# AMBeR PROJECT

## Academic Misconduct Benchmarking Research Project: Part I

*The Range and Spread of Penalties Available for Student Plagiarism among UK Higher Education Institutions*

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## Contents

## Abstract

At the Second International Plagiarism Conference the Independent Adjudicator for Higher Education, expressed concerns that penalties for student plagiarism are being applied inconsistently throughout the UK. The first phase of the Academic Misconduct Benchmarking Research (AMBeR) Project, commissioned by the Joint Information Systems Committee (JISC) to investigate the policies and procedures applicable for plagiarism throughout the HE sector, sought to identity the range and spread of penalties available within HEI regulations.

168 government-subsidised UK HEIs were contacted to request copies of their plagiarism regulations and a 91% response rate was achieved. Regulations were analysed to determine the range of penalties available, and the factors involved in assigning these penalties. Two numerical values were then calculated for each institution to explain the range of penalties available for a given offence [Penalty Variability Score (PVS)] and the extent to which the available penalties increase with the seriousness of the offence [Penalty Gradation Score (PGS)].

Initial analysis identified that 25 different penalties (ranging from 'no further action' to 'expulsion') were available for student plagiarism throughout the HE sector. The range of penalties available for different offences was also shown to vary substantially both across the sector and within institutions. In terms of how these penalties are recommended, we identified that while 86.7% of institutions provided some advice within their guidelines, only 76.4% made explicit how certain factors should affect the penalty. By far the most common individual factor was a student's previous history of misconduct (63.4%), followed by their academic level (29.4%). These factors were considered in more detail. For a majority of institutions (79.1%), the PGS values fell into one of three clusters. Institutions in the first cluster (28.8%) have a single list of penalties that is applicable for all cases of plagiarism. HEIs in the second cluster (30.7%) have either two or three applicable penalty lists while those in the final cluster (19.6%) demonstrate a highly stepped approach to recommending a penalty, with at least four explicitly different penalty lists, which are assigned stepwise according to multiple changes in the factors above. We identified significant differences between the characteristics of HEIs belonging to these three different clusters which represents a potential obstacle to the development of a uniform consensus on plagiarism management. Future research is now underway to investigate whether the inconsistency identified in this study translates directly to the penalties awarded.

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## 1) Introduction

Plagiarism is formally defined as 'the action or practice of taking someone else's work, idea, etc., and passing it off as one's own' (Oxford English Dictionary, 2007). Although recorded throughout history (Thomas, 2000), the contemporary perception of this form of intellectual misconduct depicts a modern 'epidemic' (Miall, 2005) catalysed by the growth in access to electronic resources (Duggan, 2006), and technological advances, such as text messaging, which are accused of promoting inappropriate writing styles (Davies *et al.* 2006). In few sectors has the plagiarism issue provoked more discussion than in Higher Education (HE), where it is accused of undermining academic credibility and unhinging the benefits of honesty and integrity (Park, 2004).

In response to the problem, United Kingdom (UK) HE institutions (HEIs) employ various approaches (Macdonald & Carroll, 2006), the most common of which involves the use of 'plagiarism detection software', now adopted by the majority of UK HEIs (JISCPAS, 2007). However, numerous commentators believe that such is the complexity of the plagiarism puzzle that only an 'holistic' approach can provide effective management (Carroll, 2002; Devlin, 2004; Leask, 2005; Taylor, 2004). In 2002, the national Plagiarism Advisory Service was established (with funding from the Joint Information System Committee) to promote this approach throughout the sector (JISCPAS, 2007A). This stance is supported by recent research, which has not only demonstrated that holistic management is possible, but that without it, "change does not happen and often, leaves those trying to encourage it (change) frustrated." (Carroll & Duggan, 2005)

Essential within the holistic framework is the need for a clear and defined assignment of sanctions and penalties, both to provide a tangible deterrent and to protect institutional credibility. Aside from evidence which shows that well publicised institutional tariffs can positively influence student behaviour (Macdonald and Carroll, 2006), clarity is also important to avoid legal complications, a particularly pertinent point given the observation that institutions which assign inconsistent penalties may leave themselves open to litigation (Carroll, 2003; Slater, 2004; Jones, 2007). Indeed, practitioners are questioning regulations that appear to recommend the same penalties to a first year student guilty of poor referencing as to a final year student guilty of submitting an article purchased from an essay site.

During the Second International Plagiarism Conference (held in Gateshead, 2006), The Independent Adjudicator for Higher Education, Baroness Deech, expressed concerns that, rather than there being consistency in the application of penalties for plagiarism, the variation across the sector (and even within a single institution) is 'too great to be defensible' (Deech, 2006). Quoting a characteristic student enquiry, Deech asked 'why I am being thrown out, when my friend down the road at another university did exactly the same thing and only got fined £50?' (Deech, 2006). Reflecting this experience, Carroll and Seymour (2007) refer to current systems of penalty allocation as a "lottery", whilst delegates at the recent National Union of Students Conference (held in

Blackpool, 2007) denounced some plagiarism regulations as "crude and unacceptable" (Anon, 2007). The existence of such perceptions raises serious concerns about the unified notion of fairness and justice across the HE sector.

The Academic Misconduct Benchmarking Research (AMBeR) project, funded by the Joint Information Systems Committee (JISC), to investigate the management of student plagiarism throughout the UK HE community is a response to these concerns. The project reflects upon earlier work conducted in Australia (Anon, 2005; Yeo & Chein, 2005) and echoes Jones' (2006) call for consistent policies and procedures for academic misconduct in the sector.

The project is a threefold study of the regulatory and practical aspects of dealing with academic misconduct, comprising the following stages:

■  A desktop survey of all academic misconduct regulations currently applicable in UK HEIs.

■  A questionnaire survey to all UK HEIs to identify the number and range of penalties applied under the current regulations.

■  Case studies in a representative sample of HEIs to determine the actual penalties applied in particular situations.

This report represents the first stage of this research and considers the range of penalties for plagiarism (and the tariffs for allocating such penalties) contained within HEI regulations. We identified substantial variation throughout the sector, with different institutions opting for different penalties and tariffs. Interestingly, rather than occurring at random, we identified that some of this variation is explained by institutional characteristics.

## 2) Methods

### 2.1) Defining and contacting the census

A list of 168 UK HEIs was compiled based on the following inclusion criteria:

■  That they receive funding from either The Higher Education Funding Council for England (HEFCE), The Scottish Further and Higher Education Funding Council (SFC), The Higher Education Funding Council for Wales (HEFCW) or The Northern Ireland Higher Education Council (NIHEC).

■  That they offer at least one taught qualification equivalent to a minimum of Level 6 on the National Qualifications Framework (e.g. a Bachelor's degree).

Between December 2006 and March 2007, all UK HEIs meeting the above criteria were contacted to request copies of their plagiarism penalty regulations. For each HEI, individuals were nominated* and initially contacted

*  Contacts were selected in the following order of preference: Academic Registrar, Pro-Vice Chancellor (Teaching and Learning), Academic Quality/Standards Officer, Deputy-Vice Chancellor (Academic), other.

by email to request copies of the student 'plagiarism regulations', 'policies' or 'policy documents' from their institution. HEIs that did not respond to this initial request were sent follow-up requests, both to the original contact and to alternative contacts, by telephone and email. Institutions that supplied incomplete information also received follow up requests.

Overall, 157 (94%) institutions responded to these enquiries, 153 (91%) of which were included in the study (exclusion occurring because incomplete material was provided), this compares very favourably to a similar study performed by Larkham and Manns (2002) which was hampered by 'extremely disappointing' response rates.

### 2.2) Preliminary Investigation

To identify prospective avenues for investigation, we conducted a brief study of the census. This initial scan identified the list of penalties available for plagiarism, as well as what factors are most commonly involved in recommending these penalties. In addition, substantial anecdotal variation between different institutions' penalty tariffs was also identified. We therefore set out to investigate these differences using a quantitative approach.

### 2.3) Quantitative Investigation

To facilitate quantitative investigation, two ordinal scales were designed; the academic infringement scale and the academic misconduct penalty scale. The academic infringement scale ranked twenty-seven theoretical offences of plagiarism in order of gravity, so determined by three factors: the academic level of the student, the previous history of the student, and various other

variables combined to determine the 'severity'. The lowest offence on the scale is a level one (certificate), first time, 'mild' offence, while the highest offence on the scale is a level 3/M (Bachelors or Masters), third/subsequent time, 'severe' offence (**Appendix 7.1**). The academic misconduct penalty scale, meanwhile, listed all the penalties identified in order of perceived academic impact (**Appendix 7.2**).

For each institution, the minimum and the maximum *recommended* penalty was then recorded for each of the twenty-seven offences to create a unique penalty fingerprint. From this fingerprint, two scores were derived, the Penalty Variability Score (PVS) and the Penalty Gradation Score (PGS). The PVS represents the average range of penalties available for a particular offence. Meanwhile, the PGS represents the extent that the penalties recommended are graduated to reflect the scale of the offence committed. A full explanation of the procedure underlying the generation of these values is given in **Appendix 7.3**. Meanwhile, **Appendices 7.4 - 7.5** provide advice for interpreting these two scores.

### 2.4) Statistical Procedures

Populations were tested for normality using the One-Sample Kolmogorov-Smirnov test. In all cases, values were not normally distributed, thus non-parametric statistical procedures were employed. The median was adopted as the preferred measure of central tendency, while Spearman's Rank Correlation Coefficient was used to measure correlation. The Kruskal Wallis H test was also used to compare populations.

All analyses were performed using SPSS for Windows 12. Borderline significance was defined as $0.005 < p$

≤0.05, while true significance was defined as $p \leq 0.005$ [0.05 / 10 (the number of tests performed)]. Graphs and charts were drawn using Microsoft Excel 2003 SP2.

### 2.5) Limitations

Two potential methodological limitations necessitate mention. The first of these is that all stages of the project were performed by the same researcher. Since qualitative research inherently requires individual judgement, this presents the possibility of interpretational bias. To reduce the impact of this, important definitions (such as the penalty and infringement scales) were compiled in consultancy with members of the JISC Plagiarism Advisory Service. Furthermore, data analysis was limited until after all data had been collected. The second limitation was that, by conducting a census, rather than a stratified survey, the data was susceptible to response bias. However, the very high response rate will have reduced the impact of this phenomenon.

## 3) Results

### 3.1) What penalties are available for plagiarism?

We identified 25 different penalties that are available for student plagiarism throughout the HE sector. These range from 'no further action' through to 'expulsion (with all credits or intermediate qualifications cancelled)' (for the complete list see **Appendix 7.2**). Penalties can be grouped into the following categories: those constituting a warning, assessment-class penalties, module-class penalties, award-class penalties, expulsions, and those that have only limited academic impact (others).

### 3.2) How common are these penalties?

**Figure 1** shows the percentage of HEIs that list each penalty as a possible consequence of plagiarism. By far the most commonly cited penalty was expulsion, which was listed in the regulations of 98.7% of institutions. Of these, however, only 12.5% provided details as to how an expulsion would affect previously achieved credits and intermediate qualifications.

Behind expulsion, the second most frequently cited penalty was reducing the mark of the affected assignment to a fail (or zero). In such cases, it was more common to provide the student with an opportunity to retrieve a portion of the penalised mark (78.0%) rather than insist that the fail stands, although the latter option was still available in nearly two-thirds (67.3%) of HEIs.

Not far behind these assessment-class penalties were the equivalent module-class penalties. Nearly two-thirds (66.0%) of institutions listed reducing the affected module mark to a fail (or 0%) with a capped resit permitted, while 58.7% of institutions listed the equivalent with no permitted resit.

Warnings [either formal, (60.7%) or informal, (18.7%)] were listed in the regulations of a large proportion (68.7%) of the census. However, these were usually used in conjunction with other penalties (e.g. a student's assessment mark being reduced, and a formal warning issued to warn the student that future offences would receive a more serious penalty). Indeed, only 36.6% of institutions listed warnings as exclusive penalties in their own right, with formal (or written) warnings proving

## Figure 1

Chart showing the frequency that 25 different penalties for academic misconduct are contained within the plagiarism regulations of 153 UK Higher Education Institutions (HEIs). Although certain penalties are popular across the sector (expulsion being the most notable), there are a large number which are only available in a minority of HEIs.
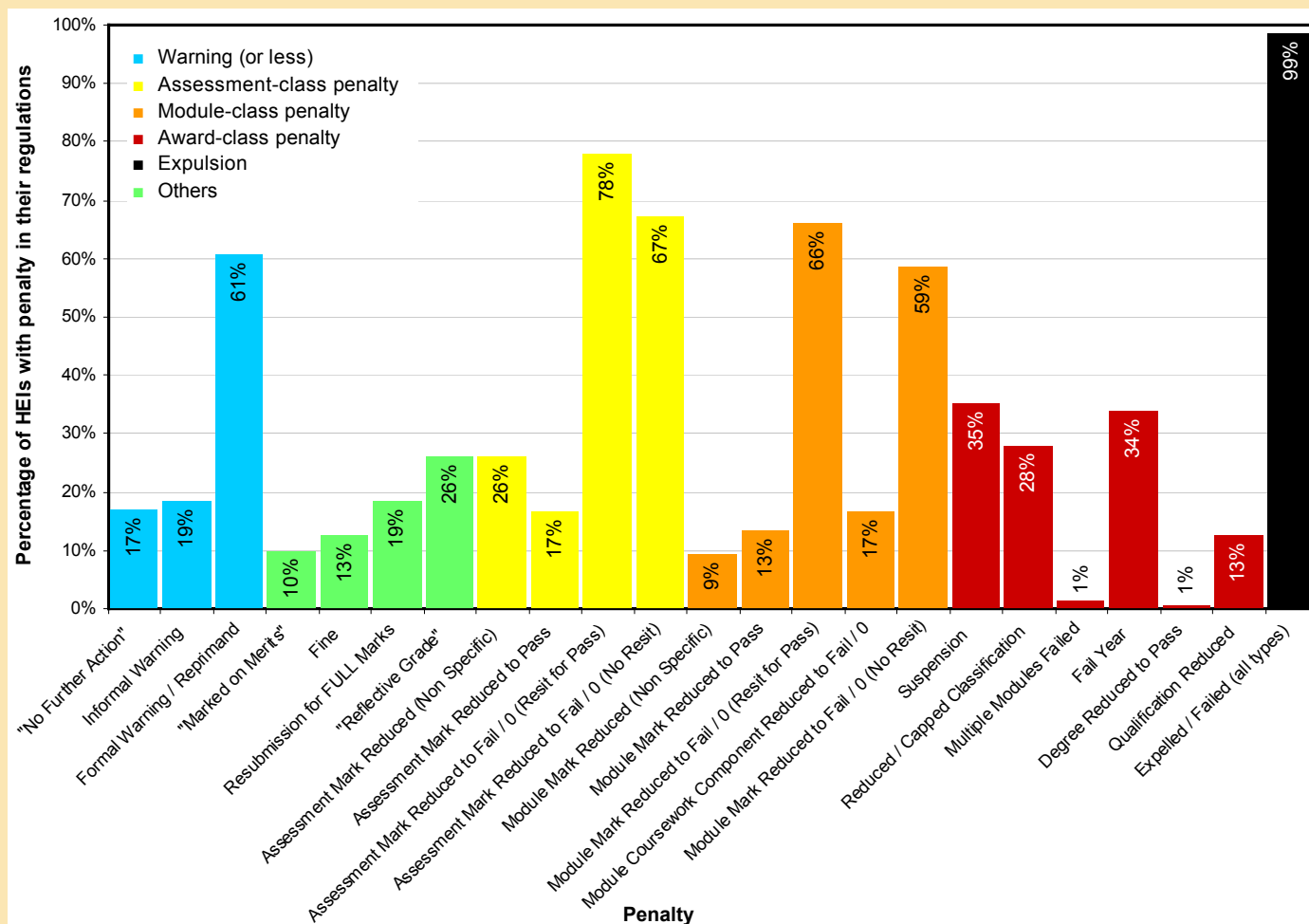


substantially more common (31.4%) than informal (or verbal) warnings (5.2%).

The remaining penalties were considerably less widespread, although most were still available in a notable minority of HEIs. Perhaps most interesting among these were the 12.7% of institutions that list a 'fine' as a possible penalty for plagiarism. These ranged from a uniform minimum of £100, up to £1000, with 3.2% of HEIs allowing fines of at least £500

### 3.3) When is it possible (or recommended) for a student to be expelled for plagiarism?

As an extreme penalty for plagiarism, expulsion is inevitably controversial. We thus examined the conditions under which expulsion was possible or

recommended for plagiarism. The results are summarised in **Figure 2**.

It has already been observed that expulsion is a possible penalty to students who have committed the most serious offences (level 3/M, third/+ time, 'severe' offences) in 98.7% of HEIs. For lesser offences, however, the availability of expulsion tailed off steadily. Indeed, for the least serious offence on the scale (level 1, first time, 'mild'), the proportion of HEIs that cited expulsion as a possible penalty was just one quarter (25.4%) of the census. Having said this, for (level 1, first time) 'severe' offences, this increased to over two thirds (67.3%); indicating that, in the majority of HEIs, low

academic level and no previous history of misconduct do not in themselves compensate if the offence is deemed sufficiently 'severe' in other respects.

The proportion of institutions that listed expulsion as the only penalty available for a given offence was substantially lower. Even for the most serious offence, the proportion of regulations that recommended expulsion was only 15.7%. Interestingly, 7% of HEIs appeared to adopt a 'two strikes' policy, with expulsion recommended (regardless of other factors) if the candidate had been found guilty of plagiarism on a previous occasion. This increased to 11% of HEIs for third offences, with only one HEI recommending expulsion in all cases except first offences at level one.

### 3.4) How large a range of penalties is available for a specific act of plagiarism?

The second stage of the investigation explored the range of penalties that HEIs could apply to a specific case of plagiarism. **Figure 3** shows the average range of penalties available for each of the twenty-seven possible offences for the total census. For almost all cases, the
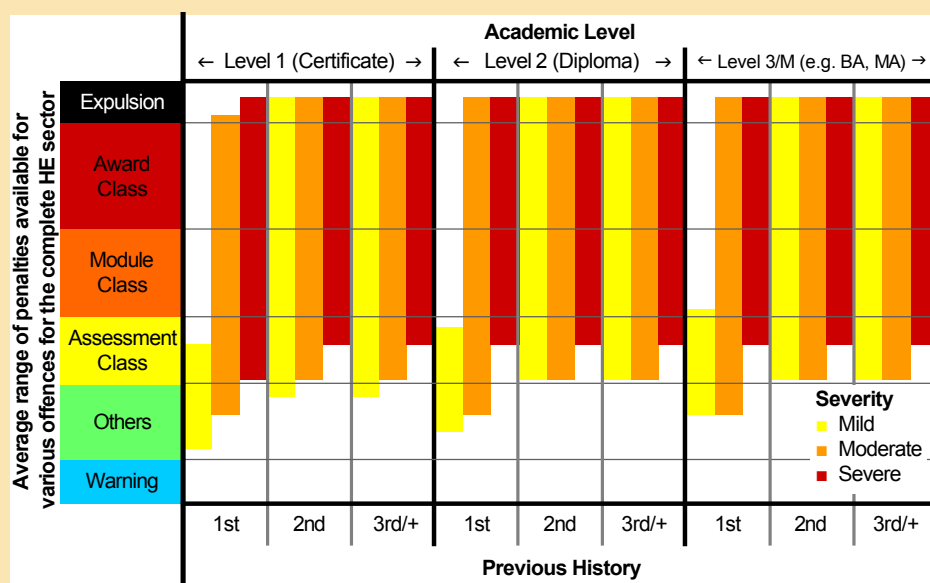
## Figure 2

Graph representing the possibility of expulsion for various different acts of plagiarism. The light tone bars show the proportion of HEIs that reserve the right to expel a student for a given offence. The dark tone bars show the proportion of HEIs which list expulsion as the minimum available penalty for that offence.
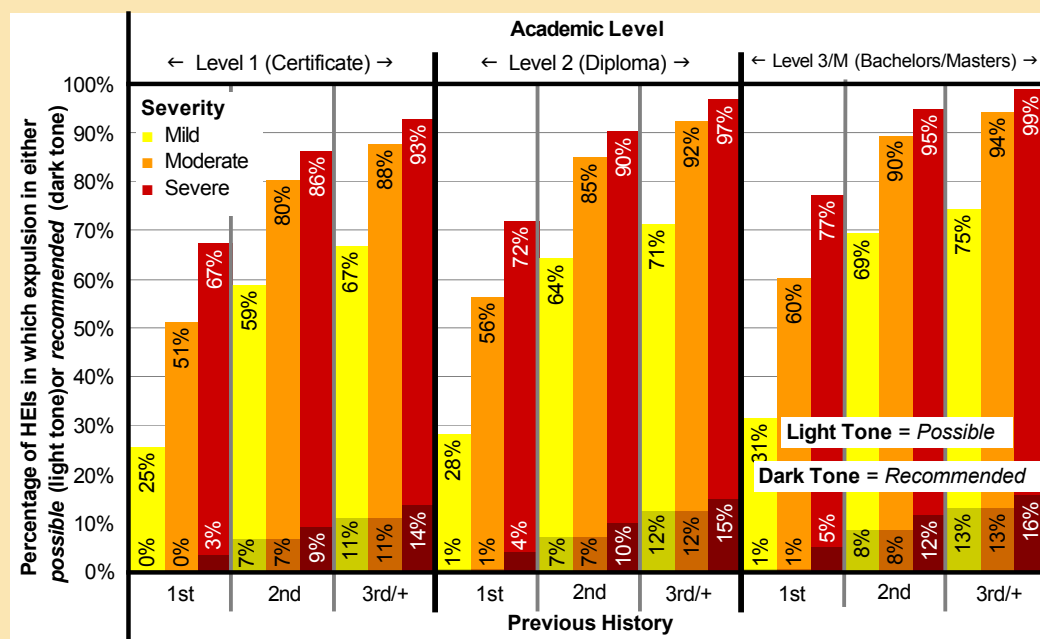
## Figure 3

'Penalty Profile': showing the average range of penalties available for each of twenty-seven different academic offences for all UK higher education institutions. In most situations (except for first time, mild infringements), the possible penalty varies substantially, indicating a large potential variation in the possible penalty for a student found guilty of plagiarism.



average penalty varies substantially, from an assessment-class penalty through to expulsion. The only offences with a smaller range of possible penalties are first offences deemed 'mild' (**Appendix 7.1**), where the average recommended penalties ranged by just a few points.

**Figure 3** thus illustrates vast national variation in the penalties available for particular instances of plagiarism; however, it does not explain the source of this variation. To investigate, we examined the variation inherent in the regulations of each individual institution. A scoring system was developed to present these results (the Penalty Variability Score), with a score of zero indicating

a range of zero (i.e. in the majority of cases only one penalty is available for each offence) and a score of 100 indicating that the complete range of penalties (from 'no further action' to expulsion) is available.

The average score for the whole census was 58.33. This indicates that, on average, the potential penalties for any single offence vary by as much as 14 points on the academic misconduct penalty scale (**Appendix 7.2**). Such an institution could, for example, assign any penalty between a 5 (requiring the student to resubmit the work for an uncapped mark) and a 19 (failure of the academic year) for exactly the same offence. The majority of institutions thus list a large range of potential penalties for specific cases of plagiarism

Having said this, the PVS population distribution is quite unusual, with a surprising number of HEIs recording extreme values. Thus, although the PVS average was relatively high, nearly a fifth (18.3%) of HEIs still recorded a value less than 12.5 (equating to a maximum variation of three points on the penalty scale), indicating a reasonable minority that have a precise penalty tariff. At the other end, however, nearly a third of institutions (29.4%) recorded values of 87.5 or above (equating to a minimum variation of 20 points on the

penalty scale; equivalent to the difference between a formal warning and expulsion).

### 3.5) What factors are involved in recommending appropriate penalties?

We also investigated the factors involved in recommending particular penalties for offences. Attributes identified included the previous history of the student, the academic level of the student, the perceived intention to deceive, the extent of work plagiarised, the value of the work plagiarised and other non-specific conditions, such as the 'severity' of the offence, or whether it was deemed a 'major' or 'minor' offence. Although a small minority of institutions (13.3%) did not offer any guidance for how penalties should be assigned, 86.7% of the regulations examined listed at least one of these above features as important. 78.7% of these recommended one of the specific factors named above, while 8.0% exclusively used non-specific terms such as the 'severity', without any additional guidance. In terms of individual categories, the previous history of the student was by far the most common factor listed as important in deciding the penalty (72.0%). This was followed by non-specific comments, such as the 'severity' of the case (51.3%), while the remaining factors were only listed as points of consideration in a minority of HEIs (academic level = 40.3%, intent to deceive = 18.7%, value of work = 16.0%, extent of plagiarised material = 16.9%).

Considering this further, we examined whether the physical list of possible penalties actually changes alongside these factors (rather than there merely being a statement that they should be considered). In all cases, the numbers involved were noticeably lower. Whereas 86.7% of institutions stated that it was important to take at least one of the listed factors into account, only 76.4% did so explicitly in their tariff. Of these, 63% explicitly adjust the range of penalties available according to previous history, but just 29% list alternative penalties for different academic levels. The remaining factors were less commonly considered, and are hence shown as combined data in the accompanying figure (**Figure 4**).

### Figure 4

'Higher Educations Institutions (HEIs) consider various issues when assigning a penalty for plagiarism. This graph shows the proportion of HEI plagiarism regulations which a) advise staff to consider a factor when determining a penalty (solid) and b) explicitly alter the list of penalties available (the tariff) to consider these factors (half-fill).
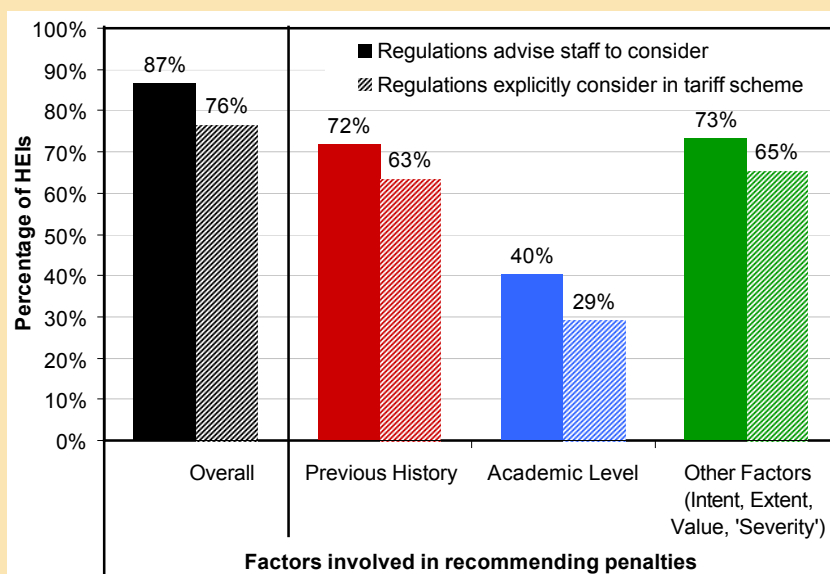
**3.6) To what extent are penalty regulations gradated to consider the scale of the offence committed?**

To examine the extent that the recommended penalties for different incidents of plagiarism were increased with the scale of the offence, we devised the Penalty Gradation Score (PGS). A score of zero indicates that none of the factors listed above are involved in the penalty tariff; while a score of 100 (the theoretical maximum) indicates a highly graduated penalty tariff where penalties are assigned to consider multiple changes in these factors.

The average score for the census was 52.55. Institutions scoring between 50 and 57.5 possess either two or three different penalties (or groups of penalties) which are assigned depending on two or three changes in the factors named above (such as academic level). As an example, one institution with a score of 52.55 had two alternative penalties sets that were selected according the previous history of the student, or the perceived 'severity' of the case. The lower set [which ranged from a formal warning (2) to a reduced assessment mark (7)] was applicable for first offences not deemed 'severe'. Meanwhile, the

upper set [which ranged from failing the affected module and capping the resit (13) to expulsion (23)] was available for all second (or subsequent) offences, or 'severe' first offences.

We observed that, rather than being distributed normally, 79.1% of the population fell into one of three clusters (**Figure 5**).

The first of these (PGS = 0) represents nearly a third (28.8%) of the total census. In these institutions, a single list of penalties is equally applicable for types of offence (**Figure 6A**). For example, an institution with PGS = 0 might typically state that 'one or more of the following penalties are available:' before listing penalties

## Figure 5

The regulations for every higher education institution (HEI) surveyed were assigned a numerical value (The Penalty Gradation Score, or PGS) which represents the extent that the penalties available for an act of plagiarism increase with the scale of the offence committed. The distribution of PGS values for the total population (N=153) are shown. It is apparent that the vast majority (79.1%) fall into one of three groups, labelled A, B and C, with PGS values of 0, 50 - 57.5 & 65 - 72.5 respectively.
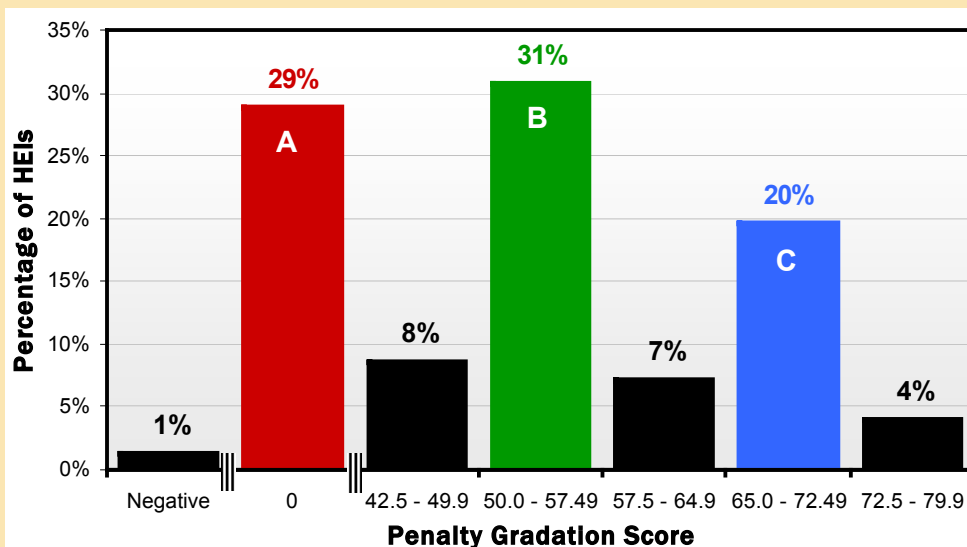
ranging from 'no further action' to 'expulsion'. The second peak (50 < PGS < 57.5), also contains around a third (30.7%) of all HEIs. The regulations from these institutions are typified by the example in the previous paragraph, where penalty sets are selected according to the previous history of the student, or perceived 'severity' of the case (**Figure 6B**). Finally, the smallest cluster (containing 19.6% of HEIs) is also the highest scoring cluster and occurs at 65 < PGS < 72.5.

Institutions in this group have up to five different penalties (or groups of penalties) which are assigned stepwise according to multiple different changes in the factors named above. An example penalty profile is shown in **Figure 6C**.

Of the remaining institutions, only a small minority (3.9%) returned a value higher than 72.5, with 77.3 being the highest PGS recorded (**Figure 6D**).

## Figure 6

79.1% of higher education institutions (HEIs) were shown to fall into one of three clusters based on penalty gradation score (PGS); PGS = 0 (A), $50 \leq PGS < 57.5$ (B) and $65 \leq PGS < 72.5$ (C). Example 'Penalty Profiles' for each group are shown below. Note that while Group A HEIs have the same range of penalties available for all offences; Group B and Group C institutions have increasing degrees of penalty specificity. The 'Penalty Profile' for the HEI with the highest penalty gradation score (PGS) is also shown (D). Note how the penalty tariff is graduated so that the available range of penalties adjusts in line with the academic level of the student, their previous history and the perceived 'severity' of the offence.
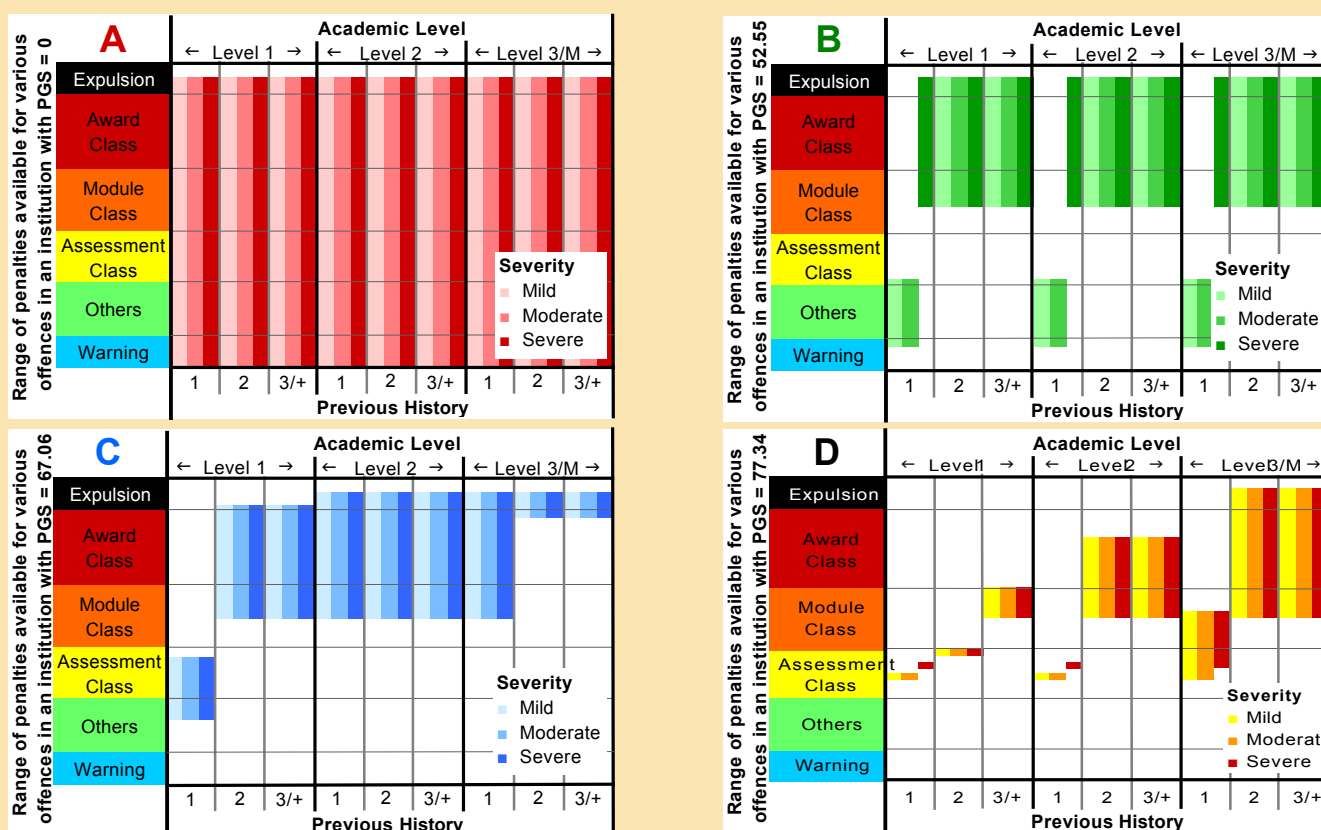
Interestingly, two institutions (1.3%) returned a negative PGS. Theoretically, this translates to a less serious penalty for a more serious offence. In practice, when we examined these instances, it was apparent that there was a difference between both institutions' judgement of penalty impact and the definitions in the Academic Misconduct Penalty Scale.

**3.7) Are these clusters associated with institution type?**

We investigated whether the three groups identified above (A, B, C) were the result of random clustering or whether they were associated with common HEI characteristics. Ten statistical indicators were compared (**Appendix 7.5**) and eight showed significant or borderline significant differences between the three clusters (p values shown in **Appendix 7.5**).

Group A was predominantly occupied by smaller HEIs with low income for both teaching and research (although the teaching income per student is actually substantially higher than the national average). Group B, meanwhile, was composed of larger institutions with a particularly large number of full time postgraduate students, large average research funding and higher than average RAE average per staff and UCAS points per student. Finally, group C was again composed of larger institutions, but with a higher number of part time students, and lower average RAE per staff and UCAS points per student. Full numerical details of these trends are shown in **Figure 7**.

If it is assumed that these groups have formed through common interest, then this represents a potential obstacle to the development of a uniform consensus on

## Figure 7

The regulations for every higher education institution (HEI) surveyed were assigned a numerical value (The Penalty Gradation Score, or PGS) which represents the extent that the penalties available for an act of plagiarism increase with the scale of the offence committed. 79.1% of the population fell into one of three clusters (A = 0, 50 < B< 57.5, 65 < C < 72.5). The profile of institutions in each cluster was examined using the Kruskal Wallis H Test, and associations were identified in eight characteristics. The median values of each statistic for each group are shown below the median values for the complete census (X) in the table below. (* = borderline significant)

| | Undergraduate Full Time Students P = 0.000 | Undergraduate Part Time Students P = 0.000 | Postgraduate Full Time Students P = 0.000 | Postgraduate Part Time Students P = 0.001 | Teaching Funding (£Millions) P = 0.004 | Research Funding (£Millions) P = 0.013* | RAE Average Per Staff P = 0.007 | Student UCAS Score P = 0.005 |
|---|---|---|---|---|---|---|---|---|
| **X** | 6775 | 2120 | 1070 | 1460 | 23.3 | 1.5 | 3.5 | 283 |
| **A** | 1778 | 628 | 370 | 718 | 10.1 | 1.0 | 3.1 | 265 |
| **B** | 7855 | 2010 | 1525 | 1890 | 25.8 | 8.2 | 4.9 | 343 |
| **C** | 8335 | 4437 | 1182 | 2432 | 35.1 | 1.3 | 2.6 | 247 |

plagiarism management. On the other hand, some have argued that HEIs should 'devise a student plagiarism framework that best suits their own culture and circumstances' (Park, 2004). Based on this evidence, it would seem that this is already happening.

## 4) Conclusion

This study examined the range and spread of penalties available for plagiarism among a census of UK HEIs. We identified substantial variation throughout the HE sector in the penalties available for student plagiarism and in the procedures involved in their recommendation. While 25 different penalties were possible for plagiarism, these were not equally available. Of the least common, it was particularly interesting to observe that 12.7% of institutions permitted financial penalties for plagiarism, perhaps reflecting the more commercial nature of modern higher education. Although, the minimum possible fine was uniformly £100, the maximum fine permissible ranged from £250 to £1000, with 3.2% of HEIs allowing fines of at least £500.

In terms of recommending penalties for individual offences, there was also significant variation throughout the sector. Nearly a third of institutions have the same list of penalties available for all cases of plagiarism, while some use tariffs that are so strictly defined that only single penalties are available for a specific class of offence. In fact, the vast majority of institutions were shown to fall into one of three distinct groups of practice. Since institutions in each of these groups show significantly different characteristics, it is very possible that this clustering has occurred because of common interest.

Park (2003) argues there is a 'growing need for UK institutions to develop cohesive… penalty systems that are transparent and applied consistently.' Although this study has demonstrated that two thirds of institutions have gone some way to addressing the need for transparent penalty regulations, there is nevertheless a considerable degree of variety across the sector. Furthermore, a large minority of HEIs are currently using regulations that provide only limited guidance regarding the assignment of penalties for plagiarism. Future research is now required to investigate whether the inconsistency translates directly to the penalties awarded; however, the very existence of such variation serves to substantiate concerns expressed by previous commentators, including The Independent Adjudicator for Higher Education, Baroness Deech.

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## 5) References

Anon (2005) *Academic Integrity Project: Policy.* Available at: **http://www.tlc.murdoch.edu.au/project/acode/frameset1.html** (Accessed: 16 May 2007).

Anon (2007) 'Prevent Plagiarism', *Times Higher Education Supplement*. 30 March [Online]. Available at: **http://www.thes.co.uk** (Accessed: 16 May 2007).

Carroll, J (2003) 'Setting plagiarism tariffs: An institutional approach seeking fairness and consistency', *Higher Education Research and Development Society of Australasia Conference* Christchurch (New Zealand) 6 – 9 July. Available at **http://surveys.canterbury.ac.nz/herdsa03/pdfsnon/N1024.pdf** (Accessed: 16 May 2007).

Carroll, J (2002) *A Handbook for Deterring Plagiarism in Higher Education* Oxford: Oxford Centre for Staff and Learning Development.

Carroll, J and Duggan, F (2005) 'Institutional Change to Deter Student Plagiarism: What seems essential to a holistic approach', *Second Asia-Pacific Educational Integrity Conference Proceedings* Newcastle (Australia) 2 – 3 December. Available at: **http://www.newcastle.edu.au/conference/apeic/papers_pdf/carroll_0511_edd.pdf** (Accessed: 16 May 2007).

Carroll, J and Seymour, D (2006) 'The effect of a penalty tariff on consistent decision-making in cases of student plagiarism', *Second International Plagiarism Conference* Gateshead (UK) 19 – 21 June. Available at: **http://www.jiscpas.ac.uk/documents/papers/2006Papers24.pdf** (Accessed: 16 May 2007).

Davies, S, Swinburne, D and Williams, G (2006) *Writing Matters: Royal Literary Fund Report on Student Writing in Higher Education* London: The Royal Literary Fund.

Deech, B (2006) *Plagiarism and institutional risk management* [Keynote Address at Second International Plagiarism Conference] Gateshead (UK) 19 June. Available at: **http://www.jiscpas.ac.uk/baronessdeechvideo.php** (Accessed: 16 May 2007).

Devlin, M (2003) 'Policy, preparation prevention and punishment: one faculty's holistic approach to minimising plagiarism', *The First Australasian Educational Integrity Conference* Adelaide (Australia) 21 – 22 November.

Duggan, F (2006) 'Plagiarism: prevention, practise and policy', *Assessment and Evaluation in Higher Education* 31(2) pp. 151-154.

JISCPAS (2007) *Turnitin UK - Electronic Plagiarism Detection*. Available at: **http://www.jiscpas.ac.uk/turnitinuk.php** (Accessed: 16 May 2007).

JISCPAS (2007A) *Plagiarism Advisory Service Roadmap: DRAFT Version 4 Revision 4.* Available at: **http://www.jiscpas.ac.uk/documents/Roadmap_v4r4b.pdf** (Accessed: 16 May 2007).

JISC PLAGIARISM ADVISORY SERVICE
www.jiscpas.ac.uk

Jones, M (2006) 'Plagiarism Proceedings in Higher Education – Quality Assured?', *Second International Plagiarism Conference* Gateshead (UK) 19 – 21 June. Available at: **http://www.jiscpas.ac.uk/documents/ papers/2006Papers12.pdf** (Accessed: 16 May 2007).

Larkham, PJ and Manns, S (2002) 'Plagiarism and its Treatment in Higher Education', *Journal of Further and Higher Education* 26(4) pp. 339-349.

Macdonald, R and Carroll, J (2006) 'Plagiarism – a complex issue requiring a holistic institutional approach', *Assessment and Evaluation in Higher Education* 31(2) pp. 233-245.

Miall, C. (2005) 'Combating 'Cut N Paste' Culture: The Impact of New Media Technologies on Plagiarism', *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications* 2005(1) pp. 2918-2923.

Oxford English Dictionary (2007) *Plagiarism*. Available at: **http://www.oed.com** (Accessed: 16 May 2007).

Park, C (2003) 'In Other (People's) Words: plagiarism by university students-literature and lessons', A*ssessment & Evaluation in Higher Education* 28(5) pp. 471-488.

Park, C (2004) 'Rebels Without a Clause: towards an institutional framework for dealing with plagiarism by students', *Journal of Further and Higher Education* 28(3) pp. 291-306.

Slater, A (2004) *Plagiarism in the HE community*. [Seminar] 21 October. Available at: **http://www.ldu.leeds.ac.uk/ ldu/sddu_multimedia/plagiarism_adrian/adrian_slater.htm** (Accessed: 16 May 2007).

Taylor, G (2003) 'The critical role of pedagogy in plagiarism prevention: the Unley ten point counter plagiarism strategy', *The First Australasian Educational Integrity Conference*. Adelaide (Australia) 21 – 22 November.

Thomas, MW (2000) 'Eschewing Credit: Heywood, Shakespeare, and Plagiarism before Copyright', *New Literary History* 31(2) pp. 277-293.

Leask, B (2004) 'Plagiarism and cultural diversity: Responsibilities, accountabilities and pedagogy' *Plagiarism: Prevention, Practice & Policy Conference*. Newcastle-upon-Tyne (UK) 28 - 30 June. Available at: **http:// www.jiscpas.ac.uk/documents/abstracts/2004abstract27.pdf** (Accessed: 16 May 2007).

Yeo, S and Chien, R (2005) 'The seriousness of plagiarism incidents: Making consistent decisions across a university' *2nd Asia-Pacific Educational Integrity Conference*. Newcastle (Australia) 2 – 3 December. Available at: **http://www.newcastle.edu.au/conference/apeic/papers_pdf/yeo%20and%20chien.pdf** (Accessed: 16 May 2007).

## 6) Glossary

This document contains a number of terms that are used to define a specific object or feature. To reduce confusion, definitions of these terms are shown below:

| | | | |
|---|---|---|---|
| 1) | **Offence** | = | An act of plagiarism performed by a student. |
| 2) | **Level** | = | Academic level, e.g. Level 1 (Certificate), Level M (Masters). |
| 3) | **Previous History** | = | Whether it is a student's first **offence** or a subsequent **offence.** |
| 4) | **Severity** | = | The seriousness of an **offence** according to several factors that do NOT include the academic **level** or the **previous history** of the student (See **Appendix 7.1**). |
| 5) | **Mild, Moderate, Severe** | = | Classification terms used in this project to describe the **severity** of an **offence** (See **Appendix 7.1**)**.** |
| 6) | **Ordinal Scale** | = | A system of classification where qualitative items are ordered into numerical categories. |
| 7) | **Academic Infringement Scale** | = | An **ordinal scale** of **offences** (See **Appendix 7.1**)**.** |
| 8) | **Academic Misconduct Penalty Scale** | = | An **ordinal scale** of penalties (See **Appendix 7.2**). |
| 9) | **Penalty Tariff** | = | A scale developed by institutions to determine appropriate penalties for varying **offences.** |
| 10) | **Penalty Gradation Score (PGS)** | = | A measurement, developed for this project, to explain the degree of graduation present within an institution's plagiarism **penalty tariff**, and thus how finely the available penalties are stepped to consider the scale of the **offence** (See **Appendices 7.3 - 7.4**). |
| 11) | **Penalty Variability Score (PVS)** | = | A measurement, developed for this project, to explain how large a range of penalties are available for a specific **offence** (See **Appendices 7.3 & 7.5**). |

## 7) Appendices

### 7.1) Academic Infringement Scale

The first scale (infringement) is composed from three elements each with three states: the academic level of the student [certificate (L1), diploma (L2), bachelors/masters (L3/+)], the previous history of the student [First Time (1), Second Time (2), Third/Subsequent Time (3/+)] and other factors (value of work, degree of plagiarised material, intention to deceive) all collated under the general term 'severity' [mild, moderate, severe]. The 'severity' states are defined thus:

| | | Value of Work | Amount of Plagiarized material | Intention to Deceive |
|---|---|---|---|---|
| Mild | = | Formative | Small | None |
| Moderate | = | Summative | Moderate | Suspected, but unproven |
| Severe | = | Large Summative (e.g. dissertation) | Extensive (e.g. essay bank material) | Proven |

Inclusion into a particular state was based on the majority of terms matched, (e.g. a formative piece of work, with a suspected intention to deceive, and a moderate amount of plagiarised material would be 'moderate'). In cases of a tie between two groups, the more severe state is assumed (e.g., a formative piece of work, with a moderate amount of material used would also be 'moderate'). In cases where regulations simply quoted 'mild', 'moderate' or 'severe' cases (rather than the specific details, such as the intention to deceive), these were assumed the same as the states defined above.

The scale was defined by assigning the least serious offence [Level one, first time, 'mild' (L1-1-Mil)] as one point, and then adding an additional point for increasing level, previous history or 'severity'. The scale is thus:



### 7.2) Academic Misconduct Penalty Scale

0 =     No Further Action

1 =     Informal Warning no note on student file

2 =     Formal Warning/Reprimand with note on student file

3 =     Marked on Merits (the work is marked as if it is a case of poor/inadequate referencing)

4 =     Financial penalty (anything between £100 - £1000 identified)

5 =     Resubmission of work (with no cap on mark)

6 =     'Reflective Grade' (The overall proportion of plagiarised material is deducted from the overall grade – e.g. student receives 50%, but 25% of total is plagiarised = 50% – [50% x 25%] = 37.5%)

7 =     Assessment mark reduced (non-specific, but not necessarily related to amount of plagiarism)

8 =     Assessment awarded a bare pass grade (e.g. 40% for undergraduate)

9 =     Resubmission of work required (with mark capped at a bare-pass)

10 =     Assessment awarded a 0% (with no possibility of re-sit)

11 =     Module Mark reduced (non-specific)

12 =     Module mark reduced to a bare pass grade (e.g. 40% for undergraduate)

13 =     Module re-sit required (with mark capped at a bare-pass)

14 =     Coursework Component of Module receives 0% (with no possibility for re-sit)

15 =     Whole Module awarded 0% (with no possibility for re-sit)

16 =     Long term suspension

17 =     Reduce Degree Classification (i.e. 2:1 → 2:2)

18 =     Fail multiple Modules

19 =     Fail Year (with maximum re-sit mark of a pass)

20 =     Limit final degree classification to a bare pass

21 =     Downgrade qualification (i.e. honours → ordinary; masters → postgraduate diploma)

22 =     Expel / fail student with credits or exit qualification (e.g. diploma)

23 =     Expel / fail student (non specific)

24 =     Expel / fail student with no credits or exit qualification

**7.3) The Formal Derivation of the Penalty Gradation Score (PGS) and the Penalty Variability Score (PVS)**

For each set of regulations, the minimum and maximum *recommended* penalty was recorded for each of the twenty-seven potential academic offences that comprise the Academic Infringement Scale (**Appendix 7.1**). The profile for each institution was compared against the infringement scale using Spearman's Rank Correlation Coefficient and multiplied by 100 (so that the resulting value, which ranges between -100 and +100 can be conceptionalised like a percentage). The final value, referred to as the Penalty Gradation Score (PGS), represents the extent that the penalties available for an act of plagiarism increase with the scale of the offence committed.

To consider the average variation in the range of penalties available for a specific offence, the median difference between the minimum and maximum penalty for all of the twenty-seven offences was calculated. As before this was transformed [$x_1$ = (100$x_0$ / Highest Value on the Penalty Scale)] to produce a second number, between 0 and 100, which can be conceptionalised like a percentage. The resulting value, referred to as the Penalty Variability Score (PVS), is representative of the size of the range of penalties available for a specific offence. It is therefore reflective of the degree

## Figure 8

Schematic representation of the Penalty Gradation Score (PGS). At PGS = 0 there is no difference in the range of penalties available regardless of the scale of the offence committed. As the PGS increases, an increasing number of steps are introduced until the theoretical maximum (PGS=100).
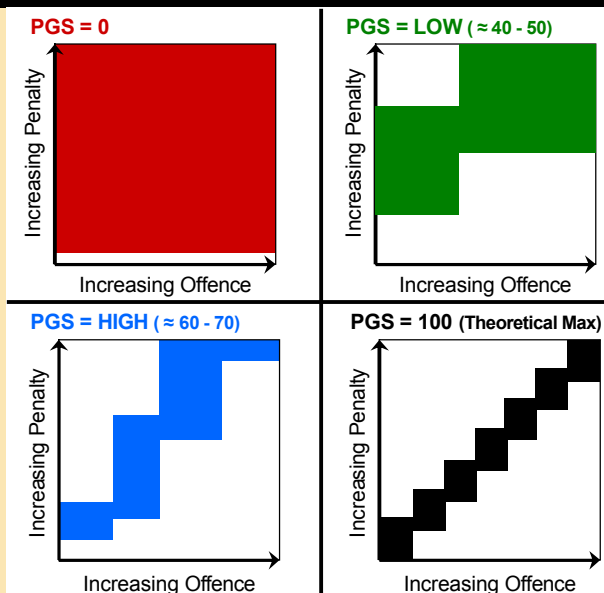


of flexibility available in the assignment of an appropriate penalty.

### 7.4) Interpreting the Penalty Gradation Score (PGS)

A PGS value of zero indicates that there is no explicit difference between the penalty (or penalties) available for an act of plagiarism, regardless of the scale of the offence. Meanwhile, a score of 100 indicates that the penalty increases stepwise with the seriousness of the offence in exactly the same manner as the infringement scale defined in **Appendix 7.1**. In reality, a score of 100 is almost impossible (because it would require an institution to design their tariff in exactly the same way as the infringement scale contained within this report), however it is generally taken that the larger the score (between 0 and 100) the more an institution has gradated their penalty tariff to consider the scale of the offence. This information is demonstrated schematically in **Figure 8**.

### 7.5) Interpreting the Penalty Variability Score (PVS)

A PVS value of zero indicates that, on average, an institution's regulations recommend a specific penalty (rather than a range of penalties) for a specific incident of plagiarism. In such a situation, there is no room for variation between two identical incidents providing the regulations are followed. In contrast, a PVS score of 100 indicates that, on average, for a specific incident of plagiarism the complete range of possible penalties is available (from 'no further action' to 'expulsion'). In awarding a penalty, the regulations thus provide no explicit guidance, and the penalty must be assigned based entirely on judgment from case to case. This information is demonstrated schematically in **Figure 9**.

## Figure 9

Schematic representation of the Penalty Variation Score (PGS). At PVS = zero, a specific penalty is assigned for a specific offence. As the PVS increases, however, the range of potential penalties increases until the maximum (PVS=100) where, on average, the full range of possible penalties are available for an individual offence.
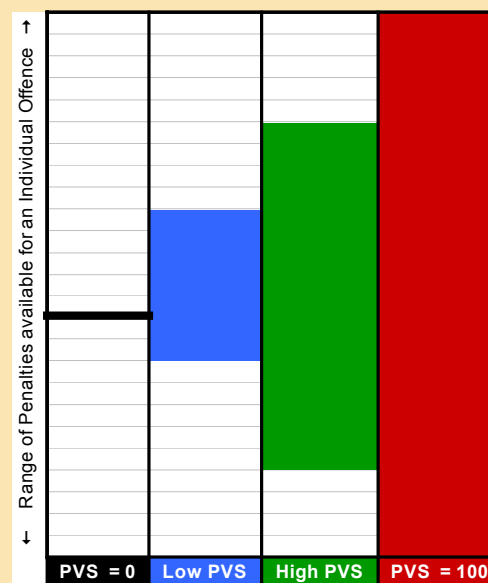
### 7.6) Higher Education Indicators

The following statistics were used as indicators of HEI character:

| | |
|---|---|
| **Data:** | Undergraduate (UG) full time (FT) students, UG part time (PT) students, postgraduate (PG) FT students and PG PT students. |
| **Source:** | Higher Education Statistics Agency (HESA) |
| **Title(s):** | 'All students by institution, mode of study, level of study, gender and domicile 2004/05' |
| **URL:** | http://www.hesa.ac.uk/holisdocs/pubinfo/student/institution0405.htm |
| **Accessed:** | 01 March 2007 |
| ***p* Values*:** | UG FT students: p = 0.000, UG PT students: p = 0.000, PG FT students: p = 0.000, PG PT students: p = 0.001. |
| **Notes:** | Since this data was incorporated, the 2005/06 version has been made publicly available. |

| | |
|---|---|
| **Data:** | Teaching Funding (England, Scotland, Wales), Research Funding (England, Scotland, Wales) |
| **Source:** | Time Higher Education Supplement (THES) |
| **Title(s):** | 'HEFCE Funding Allocations 2006-07', 'Grant allocations for Scottish institutions for 2006-07', 'Grant allocations to Welsh institutions 2006-07' |
| **URL:** | http://www.thes.co.uk/statistics/funding_allocations/2006-2007/main.aspx |
| **Accessed:** | 01 March 2007 |
| ***p* Values:** | Teaching Funding: p = 0.004, Research Funding: p = 0.013 (Borderline Significant) |
| **Notes:** | No data was available for NI HEIs |

| | |
|---|---|
| **Data:** | RAE Average per Staff |
| **Source:** | Time Higher Education Supplement (THES) |
| **Title(s):** | 'Research assessment exercise' |
| **URL:** | http://www.thes.co.uk/statistics/university_performance/league_tables/2006/research.aspx |
| **Accessed:** | 01 March 2007 |
| ***p* Values:** | RAE Average per Staff: p = 0.007 |

| | |
|---|---|
| **Data:** | Average Student UCAS Score |
| **Source:** | Time Higher Education Supplement (THES) |
| **Title(s):** | 'Entry standards' |
| **URL:** | http://www.thes.co.uk/statistics/university_performance/league_tables/2006/entry.aspx |
| **Accessed:** | 01 March 2007 |
| ***p* Values:** | Average Student UCAS Score: p = 0.005 |

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[*] The Kruskal Wallis H test result across the three PGS clusters (A, B and C) identified in 3.6

**Data:** National Student Survey Results (Overall Satisfaction)
**Source:** Education Guardian Online
**Title(s):** 'National Student Survey tables'
**URL:** http://education.guardian.co.uk/students/page/0,,1855802,00.html
**Accessed:** 01 March 2007
*p* **Values:** National Student Survey Results: p = 0.562 (NOT Significant)
**Notes:** Since these data are not significant, they are not mentioned in the main article


**Data:** Student Drop Out Rate
**Source:** Time Higher Education Supplement (THES)
**Title(s):** 'Drop out rates among full time students starting first degree courses 2002/03'
**URL:** http://www.thes.co.uk/statistics/university_performance/dropout_rates_2005.aspx
**Accessed:** 01 March 2007
*p* **Values:** Student Drop Out Rate: p = 0.074 (NOT Significant)
**Notes:** Since these data are not significant, they are not mentioned in the main article