THE PLAGIARISM PROBLEM: ARE STUDENTS ENTIRELY TO BLAME?

Jeremy B. Williams

Brisbane Graduate School of Business Queensland University of Technology, AUSTRALIA jb.williams@qut.edu.au

Abstract

Plagiarism is not a new phenomenon, but given the proliferation of easily accessible electronic resources in recent times, it has become so much easier for students to 'cut and paste' slabs of text. This can sometimes lead to assignments being submitted that are inadequately referenced or, worse still, assignments being submitted that are largely (or entirely) the work of someone else.

This paper critiques the various strategies currently being employed to stamp out plagiarism. These include the use of the various proprietary and freeware packages available for the electronic detection of plagiarism, and honour codes that incorporate punitive systems to discredit plagiarists. The paper concludes by arguing for an integrated approach founded upon a commitment, at an institutional level, to assessment regimes that reward critical analysis rather than content regurgitation. Importantly, 'authentic assessment' that engages students is deemed far more likely to achieve the desired results. Electronic media, used effectively, can assist in this endeavour.

Keywords

Plagiarism, cheating, electronic detection, paper mills, authentic assessment, student engagement

Introduction

A huge volume of literature has been generated in recent years on the subject of plagiarism in the higher education sector. The general consensus appears to be that, while plagiarism is not a new phenomenon, its incidence has grown in scale to the point where it is almost of epidemic proportions (Desruisseaux, 1999).

In the United States, for example, research indicates that cheating among undergraduate students has steadily increased over the last half century or so from around 23 per cent (Drake 1941), to as much as 90 per cent (Jensen, Arnett, Feldman & Cauffman, 2002). It is true that some studies put the 'cheat rate' somewhat lower than 90 per cent – see, for example, those cited in Davis, Grover, Becker & McGregor (1992) and Love & Simmons (1998) – but these studies notwithstanding, there has been sufficient concern over this trend in student behaviour for the Center for Academic Integrity to be established, a consortium comprising more than two hundred institutions of higher education.

In the United Kingdom, meanwhile, the plagiarism problem has been considered serious enough for affected parties to seek the assistance of the Joint Information Systems Committee (JISC). JISC, a strategic advisory committee working on behalf of the funding bodies for further and higher education in England, Scotland, Wales and Northern Ireland, commenced, in 2001, with a project to review electronic solutions to the issue of plagiarism. A key recommendation to emerge from this project was the setting up of a national plagiarism advisory service to act as a source of information for teaching staff and institutions on issues such as the production of an institutional policy, the implementation of procedures to deal with plagiarism, and how to go about designing assessment in such a way that plagiarism becomes more difficult. It was further recommended that this advisory service manage a national electronic plagiarism detection service.

This paper provides a commentary on the experience to date of a business school in Australia, the Brisbane Graduate School of Business (BGSB) at Queensland University of Technology (QUT), as it has attempted to grapple with the problem of plagiarism over a two-year period. The main aim of the paper is to demonstrate that while introducing measures to improve detection and deterrence of plagiarism is important, this is essentially a reactionary approach that is unlikely to yield lasting benefits. It is argued that the source of the problem is systemic, and that the focus needs to be on prevention of plagiarism through the use of innovative and engaging assessment. To this end, it is further posited that information and communications technologies can be of considerable assistance. Importantly, a preventative strategy cannot proceed in a piece-meal fashion. Support at an institutional level is critical and, as this paper will argue, institutional support is far more likely if initiatives are taken at a national level as is the case in the United States and the United Kingdom.

The discussion will concentrate, first of all, on the defining characteristics of plagiarism and how it manifests itself in the current university environment. This is followed by a brief discussion on the factors deemed to be responsible for plagiarism, and the mechanisms subsequently employed by institutions around the world to deal with its increasing incidence. The next section then describes the approach adopted by the BGSB, and the challenges that still lie before it if plagiarism is to be successfully eradicated. The concluding section draws together the strands of the discussion and puts forward some recommendations.

The 'New' Plagiarism

'Plagiarism' derives from the Latin word 'plagiarius', meaning 'kidnapper' or 'abductor'. It is the theft of someone's creativity, ideas or language; something that strikes at the very heart of academic life. It is a form of cheating. It is morally and ethically repugnant. It is intellectually deceitful.

It should not be surprising therefore, that plagiarism is such an emotionally charged issue. Discussing the matter with students in the first class meeting of semester can be a little tricky. One minute you are the caring, dedicated, nurturing teacher, the next it is the firing squad at dawn, metaphorically, if they fall foul of School policy on plagiarism. Is it absolutely necessary to be so heavy-handed on day one? Some would argue not, but failure to do so would be to close one's eyes to the point-and-click plagiarism phenomenon that pervades the higher education system. In the words of McKenzie (1998):

The New Plagiarism [sic] requires little effort and is geometrically more powerful. While the premodem student might misappropriate a dozen ideas from a handful of thinkers, the post-modem student can download and save hundreds of pages per hour. We have moved from the horse and buggy days of plagiarism to the Space Age without stopping for the horseless carriage.

Charles Caleb Colton (1780?-1832) once observed that imitation is the sincerest form of flattery (DQS, 2002). In the age or the Internet, imitation has become a burgeoning industry in the higher education sector. Indeed, the reproduction and distribution of student essays through online 'paper mills' is one of the few dotcom business models that continues to prosper (Anon., 2002). In March 1999, for example, there were around 35 such sites. By July 2002, this number had climbed above 250 (CCU, 2002).

Some sites rely on advertising revenue and supply services free-of-charge or facilitate exchange, students submitting a paper and getting one in return. In most cases, however, it is fee-for-service. Students can purchase pre-written papers or commissioned papers, and while the format varies slightly from one operator to another, customers generally pay somewhere in the region of US\$5-10 per page.

Groarke, Oblinger & Choa (2001) cite an AP Business wire report that claims Internet paper mill sites receive in excess of 2.6 million hits per month. The same authors report that *Cheater.com* has a membership of 72,000 which continues to grow by a few hundred each day, and that the *Schoolsucks.com* and *Evil House of Cheat* pages boast 10,000 and 4,000 hits per day respectively. The dramatic expansion of this online service is testimony to its commercial viability. According to Kenny Sahr, the founder of *Schoolsucks.com*, advertising revenues totalled US\$5,000 per month in January 1998 (Hickman, 1998).

The number of hits on a web site does not correspond with the number of sales, of course, but equally, it is hard to imagine that everyone visits these sites out of curiosity. However, even if students did choose not to consume the services of the online paper mills, there is still an abundance of other point-and-click plagiarism opportunities.

Aside from the 'all-or-nothing cheater', the type most likely to buy a whole paper online, Renard (1999, p. 38) also identifies the 'sneaky cheater', the student who knows what plagiarism is, but works hard to avoid detection. These students cut-and-paste from a variety of sources on the web and possibly from other students' papers with a view to manufacturing an answer. They might also attempt to cover their tracks through the provision of incomplete or inaccurate bibliographic details in their list of references. Then there is the 'unintentional cheater', the type who simply does not know any better. These students typically insert slabs of unattributed text in their essays and, when challenged, claim ignorance of the system.

What each of these three types of plagiarist has in common is a lack of empathy for the academic enterprise. Call it 'cyber-sloth' (Carnie, 2001), Internet-inspired indolence, or plain, old-fashioned laziness, if a ready-made answer to a question cannot be found online then, for some, it simply cannot be worth having. The development of an educated opinion, a lively inquiring mind, a creative impulse – these things are missing. As this author once read in a student's email signature: 'Clay's Conclusion: Creativity is great, but plagiarism is faster'.

Plagiarism: Causation and Strategies to Arrest the Increase

To some, the increasing incidence of plagiarism in the higher education sector may be looked upon as perfectly acceptable behaviour. According to author and satirist, Stewart Home, plagiarism 'saves time and effort, improves results, and shows considerable initiative on the part of the plagiarist' (cited in Duguid, 1996). This line of thinking is predicated upon the notion that there is nothing sinister about the liberal use of other people's ideas. To plagiarise is not to steal another's property, it is simply about the spread of information and knowledge. Indeed, prior to the Enlightenment, plagiarism was useful in aiding the distribution of ideas and, in this sense, can be said to be an important part of Western cultural heritage. One might further argue that with the new social conditions that have emerged with the widespread use of information and communication technologies, it has once again become an inevitable part of contemporary culture (Critical Art Ensemble, 1995; Violanti, 2002).

Taking a sceptical view, given evidence typically shows weaker students to be the main culprits (Bannister and Ashworth, 1998), it is unlikely that these individuals will, consciously or unconsciously, be part of any crusade to spread information and knowledge. On the other hand, as the statistics cited earlier would tend to indicate, it is not just the weaker students who are indulging in unethical practice (unless the majority of students can be described as weak!) The key question to ask is why it is that students resort to plagiarism.

Irrespective of a student's ability, pressure to plagiarise can emerge because of a variety of influences. These include, for example; poor time management skills (a problem often exacerbated because of the increasing competition for students' time arising from the need to work part-time or care for children); an inability to cope with workload (perhaps as a result of class timetables and the corresponding assessment tasks); a lack of motivation to excel because of a perception that the academic responsible for the class has little enthusiasm for the subject (the student then expending what they consider to be a commensurate amount of effort); external pressure to succeed from parents or peers, or for financial reasons; an innate desire to take on and test the system (particularly if the punishment associated with detection is relatively minor); and cultural difference in learning and presentation styles where, in some settings, it is considered normal custom and practice to quote the experts without citation (JISC 2002). This is by no means an exhaustive list of the factors that might be considered responsible for the frequency of plagiarism suffice to say that it is an indicator of the complexity of the issue. Neither do these factors necessarily explain the increasing incidence of plagiarism. Indeed, many, if not all of those reasons listed above were in existence prior to the dramatic increase in the number of reported cases of plagiarism. The key explanatory variable, it would seem, is the increasing availability of electronic text. It is this, coupled with any of the above motivations, which have spawned the new 'virulent strain of student copying' (McKenzie (1998).

The spate of books (e.g. Lathrop & Foss 2000; Harris 2001), along with the various web sites, media reports, conferences and symposia (Culwin & Lancaster, 2001) on the subject of Internet plagiarism is testimony to the amount of intellectual energy currently being dedicated to the topic. The major preoccupation has been detection and deterrence. Detection by resorting to 'fighting fire with fire' using various proprietary and freeware anti-plagiarism packages. Deterrence through stressing the importance of education in ethics to ensure students are not tempted to breach their university honour codes, and through the meting out of stiff penalties to offenders to send a clear message that plagiarism is behaviour not to be tolerated in any circumstances.

Detection tools

Almost as quickly as student cheat web sites arrived on the scene, electronic student cheat detection services have emerged to counter them. In the United Kingdom, Culwin and Lancaster (2000) were among the first to review the web-based plagiarism detection services that were available in early 2000. In the relatively short period of time that has elapsed since, some of these services have fallen by the wayside. Of those that remain, a thorough evaluation of the proprietary services was conducted for JISC during 2001 by a team from the Computer Assisted Assessment (CAA) Centre at the University of Luton (Bull, Collins, Coughlin & Sharp, 2001). The services evaluated included those marketed by the following companies:

- CopyCatch http://www.copycatch.freeserve.co.uk
- *Eve2* http://www.CaNexus.com
- Findsame.com http://www.findsame.com
- Turnitin.com http://www.turnitin.com (formerly known as plagiarism.org)
- *Wordcheck* http://www.wordchecksystems.com

Each of the services reviewed was judged according to a number of criteria including reliability, technical requirements, ease of use, and costs for institutions. Summary tables of the results of the review are reproduced below.

Key to ratings:	Excellent **** Good **** Acceptable *** Poor ** Unsatisfactory *							
Products	Function	Detection Performance	Clarity of reports	Value for money per single user	Overall feel/ user friendliness			
Turnitin	Cut/paste Paper-mills Collusion	**** **** ****	****	****	****			
Findsame - demonstration version	Cut/paste	N/A	****	Not Known	****			
Eve2	Cut/paste	****	***	****	****			
CopyCatch	Collusion	****	****	****	****			
WordCHECK	Collusion	*	*	*	*			

Table 1: Overall results from the user perspective (Source: Bull et al 2001)

Products	Reliability	Suitability	Pricing per	Stability of	Speed of	Technical
		for mass distribution	institution	vendor	response	support
Turnitin	**	****	**	****	**	**
Findsame - demonstration	**	****	****	***	***	N/A
version Eve2	***	**	****	***	***	****
CopyCatch	****	***	***	*	*****	***
WordCHECK	****	***	***	***	****	*

Table 2: Overall results from the technical review (Source: Bull et al 2001)

In their 2000 review, Culwin and Lancaster (2000) found that the web-based services surveyed were usually able to detect the plagiarised documents submitted, but that the services were too costly for regular institutional use (a possible reason why some of the companies are no longer operational). In addition, they also found that the process of document submission was somewhat cumbersome and the format of the results returned to academic staff was not always helpful.

The Bull *et al* (2001) study concurs with that of Culwin and Lancaster (2000) in that results from the user perspective analysis (*Table 1*) show that the services are generally effective at detecting plagiarism but, with the exception of *Turnitin.com*, far less so when it comes to paper-mill submissions. The technical review (*Table 2*) shows that some of the services are more robust than others. Indeed, in support of anecdotal evidence (see, Dehnart (1999) for example), one of the overall conclusions of the study was that not all tools performed to an acceptable level for all tasks. This may explain why in a separate survey of British academics conducted as part of the study, only 4 per cent (n=304) used detection software/services, and only 12 per cent (n=314) declared an intention to use such a facility in the future. In this context, it is also worth noting that in the same survey, academics identified textbooks and theses as the main sources of plagiarised material they had encountered (Bull *et al* 2001, p. 29); material that it is less likely to be in digitised form.

In summary, there appear to be doubts in the minds of academics regarding the utility of proprietary plagiarism detection services at this point in time. So long as there is no single service or software tool that can detect all sources of plagiarism, it is likely that the majority of academics will wait in the wings. Indeed, some 71 per cent of those surveyed (n=314) in the Bull *et al* (2001) study stated that they *may* use plagiarism detection software/services in the future.

The cost factor is also always likely to be an obstacle to widespread adoption. To this end, Culwin and Lancaster (2000) make reference to a free service called *Plagiserve* (http://www.plagiserve.com/) that bills itself as a 'global academic integrity service'. One of this company's strengths (apart from its free service) is that it claims to crawl all existing paper mills so as to render digital cheating ineffective. All academic staff have to do is register before using it. Text files for testing can be pasted into a text box and users are emailed a URL where results can be collected. The *Plagiserve* site also aligns itself with a feefor-service site called *EduTie.com*.

What may be a concern for some, however, is that both these plagiarism detection sites share domain registrations and servers with several paper mills, specifically www.mightystudents.com, www.essaysmill.com, www.essaysonfile.com, and www.topessays.com. A University of Virginia professor, Lou Bloomfield, reveals this information at the web site he maintains dedicated to resources on plagiarism. Bloomfield states, after consultation with the owners, that the sites are safe to use in his opinion, but that the 'overlap of resources seems peculiar' (Bloomfield, 2002).

Enlisting private companies as agents of the university to act in the capacity described above may clearly be a risky enterprise, and it is one that requires very careful consideration. The British have been far more cautious than their North American counterparts in this respect, the detailed feasibility studies under the aegis of JISC providing evidence of this. Interestingly, in a recent *Chronicle of Higher Education* article, *Turnitin.com* is reported as claiming to have won the contract with JISC to serve the more than 700 higher education institutions in Britain, commencing in September 2002 (Foster, 2002). At the time of writing (July 2002), the JISC web site remains non-committal on this issue.

If the British do, indeed, decide to proceed down the same path as the 400 or so colleges in the United States reputed to be on *Turnitin.com*'s client list, then they, like some US institutions, will have to deliberate over the question of student copyright protection. Unlike *CopyCatch* and *Eve2*, *Turnitin.com* keep the papers that colleges submit for inspection in order to expand its database. This obviously assists in providing a more effective service, but some universities are worried about falling foul of copyright laws (Foster, 2002).

Honour codes

When Lou Bloomfield tested his plagiarism detection software on 1,850 introductory physics papers at the University of Virginia in April 2001, the result sent shock waves throughout the University

community and beyond. The program found no fewer than 122 suspect papers and Bloomfield had no hesitation in handing over all the cases to the University of Virginia's Honor Committee (Schemo, 2001). This might have been less of an issue were it not for the fact that since 1842, the University of Virginia has benefited from the ethical standards set out in its Honor System, generally regarded as one of the University's most noteworthy and respected traditions. Lying, cheating and stealing are not tolerated and any student found guilty of such an offence is, without exception, dismissed permanently from the University (University of Virginia, 2002).

Such a flagrant violation of an honour code as celebrated as that of the University of Virginia surely begs the question as to the whether measures such as this have become an anachronism. McCabe & Trevino (2002) suggest not, and argue that it is time for institutions to recommit themselves to a tradition of academic integrity and honour. Importantly, they support their case with data that suggests cheating at institutions with honour codes is significantly lower than at institutions without codes. The key, they argue, is that it must be a topic of ongoing discussion, and by stressing the privileges afforded to students, a culture is created whereby unethical behaviour becomes socially unacceptable among students, and little sympathy will be extended to those who receive heavy penalties for attempting to rort the system.

Case Study: Anti-Plagiarism Efforts at the BGSB

The BGSB is one of six schools in the Faculty of Business at QUT, and was formed in 1995 to administer the MBA – a full-fee paying program. Commencing in 1999, an innovative new MBA course structure was introduced offering prospective students greater flexibility and choice, through 7-week, half-semester long course units. Since this time, student numbers have trebled at the same time as course fees have more than doubled, and entry standards have been lifted. The BGSB currently has just over 1,000 students in the MBA and associated programs. Around three quarters of these students are enrolled for part-time study. These students are almost exclusively Australian residents. The vast majority of full-time students are international in origin recruited from 35 different countries. The average age of BGSB students is 33 years old, and male students outnumber females by a ratio of 3:2.

The BGSB is in a unique position in the University in that full-fee paying students constitute its sole source of income. As a result, the BGSB is acutely aware of the importance of market perceptions of the School, especially in the increasingly competitive market for MBA students. Prospective students are increasingly discerning, as are the businesses that, as potential employers or sponsors of students, seek assurance that they will get a good return on their investment. Given these special circumstances, considerable time and effort has been devoted to quality control, much more, perhaps, than a school not dependent upon full-fee paying students.

The leading indicators of quality are the rankings of business schools, published periodically in the financial press, and the accreditation that the BGSB currently seeks from the various international accreditation agencies of business schools. Recent rankings show the BGSB to consistently rank among the top few business schools in Australia due, in no small part, to the flexible and innovative course structure of the MBA, but also as a result of a much broader commitment to quality. The School employs four staff in a student client service unit, and three staff dedicated to marketing, communications and data management. As part of this commitment, the BGSB Teaching and Learning Committee (TLC) also resolved in late 1999, that a systematic crack down on plagiarism was in order. Prior to this time there had only been two recorded instances of plagiarism in the BGSB, but anecdotal evidence from students suggested that it was becoming quite common practice. Anxious not to have weak students graduating through unethical means and tarnishing the reputation of the School, the BGSB Plagiarism and Cheating (P&C) Standing Committee was formed, a sub-committee of the BGSB TLC.

All members of the teaching staff were instructed to be especially vigilant and refer any suspicious cases they came across to the P&C Committee. Policies and procedures for dealing plagiarism were well established in the University, and the main purpose of the P&C Committee was to serve as a reference group for teaching staff, and to hear any cases brought against students. The P&C Committee would then forward the evidence and its recommendation to the Dean of the Faculty of Business, who would then forward her recommendation to the University Registrar for action.

At this early stage, other than reiterating an existing policy that all written assessment items must have appended the official BGSB assignment cover sheet (that incorporates a signed declaration of originality), and warning students that plagiarism was not to be tolerated under any circumstances, the P&C Committee adopted a 'wait-and-see' approach.

No one quite anticipated that the Committee would be quite so busy, meeting in each of the next five teaching periods. Most of the students found guilty were Internet plagiarisers, their efforts easily detected with the assistance of a web search engine like *Google* (see, for example, Bugeja 2000). It was not until semester 2A, 2001 that the Committee was presented with a real challenge. Two students submitted virtually identical assignments, but had not copied from one another because, when interviewed, they quite clearly did not know each other. After a lengthy investigation, it transpired that each student had separately procured an electronic copy of an essay from a student who had graduated from the course two years earlier. Neither student knew the original author, nor did they know the intermediary, who had apparently purchased a fan heater from the original author, and she had thrown in a floppy disk containing her MBA essays for good measure. The intermediary had then made these essays available to several other parties, and the rest is history.

At this juncture, it became clear that detection of cut-and-pastes from the Internet was not the only problem the P&C Committee faced, and with the assistance of QUT's Teaching and Learning Support Services (TALSS) it commenced with a critical review of the existing software packages and web-based services in the marketplace. Ultimately, the decision was made to proceed with *WCopyfind*, the freeware supplied by Lou Bloomfield at the University of Virginia. Apart from the fact it was available free-of-charge, big attractors were its simplicity, the fact it would not be time-consuming for teaching staff to use, and the ease with which it could interface with the University online teaching (OLT) system, the vehicle for the electronic collection of assignments. It also proved effective during the trial period, identifying a student using an essay submitted by another student in a previous semester.

Commencing in semester 2B, 2001, it became mandatory for BGSB students to submit their written assessment electronically. Students were advised that all assignments would be tested for plagiarism using *WCopyfind* together with web-based search engines to identify unattributed text taken from the Internet. A hyperlink was also placed on the front page of every course unit OLT site, directing students to the P&C Committee home page which clearly defines the BGSB (and University) position on plagiarism and cheating, and includes a list of all the plagiarism and cheating offences committed (minus student names) since the final teaching period of 2000, together with the penalties they attracted (see BGSB, 2002).

The workload of the P&C Committee has been decidedly lighter since this intervention, but while this is a welcome development, it is quite clear that this is the proverbial 'finger in the dyke'. The prevailing opinion is that while there have been steps in the right direction in terms of detection and deterrence with the introduction of electronic detection and more stringent measures for dealing with plagiarists, prevention is the more serious challenge. To address this, far more attention has to be devoted to the type of assessment regime typically being employed and how assessment items might be structured so that even the most steadfast of plagiarists would have difficulty cheating.

Authentic assessment

Wilson Mizner (1876–1933) is attributed with the oft-quoted phrase: 'If you steal from one author, it's plagiarism; if you steal from many, it's research' (The Columbia World of Quotations, 1996). As amusing as some people find this quotation, it is one that students would be best advised to disregard. What Mizner fails to recognise is that stealing from many *is* plagiarism if no value is added through critical analysis. An essay that simply reports the ideas of others is not research at all unless thesis is pitted against counter-thesis with a view to forming some carefully crafted synthesis.

Mizner, incidentally, was a comman and a cheat, and sadly, those who are guided by his adage could find themselves 'tarred with the same brush'. The ability to critically analyse problems is not in abundance among those who elect to plagiarise material from the Internet or from their peers, and as the BGSB P&C Committee found to its cost, the policing of this kind of activity can be a time consuming business.

Formal tuition in the art of critical thinking is certainly a way forward, but this will not be time well spent if, subsequently, students are not presented with adequate opportunity to apply this important generic skill. As this author has argued elsewhere (Williams 2001), all too often, assignments and examination questions are set that encourage the reproduction of content knowledge rather than critical appreciation of that content knowledge. Generally speaking, this tends to be a reflection of course design that is primarily driven by content considerations and where assessment is very much of an afterthought, rather than the other way around. In short, to be effective, assessment must be authentic. It must mean something to the student, so it will engage them and add value to their skill set.

As Ramsden (1992) has argued, the quality of students' understanding is intimately related to the quality of their engagement with learning tasks. Setting tasks that test their memories or their ability to reproduce content material is not particularly engaging, and this is precisely what many assessment items require; the same assessment items that, coincidentally, lend themselves very well to cutting-and-pasting techniques.

Are students entirely to blame for the plagiarism problem that plagues our universities?

The study conducted by Ashworth and Bannister (1997) would suggest not. They conclude that cheating might be looked upon as a symptom of some general malaise. They found that students felt alienated from teaching staff because of their demeanour and their lack of contact with students. 'Assessment tasks that did not engage students symbolised the gap between students and staff', and in the absence of a basic commitment on the part of the student that the work they were doing was significant, there was 'no moral constraint' on plagiarism or cheating.

Howard (2002) would support this view, and argues that just as we cannot ignore students' plagiarism, there are other possibilities that cannot be ignored either. Could it be that students are cheating because they do not value the opportunity of learning in our classes? It is conceivable that the pedagogy we employ has not adjusted to contemporary circumstances? 'We expect authentic writing from our students' says Howard, 'yet we do not write authentic assignments for them'.

In the BGSB, the first tentative steps have been taken to address this issue. Attempts have been made to set cheat-proof assignments by making them as course unit specific as possible (to prevent students from purchasing pre-written papers or paying outsiders to write answers); by the examiners making it clear (as a stated objective of the course unit) that they are looking to reward evidence of depth of learning and sound critical analysis rather than recall of content knowledge; and by setting meaningful, situational questions relating to real-life, contemporary problems, that engage students in the learning process.

Howard (2002) says 'don't police plagiarism: just teach!' and while there is clearly a need to allocate some resources to detection and deterrence, she does have a point. The prevention of plagiarism through innovative pedagogy is more likely to produce lasting results for the simple reason that such an approach provides students with an incentive to learn. The natural corollary to this is that there will be less incentive for students to resort to plagiarism. Importantly, to succeed, this kind of an initiative is heavily dependent upon support at an institutional level.

Something of a paradigm shift will likely be required if the changes described above are to be readily embraced by the majority of teachers in the higher education sector. However, while it is beyond the scope of this paper to discuss in any great detail the shape and form of the pedagogy that might assist in bringing about the necessary changes, it is worth mentioning that the various electronic media, used effectively, could well assist in this endeavour. Indeed, one could make the point that if as much energy and ingenuity went into developing new and exciting online devices for the purposes of facilitating assessment as there has been devoted to online devices for the detection of plagiarism, then maybe there would be fewer obstacles to change.

Summary and conclusions

Unlike their US and British counterparts, Australasians have been slow to respond to the growing problem of plagiarism in universities. Various electronic detection devices are being used in an attempt to combat plagiarism although, to date, no single institution has made a public 'declaration of war' on

plagiarism. So long as approaches to the problem remain so *ad hoc*, plagiarism will continue to fester. Universities, as elite institutions in society have a moral obligation to stop the rot. An independent advisory body needs to be established at a national level, perhaps within the Australian Universities' Teaching Committee (AUTC) structure, whereupon affiliated institutions could take advantage of the assistance provided by such a body. This service might include, for example, clear definitions of plagiarism and recommendations on policies for dealing with it; a centralised plagiarism detection facility along the lines of that to be introduced by JISC in the United Kingdom; and training packages for teaching staff in the effective use of assessment instruments and the design of assessment items. With such a systematic approach to plagiarism, the institutional culture of universities can be so transformed that the need and desire of students to plagiarise could be dramatically reduced.

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