

### **On Being Original: Why many students find avoiding plagiarism difficult, and what can be done about it**

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Most people, if not all, believe that a large number of monkeys randomly pressing the keys on a typewriter will not, in the life of the universe, produce the works of William Shakespeare, or even one of his sonnets, and experiments continue to be undertaken to prove this "Infinite Monkey Theorem" (Anderson, 2011; Watson, 1995). When accused of plagiarism, however, many students argue that the match between what they present for assessment and the corresponding content of websites or books, as evidenced by TurnItIn reports or Google searches, is pure chance and that their work is original. Other students argue that putting a list of references at the end without indicating what came from where is evidence of research and that, in any case, they could not have explained it better.

These defences show that many students have a poor understanding of originality, referencing (Stoneham, 2013) and plagiarism. This goes some way towards explaining why many students find avoiding plagiarism difficult, but there are other contributing factors: students may be under severe pressure to gain good qualifications to get jobs or to justify the investment of their family; others may have heard about students who have 'got away with it' and decide to plagiarise to allow themselves opportunity to prioritise other aspects of their lives; some may just have run out of time and, as the deadline approaches and they realise the implications of failure, are tempted to appropriate others' work. Whatever the reason, however, it is not fair to those who do not plagiarise if universities do not make every effort to help students avoid plagiarism.

This case study evaluates a range of techniques used over the past ten years and in a variety of contexts to attempt to address this issue in what was formerly School of Computing and Mathematical Sciences (CMS) - now part of the Faculty of Architecture, Computing and Humanities, at the University of Greenwich - and in the Department of Computing and Information Systems (CIS).

Before looking at the detail of the case study, it is important to consider why the prevention of plagiarism is important in Higher Education. The internet now provides access to a vast amount of knowledge and learning materials - better, in many cases, than resources on offer in universities. Haggard (2013) has even suggested that the rapid rise of MOOCs threatens the very existence of universities. What universities can offer, however, is authenticity of assessment. A key part of this is that the assessment must be appropriate to the level of study and have an appropriate academic content, often expressed in Learning Outcomes. Yet, unless the assessor can be certain that s/he is marking the student's unaided work, there is no way of giving a fair assessment and, without that, any attempt at Quality Assurance is meaningless. Since employers and others want to have confidence in the grades awarded by universities, it is essential that plagiarism is not rewarded. If students are educated to understand the implications of plagiarism and believe that their attempts at plagiarism will be found out, if they learn the importance of the use of correct research tools, if the wording of assessments emphasises originality and minimises opportunities for

plagiarism and if universities have the systems to manage plagiarism cases fairly, then the degree the student receives will indeed be worth more than the paper on which it is written.

### **A: Use the right tools: advantages and limitations of TurnItIn**

The CIS Department, like the rest of the University of Greenwich, uses TurnItIn for detection of plagiarism, although, as explained later in this case study, it does so in a different way from the rest of the university. TurnItIn has many advantages and limitations (Arnott, 2009), including legal issues (Hyatt and Lim, 2010), and there are alternative plagiarism-checking services (Petronzio, 2012), some of which are freely available for students to use. It is essential that judgement is used when deciding whether the similarity score for a piece of work (*i.e.* the match to other work) is an indicator of plagiarism. Low scores may still show plagiarism if what is plagiarised is the conclusion, or the main argument, or if there are plagiarised diagrams or code. On the other hand, a high score may be acceptable if it measures a detailed check list or reference material included in an appendix, acknowledged and properly referenced. Scrutiny of document creation dates or of other metadata (e.g. the author's name as recorded in a Word document), identification of a variety of writing styles or fonts in a document and a check for appropriate referencing are just some of the alternative sources of evidence that can be used to suggest plagiarism has taken place.

### **B: Educate students: the CIS MSc Induction course**

All MSc students in CIS have to pass an induction course early in their studies. Part of this involves demonstrating good referencing skills, including explaining the purpose of referencing. Another part of the course requires students to write in their own words what they hope to gain from completing the MSc and to upload this into TurnItIn for an authenticity report that they include when submitting their coursework. This makes it clear that, if they do write in their own words, the match is usually zero percent, unless a famous quotation they may have used triggers a match. Students are also shown that copying text from a web source such as Wikipedia and editing it a bit, or even a lot, does not disguise it sufficiently to hide it from TurnItIn.

The tutor uploads to TurnItIn all students' final coursework submissions and, should any evidence of plagiarism be revealed, deals appropriately (and usually informally) with the student concerned and requires that the work is done again without misappropriation of material. Similar approaches are adopted for undergraduate students in CIS as part of induction and personal tutoring.

### **C. Make the rules clear**

Some students who come to university have clearly been following the advice of Colton (1824) that "imitation is the sincerest form of flattery". It is essential to ensure that students realise that, even if their previous educational establishment apparently countenanced or ignored such imitation, university rules will never permit it. Special lectures on plagiarism given to all students early in their degree, and later on as part of the preparation for their project work, emphasise this point. In addition, in the CIS Intranet, this clear message

THIS IS AN INDIVIDUAL COURSEWORK:  
THE WORK SUBMITTED MUST THEREFORE BE YOUR OWN WORK

appears on all coursework specifications (except those where group assessment is required and different rules are stated), together with links to relevant regulations and guidance. At the point of submission, students must confirm categorically that the work they are about to submit is their own unaided work, that it has not been submitted for assessment elsewhere and that they have not paid anyone to do it for them. The system also warns them that their work will be submitted for an electronic plagiarism check (see Figure 1).

YOUR WORK WILL BE SUBMITTED FOR ELECTRONIC PLAGIARISM DETECTION	
<input type="checkbox"/>	I confirm that I am the person stated above.
<input type="checkbox"/>	<p>I confirm that what I am about to upload is my own work and that it has not, in whole or part, been presented elsewhere for assessment.</p> <p>In addition, I confirm that</p> <ul style="list-style-type: none"> <li>• all material which has been copied has been clearly identified, for example, by being placed inside quotation marks and a full reference to the source has been provided</li> <li>• any material which has been referred to or adapted has been clearly identified and a full reference to the source has been provided</li> <li>• any work not in quotation marks is in my own words</li> <li>• I have not shared my work with any other student, unless this was a group assignment in which case it has only been shared with members of the group when necessary</li> <li>• I have not taken work from any other student</li> <li>• I have not paid anyone to do my work or employed the services of an essay or code writing agency</li> </ul> <p>Where material has been used from other sources, it has been properly acknowledged in accordance with the <a href="#">University Regulations regarding Cheating and Plagiarism</a>.</p>

**Figure 1:** Confirmation screen for students at the point of upload

To help students to understand the process and implications of a TurnItIn plagiarism check, there is other guidance, such as: do not include the coursework specification in your own upload; use an appropriate referencing system; do not include a literature review that has already been submitted for assessment and do not quote large amounts of text from other sources, even if they are put within quotation marks. Students receive the clear message that the work required is their own and not that of others, that poor academic practice when found will be penalised and that plagiarism will be dealt with as a serious offence with profound implications for their academic progress.

### **D: Personalise assessment: the IT Project and Quality Management Course**

The move from 50% examination to 100% coursework assessment for a mature University of Greenwich course delivered in forty countries for over 1000 students created the challenge of providing appropriate wording for coursework tasks, so that the opportunity for plagiarism would be minimised. Wording such as

*"Give examples from your own experience of risk avoidance."*

clearly required a personalised response and

*"Explain the importance of the following cost management term: Weighted Scoring Model."*

had an additional statement, that no marks were to be awarded for the definition; only the explanation of its importance would yield marks.

A third type of question required students to

*"Categorise yourself in terms of the Myers-Briggs type Indicator model, giving clear justification to support your choice."*

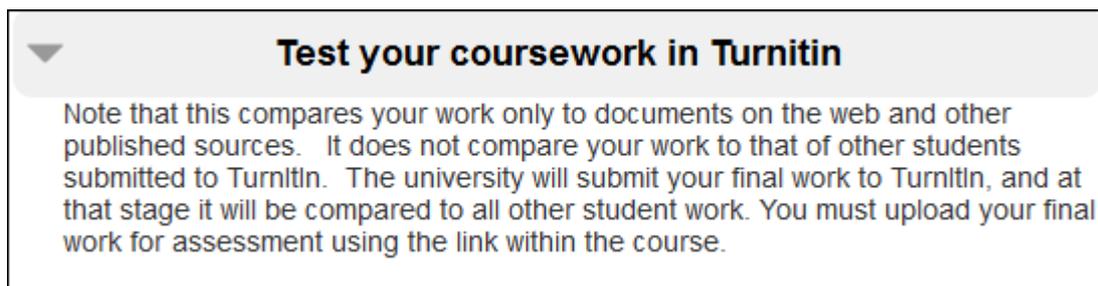
Personalised assessment proved very effective in reducing opportunities for plagiarism in the course, as well as providing tasks appropriate to its learning outcomes. As a consequence, assessment tasks based upon such unique events as a recent news item or a technological advance have now been incorporated into other courses, too.

### **E: Make it difficult to get away with it: screencasting, demonstrations and vivas**

By assessing the process as well as the product, it is much easier to detect plagiarism. All CIS coursework with a product, such as a piece of software, is assessed on both a written report and a student demonstration to the tutor, and all projects require students to present their work to their supervisor and the second marker in a viva. (A variation on this is to get students to record a screencast demonstration of their product with a voice commentary, responding to a clear set of points that they need to demonstrate. This is particularly useful if the demonstration is done at one of the collaboration centres around the world, thus enabling lecturers at Greenwich, as part of its Quality Assurance process, to view the screencasts.) Reflective statements within a project report, or in portfolios, can also be effective in discouraging plagiarism, although it is known that even these have been plagiarised in some cases.

### **F: Make tools available to students: Use of TurnItIn originality reports**

All CIS students can submit any documents to TurnItIn through Moodle to get an authenticity report. This compares their work to text on websites, books, journals etc. in the TurnItIn database, but not to the work of other students as recorded in the TurnItIn repository of student work. This is made clear to them on the upload page (see Figure 2).



**Figure 2:** Advice to students on their use of TurnItIn

The settings in TurnItIn that are used for these uploads by students are shown in Figure 3.

Turnitin Advanced Options

Allow Late Submissions ? Yes

Report Generation Speed ? Generate reports immediately, reports can be overwritten until due date

Store Student Papers ? No Repository

Check against stored student papers ? No

Check against internet ? Yes

Check against journals, periodicals and publications ? Yes

**Figure 3:** TurnItIn settings to prevent storage in the student papers repository

Uploads by staff as part of the assessment process have different settings, as shown in Figure 4.

Report Generation Speed ? Generate reports on due date

Store Student Papers ? Standard Repository

Check against stored student papers ? Yes

**Figure 4:** Different TurnItIn settings when staff submit

Students can be surprised that the reassuringly small originality score they receive is much lower than the match score their tutor sees when s/he uploads all the student work and compares it to all the coursework in the repository from current and previous students at Greenwich and other institutions using TurnItIn. This higher figure can be the result of matches with the work of a friend, with that of another student who bought the same essay from an essay mill or with the lecturer's own unpublished notes used by more than one student.

Ultimately, only students themselves really know whether they have copied someone else's work. Furthermore, if they need a tool to double check whether they have referenced properly, then they probably have not. However, proper use of TurnItIn can help students to reference their work more appropriately (Graham-Matheson and Starr, 2013) and some students may, as a result, even learn to write in their own words without using TurnItIn (Samakovitis, 2014). To encourage students to do these "TurnItIn selfies" of their own work, the settings CIS uses are such that tutors cannot see what students have submitted for originality reports. There is the risk that students will continue to edit and submit until they get a low match, but the settings are such that they can submit only one document every twenty-four hours. In any case, it requires a lot of effort to rewrite something to lose the match with the original and experience shows that the type of student who plagiarises is usually not the type to complete work well in advance of deadlines.

### **G: Ensure fairness and minimise risk: The CIS Assessment Offences Reporting system**

The CMS School developed an online plagiarism case reporting system in 2004, along with a customised database linked to the university's email system to manage the processing of the cases. This enables consistency of treatment to be ensured and repeat offenders to be identified. A CMS School Assessment Offences Officer (now the CIS Student Conduct Officer), who is a senior academic, has been proactive in educating staff and students on the issues of plagiarism and in conducting, with the support of other academic and administrative staff, the necessary investigations and interviews. The results of all cases are made available to appropriate staff using the CIS Staff Intranet, so the profile of a student is maintained, including her/his grades, attendance, extenuating circumstances claims etc., which is very useful when assessing student progress as part of the Managed Learning Environment (Stoneham, 2012). Statistics of plagiarism cases by course, centre and academic year are monitored to identify issues that are then addressed.

An additional advantage of a robust reporting system and consistent investigation procedure is as a defence to legal challenges made by students to plagiarism accusations. There are solicitors who advertise widely on the internet, offering to challenge on behalf of a client any allegation of plagiarism. Proven plagiarism cases for students on legal and other professional courses can have serious implications for those students, even if they gain the qualification (Ames, 2013). Hyatt and Lim (2010) have highlighted the legal risks, for educational institutions, that are posed by plagiarism detection tools and emphasised that the use of TurnItIn to check for plagiarism must be part of a wider approach to combating cheating, as was the case in the CMS School and remains so in the CIS Department.

### **Conclusion**

The above examples show that plagiarism in Higher Education is a complex matter, but these examples barely scratch the surface. Essay mills (Ariely, 2012), custom software development sites such as RentACoder (Clarke and Lancaster, 2006), techniques involving automated language translation services (Bailey, 2011) and personalised help from friends as sources of plagiarism are particularly difficult to identify. Moral and ethical arguments can be effective. One previous student in CMS requested his degree be revoked after it had been awarded, because of guilt over how he had plagiarised to achieve his grades. Honour Codes of Conduct may help in certain environments, but are unlikely to be effective with all students (Schemo, 2001). Students must develop computer literacy to meet assessment in such diverse skills as re-tweeting, curating, re-mixing and other collaborative and sharing activities; they need clear guidance, in order to know when referencing a source may not be so important, although understanding of copyright and appropriateness of expression are matters that then should be considered (Carey, 2013).

There is a lot of pressure to ignore plagiarism: lecturers report that thorough searching for plagiarism is rarely given sufficient time in any workload allocation (Baity, 2006); managers perceive high levels of found plagiarism to be bad publicity for their department, faculty or university.

Statistics for plagiarism across the university sector are extremely difficult to compare. There are many variables (including the "desire to find plagiarism, and to call it that") that

can change significantly, both over time and between staff, even in the same institution. A survey by The Telegraph (Barret, 2011) reported that "Greenwich University had the largest number of incidents overall, with 916, compared with 540 in 2005-06, but this may indicate the south-east London institution is more successful at detecting cheating than other universities." These disproportionately high figures for Greenwich occurred because the CMS School's rigorous policies and procedures identified students in breach of plagiarism rules. The London Evening Standard (Widdup, 2011) reported this as "London university tops cheats' league table", which was obviously perceived as bad publicity for the university. There is a counter argument, as suggested by The Telegraph: surely it is better to have a degree from a university that has made every effort to ensure that assessment is authentic than from one where plagiarism is rife, but undetected. However, it is hard to convince everyone of this in today's market-driven Higher Education environment.

In summary, the cost of authenticity of assessment is eternal vigilance. A combination of education and guidance, appropriately-designed assessment, good assessment practices, the use of TurnItIn and a fit-for-purpose recording system has helped to ensure the authenticity of a degree from the University of Greenwich CMS School and the CIS Department.

Finally, this article has itself been submitted to TurnItIn (Stoneham, 2014) and received a similarity index of 12%. The author followed his own advice by starting with a blank screen and adding his own words. The only matches are to his coursework questions, some of the references and all of the quotes, including this from a song by the academic and satirist Lehrer (1953):

"I am never forget the day I first meet the great Lobachevsky.  
In one word he told me secret of success in mathematics:  
Plagiarize!

Plagiarize,  
Let no one else's work evade your eyes,  
Remember why the good Lord made your eyes,  
So don't shade your eyes,  
But plagiarize, plagiarize, plagiarize -  
Only be sure always to call it please 'research'."

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