b>	Fail	0	>35

**2010/11 Graduating Cohort**

School/Department	Overall Percentage	Degree Classification	GPA Range (lower end-upper end)
Biosciences	70+	First	3.46-4.08
	60 – 69	2:1	2.78-3.59
	50 – 59	2:2	1.88-2.89
	40 – 49	3	-
	Below 40	Fail	-
Law	70+	First	3.48-3.83
	60 – 69	2:1	2.77-3.61
	50 – 59	2:2	2.13-2.97
	40 – 49	3	1.91
	Below 40	Fail	-
Maths	70+	First	2.98-4.25
	60 – 69	2:1	2.35-3.64
	50 – 59	2:2	1.55-2.89
	40 – 49	3	1.42-2.21
	Below 40	Fail	-