A REPORT FROM THE ACADEMIC MISCONDUCT WORKING PARTY INTO PLAGIARISM DETECTION SOFTWARE  
(in accordance with Academic Council R108/07 and Teaching and Learning Committee R34/07)

Introduction
The issue of student plagiarism has recently become a high priority within Australian universities. Although it is unclear whether plagiarism is actually increasing among students, there is certainly a perception that web-based resources and communication networks make plagiarism both easier to engage in, and more difficult to detect. As a result of these concerns, several software packages have been developed that may assist universities to detect plagiarism. A Working Party on Academic Conduct at UWA has already addressed the matter of a university-wide framework for handling cases of alleged academic misconduct (including plagiarism), with an emphasis upon the appropriate education of students to properly enable them to avoid such activities, and to understand the significance of an ethical approach to scholarship within tertiary education. Guidelines adopted in 2005, and supported by university-wide educative materials, constituted Part I of the Working Party's brief. This current report responds to Stage 2 of the Working Party's brief, which calls for appropriate recommendations relating to the use of proprietary plagiarism detection software systems, and in particular, whether the University should mandate the use of such systems on a university-wide basis.

Detection software – what is it?
Plagiarism detection software works by scanning and comparing the contents of student assessments with electronic databases. The most well-known and widely-used version is Turnitin, although there are a number of other such systems that operate in a broadly similar manner. From time to time, it has been suggested that UWA adopt such a system university-wide. For the purposes of this report, Turnitin will serve as a major example, since the Working Party focused its own research on the Turnitin system, which has been widely adopted in the Australian sector and has already been employed by some individuals and a couple of schools at UWA; however, it should be recognized as only one of several detection software options. Many of the comments and recommendations in this report would pertain equally to other, lesser-known proprietary systems which are available.

Turnitin draws on three databases: firstly, a recently cached version on the World Wide Web; secondly, a database of scholarly books and journals, including the entire ProQuest archive; and thirdly, a database of previously scanned student work from every institution using Turnitin. The results of each comparison are used to generate an originality report, which indicates all the sources (or probable sources) which appear in the scanned document. An electronic copy of every assignment that is scanned using Turnitin is then added to the database to be compared with future assignments.

Turnitin may be used by academic staff to detect plagiarism in students’ work, or it may be used by students prior to submitting their work to check that their assignment is not contravening university regulations regarding academic conduct.

Turnitin is currently in use in many universities in the United Kingdom, United States, and Australia. In Western Australia, Edith Cowan University uses Turnitin to scan the majority of undergraduate work. Murdoch University has trialed Turnitin and appears to be using the software only in certain sections of the university. Curtin University has also trialed Turnitin but has elected not to use the software at all, preferring to focus on preventing plagiarism through alternative educative approaches, and encouraging curriculum design at the outset which deters potential plagiarists. (It should be noted that UWA’s own Working Party, first outlining the dimensions of the issue in 2003, was an early leader in constructing educative approaches and solutions, which have been endorsed by Academic Council and Senate.)

Turnitin has not been centrally trialed at UWA, though it is being used by staff in some Faculties and Schools, notably in the Business School, Education, and Law.
Advantages of detection software
Several advantages of a detection tool such as Turnitin have been identified. Firstly, it draws on a wide range of sources to detect plagiarism, making detection faster and more accurate. Secondly, the onus of detecting plagiarism is no longer entirely on teaching staff, which may be especially important where postgraduate and junior staff are concerned. Thirdly, it is argued that such systems act as a deterrent to students when they know that their assessments will be scanned for plagiarism. And fourthly, it may serve to re-emphasise the importance of ethical academic conduct at all levels in the university.

Disadvantages of detection software
However, several major disadvantages have also been identified with using plagiarism detection software. These disadvantages fall into three broad categories: practical, legal and pedagogical.

Practical issues
For a system such as Turnitin to be implemented, several practical demands must be addressed. Firstly, staff and students using the software must be trained in its use and operation, particularly regarding the interpretation of such things as ‘originality’ reports. Although the indications are that such training may not be overly difficult, equipping all academic staff and students with the requisite technical knowledge may represent a considerable outlay of both time and resources.

Secondly, all assignments scanned for use within an electronic detection system, must be in an electronic form. While some faculties currently use electronic submission, others have very few assignments submitted electronically. These faculties will either have to overhaul their assessment practice and policy, or manually scan each assignment as it is submitted (a labour-intensive process).

A further practical issue in the UWA context should be closely considered: any requirement that students submit their work in electronic format, in order to facilitate scanning, must be considered against the existing policy regime relating to the Regulation of Ancillary Student Fees and Charges (which are governed by the Higher Education Support Act (HESA), and at UWA, subject further to internal guidelines to ensure that students are able to undertake their studies without undue or unforeseen financial impost upon them, exceeding the payment of HECS or related unit fees). Under the regime of current policy, a faculty or school requiring students to submit assessments electronically, must ensure that students will have reasonable access to appropriate hardware and software to enable them to complete and submit assessment items, at no cost to the student. Reasonable access, in this formulation, must take into account easy availability of such facilities to students enrolled fulltime as well as part-time, who may not have private computer access.

Legal issues
The major legal issue arising from the use of many proprietary plagiarism detection systems relates to the digital copy of each scanned assignment that is then retained by the program. Such copying and storing, it has been argued, may contravene the student’s right in the intellectual property contained within that assignment. Put simply, upon being scanned, the student’s work is transformed from being the property of the student, to being the property of the system, with a commercial benefit to such systems as they build their databases (and hence some elements of their utility) through the acquisition of such intellectual output.

In recent years, the publishers of Turnitin have solicited legal advice from the Australian law firm Blake Dawson Waldron, who concluded that a) it is highly unlikely (but not impossible) that an Australian court of law would consider the use of Turnitin to be an infringement of students’ intellectual property rights; and b) that it is equally unlikely (but not impossible) that a student would take action in respect of infringement, especially if each student was required to sign an assignment coversheet authorizing the use of plagiarism detection software as part of the University’s assessment policy.

The University of Western Australia has received advice from the University Lawyer which confirms that it is probable that such software operates within the parameters of Australian
copyright law. However, it is further suggested that, rather than requiring students to sign an assessment coversheet only on each occasion when any proprietary plagiarism detection system is to be used, each faculty should at the outset specify in its regulations that students may be required to submit assessments for handling within a system such as Turnitin, thus lessening the necessity to secure express consent from students.

However, such advice is just that. Significant questions remain over the legalities of using such software, and this field of law is largely untested. For such reasons, some universities’ representatives have informally indicated that such possible risks constitute a major reason for their not mandating a system, university-wide.

**Pedagogical issues**
If practical and legal challenges could be overcome, there remain serious issues of pedagogy that may compromise the use of software detection systems at UWA. Useful distinctions have previously been made by the UWA Centre for the Advancement of Teaching and Learning between the two major uses to which such software may be put: formative, and punitive. Formative use of such software allows students access to the software before submitting their work, creating for them the opportunity to check work for any apparent plagiarism and thus facilitating the improvement of academic standards without fear of punishment for perceived weaknesses in referencing and citation. Used in this way, a system such as Turnitin may complement other initiatives, such as in-class instruction on how to avoid plagiarism, for example in the UWA context, via the Introduction Research and Information Skills (IRIS) module that is now mandatory for all first-year students in the Faculty of Arts, Humanities and Social Sciences and which has also been introduced into a number of other faculties; and the Academic Conduct Essentials (ACE) unit that is mandatory for all on-shore commencing students from 2007, plus postgraduate and offshore from 2008.

While a formative approach may be considered beneficial to students, students and staff at UWA have expressed reservations about the potentially punitive use of some software detection systems, and the scope for misinterpretation of the results of scanning, among untrained users. Punitive use of the software is where it is used solely as a tool for policing and punishing plagiarism. In its submission to the current working party, the UWA Student Guild was highly critical of what it saw as the likely punitive emphasis in the use of detection software, and its potential effects on students. As a result of this concern and others relating to security and the possibility of misinterpretation of originality reports, the Guild has stated that it is in ‘firm opposition’ to the software, and has even called for such software to be ‘banned’ at UWA.

Such concerns reflect the delicacy with which the question of plagiarism detection must be dealt in relation to student perceptions of such detection. Implementing any such system, without alienating students at UWA or contributing to any stereotype of ‘untrustworthiness’ among the student body, would require transparency, considerable consultation with and information provision to students where any such system is to be utilised, and a commitment to clear communication with each new cohort. It is the advice of both CATL and this Working Party that a primarily formative approach be taken with regards to proprietary detection systems, and that such a focus not be lost, should any such system become entrenched in a school or faculty.

**Alternatives to detection software**
Finally, it must be acknowledged that alternatives exist to the use of a number of major proprietary software plagiarism detection systems, the cost of which can be considerable and/or whose functions may be fulfilled at less cost, and less controversially, by lesser-known and cheaper systems.

Some software packages, for example, do not require the retention of an electronic copy of students’ work, thus avoiding a number of the legal issues outlined above. Secondly, detection of plagiarism may be equally or better achieved when using major search engines such as Google; previously reported informal testing within UWA in fact revealed that the free use of major search engines to trace plagiarized work, proved more effective than the use of some proprietary systems, whose databases were limited in terms of reach and contemporaneity. To assist all
academic staff in the effective, and efficient use of free search engines in instances of suspected plagiarism, CATL has been developing advice about how to conduct such searches, which have now been available since the beginning of 2007 (refer to the Academic Conduct website at http://www.teachingandlearning.uwa.edu.au/page/72852).

Thirdly, against the prospect of any university-wide endorsement or adoption of a proprietary software system, investment in such programs as IRIS, or the university-wide ACE (Academic Conduct Essentials) unit, has occurred in recognition of their use in providing positive education to avoid plagiarism and to promote ethical scholarship at UWA. With the extension of such programs, and the growth of student awareness, it is expected that the incidence of any plagiarism may be reduced, or confined to instances of unintentional or 'naïve' plagiarism among entry-level students in their first year and/or students who are unfamiliar with UWA's academic conventions and requirements. To this end, the University via its Academic Conduct Advisors' Group, and the Pro Vice-Chancellor (Teaching and Learning), will monitor trends in the area and will report periodically to Academic Council.

Recommendations
On balance, in light of the factors outlined concerning practical, legal and pedagogical matters, the Working Party recommends as follows:

1) That a proprietary plagiarism software detection system be neither adopted nor mandated, on any University-wide basis;
2) That the Centre for the Advancement of Teaching and Learning (CATL):
   a) Promulgate the effective use of major search engines (e.g., Google) to detect plagiarism to all academic staff at the University via its workshops, CATLyst network, programs etc.
   b) Undertake further investigation into alternative plagiarism detection, which complements educative approaches designed to avoid plagiarism, as required in consultation with schools and faculties;
   c) Incorporate reference to the possible use at UWA of plagiarism detection software packages into the Academic Conduct Essentials (ACE) unit, which will become mandatory for all commencing students (undergraduate, postgraduate and including offshore students) from 2008.
3) That the University maintain its focus on prevention of plagiarism through training for practical referencing skills and ethical awareness among all students (undergraduate and postgraduate), and the involvement of all teaching staff in proactive academic conduct training as a core feature of UWA education; and,
4) That where schools, faculties or postgraduate research supervisors choose to introduce proprietary software plagiarism detection or similar systems, such introduction be governed by the following minimum requirements to ensure that such use is transparent, underpinned by adequate training and information to staff and students, and in keeping with UWA's existing broad assessment guidelines.

Minimum Requirements for the Adoption of Plagiarism Detection Software within a School or Faculty, or by a Postgraduate Research Supervisor.
The following minimum requirements must be observed in the introduction of plagiarism detection software within a school, faculty or by a Postgraduate Research Supervisor.

1) That a statement be included in the University Handbooks (undergraduate and postgraduate) under Student Procedures, Rules and Policies as part of the statement on Ethical Scholarship, Academic Literacy and Academic Misconduct, which clearly states that the University reserves the right to implement processes to deter and detect plagiarism and other forms of cheating as it deems appropriate. It should be further noted that this might include such activities as random or systematic screening for plagiarism by way of plagiarism detection software, and that in some instances students' work may be retained within the system's database, either internal or external to the University.
2) Prior to introduction, the relevant faculty, school or postgraduate research supervisor must inform students as to their intent to introduce plagiarism detection software, especially where such systems require the electronic submission of assessment items by students and the retention of student work by any such system’s databases external to UWA.

3) At the point of initial introduction of such a system, the University should notify students of the introduction by a means such as the student email system, website notification, ipoint, etc. Any subsequent major change in systems or approach to plagiarism detection should also be notified.

4) That subsequent to the adoption of any system, students be informed each teaching period in the unit’s Assessment Mechanism Statement and in online handbook entries, that a proprietary system is in operation within the faculty or school for the unit in which they are enrolled.

5) That a standard statement be incorporated into assignment coversheets or their electronic equivalent, as a further means to ensure that students are aware that their submitted work may be scrutinised using such software (see Appendix A).

6) That faculties ensure that all unit coordinators and other staff utilising any such proprietary system be appropriately trained in the use of detection software so that they can accurately interpret originality reports and respond to student queries about the system, and that faculties provide appropriate information and training to students in the use of such systems, and in the correct format for submission of electronic assessments;

7) That faculties, schools and postgraduate research supervisors, in considering their adoption of a proprietary software system, actively consider the practical requirements for students when conforming to the demands of any system so that students do not bear additional cost in the completion of their unit or course, which stands outside the permissible schedule of Ancillary Student Fees and Charges current at UWA;

8) That faculties and schools ensure that all unit coordinators and postgraduate research supervisors are aware that the use of plagiarism detection software may have an impact on student trust and overall learning engagement, if not handled sensitively. In addition, that the use of proprietary plagiarism detection systems and in particular the retention of student work within an external, commercial database remains an untested area of law in Australia;

9) That, wherever possible, faculties, schools and postgraduate research supervisors encourage the use of such systems in a formative manner to actively educate students about academic conduct and its significance, rather than in a merely punitive fashion;

10) That where staff intend to utilise such a system, they simultaneously review the details of assessment items to ensure that the opportunities for plagiarism are minimized;

11) That plagiarism detected through software be handled with strict reference to the University’s procedural framework pertaining to Academic Conduct (refer http://www.teachingandlearning.uwa.edu.au/page/72852);

12) That where a plagiarism software detection system is adopted, any case of alleged plagiarism brought against a student must not rely solely on a system-generated ‘originality report’ or similar - which is an initial ‘flag’ only that plagiarism may be indicated - but be accompanied by supporting evidence after further appropriate examination by academic staff;

13) That in exceptional circumstances (for example in the case of a thesis in which the research is subject to commercial in confidence provisions or other restrictions on distribution) a student may apply to ‘opt-out’ of a systematic electronic detection process in which the item submitted for assessment is subsequently held in an external database. Application to ‘opt out’ must be made in writing by the student, for consideration by the
Board of the Graduate Research School or, in the case of undergraduate level work, to the relevant Head of School. Where permission to opt out is granted, student work may be subject to alternative forms of review. Students dissatisfied with the outcome of an ‘opt-out’ application may pursue the matter via established appeals processes.

14) That any faculty or school utilising such software systems provide to the University’s Academic Conduct Advisors’ Group and Pro Vice-Chancellor (Teaching and Learning) a brief annual report in December, of the outcomes of such use.

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