

## REPORT ON PILOTING OF TURNITIN IN 2004

### **Executive summary**

Turnitin was licenced by the University of Tasmania in 2004 and has been used as a driver in furthering the management of plagiarism in student assessable work within the University of Tasmania.

The Turnitin Pilots during 2004 went well, but highlighted a number of issues that require further consideration before the software can be used on an institutional scale. The pilots established that the level and nature of student plagiarism within the university is the same as that reported in the current literature, which recognises that student plagiarism in tertiary institutions is between 17 and 20%. One key issue is to develop models for handling student plagiarism cases at this rate, without significantly impacting the workload of executive staff such as Heads of School.

A limited rollout of Turnitin will be conducted during 2005, while these issues are considered further. By the end of 2005 revised policy procedures should allow the use of plagiarism detection software which is effective and sustainable. As well, significant awareness raising amongst staff and students is needed, regarding the importance of academic integrity within the University of Tasmania and awareness of appropriate procedures.

Piloting in 2004 revealed the following:

- That staff and students had minimal difficulties using the Turnitin software.
- That staff and students need significant awareness raising regarding academic integrity issues.
- An educative and an auditing model for the use of the Turnitin software were considered appropriate for the UTAS environment.
- That additional workload for students using Turnitin was minimal.
- That by using specific models for assignment submission and report review, the increase in staff workloads associated with Turnitin was considered acceptable.
- That detection rates approaching the rate of plagiarism reported in the current literature, would cause workload issues for staff involved in university plagiarism procedures.
- The need for greater compliance at the school level with University policy and procedures for managing incidents of plagiarism.

- That there were no legal barriers to using plagiarism software within the university, though minor revision of some policy statements may be worthwhile.

In summary, plagiarism detection software should be viewed as one tool in a broader approach to addressing issues of academic integrity. In 2005 more work will need to be undertaken with regard to compliance in the application of policy and procedures and consistency in the application of penalties.

## **Overview**

The plagiarism detection software Turnitin was piloted during Semester 1 and 2 of 2004. The Pilot has been overseen by a Steering Committee comprising Christine Goodacre (Chair), Chris Carstens, Sue Mulcahy (Project Leader), Peter Dixon, Michael Edgar, Daniel Hulme, John Moore, Carey Denholm and Werner Hennecke.

- In both semesters the pilot included units from each faculty, 1<sup>st</sup> to 3<sup>rd</sup> year and Hobart, Launceston and Cradle Coast campuses. In second semester some offshore and distance students were included.
- During 2004 Turnitin was used by 24 lecturers in 27 units to analyse 1,783 student assignments.

Summary details of participants and the communication strategy are contained as Appendix B and C.

## **Pilot aims**

The pilot aimed to investigate issues related to:

- appropriate use of Turnitin within the UTAS environment
- administration, resourcing and support implications of introducing Turnitin
- training of staff and students in issues related to academic integrity and plagiarism

## **Pilot evaluation**

The pilot was evaluated by:

- questionnaires administered to student users of Turnitin
- a focus group of students that had not used Turnitin
- focus groups of staff participants
- feedback from training courses
- investigation and recording difficulties experienced by participants

## **What is Turnitin**

Turnitin is a web based text matching system which compares submitted work to its data base of web pages, electronic journals and previously submitted works. Turnitin currently searches “an Internet database of over 4.5 billion pages...millions of published books and journals from

ProQuest...over 10 million papers already submitted to Turnitin”

([http://www.turnitin.com/static/tour/tour\\_master.html](http://www.turnitin.com/static/tour/tour_master.html), visited 20/7/2004). Turnitin cannot differentiate between correctly cited quotes and plagiarised text, this must be done by the marker.

Turnitin’s analysis of a document uses colour to highlight text that matches items in its data base. It also allows the matching documents to be viewed, except where the document is a work submitted to Turnitin. If a document matches a previously submitted document, Turnitin provides the lecturer with information about the institution, course name, lecturer, lecturer’s email address and name of the matched document. It is the responsibility of the lecturer to contact the lecturer who submitted the matching document and request that they seek permission from the student who’s work has been matched, to view their document. In this way Turnitin protects the IP rights of works submitted to it.

Turnitin provides a class summary of submitted documents according to the percentage of text matching against its data base. Lecturers are able to sort this list according to the reported percentage of matching text. A sample report can be found for reference in Appendix A.

## **Pilot findings and issues**

### **Plagiarism at the University of Tasmania**

- The level of plagiarism detected in units where students were unaware that their work was submitted to Turnitin approximated that reported in the current literature regarding plagiarism by tertiary students.
- The student focus group identified that UTAS students are using the same range of resources and methods of plagiarising as students throughout the world, according to the current literature in this area (Carroll, 2002).
- Procedures for handling cases of plagiarism at UTAS are based on dealing with small numbers of cases each year. These procedures are unlikely to scale to a plagiarism detection rate approaching the incidence rate reported in the current literature of 17-20%.

### **Legal issues**

- A number of legal issues have been raised during the pilot, both by students and members of the Steering Committee. These have been fully investigated. None have been identified that would inhibit the use of plagiarism detection software such as Turnitin at UTAS.
- The University plagiarism policy and the assignment cover sheet may need to be slightly changed to improve communication to students of how plagiarism detection software will be used at UTAS.

## **Models of Turnitin use**

In the first semester pilot two models of Turnitin use were identified as most appropriate for UTAS, they were the educative and auditing models. In second semester participants were asked to implement either of these two models.

### **Educative model**

Students are able to submit drafts to Turnitin and view the reports, before they submit their final version to Turnitin and are able to view the final report. Staff are able to view the reports on all student submissions to Turnitin, both draft and final.

### **Auditing model**

Staff submit student assignments to Turnitin and students do not have access to the reports.

- The resource requirements of the Educative model were found to be significant. Because of this the Auditing model is recommended as the standard model for use of Turnitin at UTAS. The Educative model should be available for those who want to use it, but its use should be limited to units which are embedding instruction on academic integrity, for new students.
- The use of models other than the Auditing or Educative did lead to difficulties in Semester 2.
- Because the auditing model is recommended as the UTAS standard, assignment submission needs to be standardised, where appropriate, to include electronic submission.

## **Plagiarism detection**

- The rate of plagiarism detected in units using the educative model was very low. The rate of plagiarism detected in units using the auditing model was close to that reported in the current literature. Some students using the educative model were observed slightly altering their work to avoid future identification of copied sections by Turnitin.
- Turnitin did not highlight all occurrences of plagiarised text in the submitted works, however it did highlight the majority of such text. Markers identified cases of plagiarised text not highlighted by Turnitin. Turnitin is an additional tool to assist with detection of plagiarism. It cannot replace the need for good designing of assessment tasks or educating students regarding academic integrity and how it is applied within the discipline area.
- Staff participants were surprised that the rate of plagiarism detected in large studies world wide currently shows no difference in plagiarism rates between domestic and international students. They agreed that it was easier for markers to identify plagiarism by non-English speaking students.

### **Impact on students and staff**

- *Student workload issues* From the results of the student questionnaire over 70% of respondents took less than 5 minutes to setup or submit their assignments to Turnitin.
- *Staff workload issues* Using the models provided in Semester 2, staff felt that the additional workload of about 30 minutes was justified, to review all student assignments for one assessable task in a unit, due to increased certainty that plagiarism would be highlighted.
- *Head of School workload issues* For schools using the auditing model, an increase in detection did lead to a significant increase in the workload of the Head of School. The current procedures for dealing with plagiarism cases may not effectively scale to handling a detection rate close to the reported rate of plagiarism in the current literature.

### **Training issues**

- *Staff* dialogue regarding the meaning of academic integrity for students within their discipline is needed. Training in how to develop assessment activities that design out opportunities for plagiarism is also needed. Both of these activities should be conducted on a school basis and the FEU will offer workshops on this topic. Staff would also benefit from just in time training on how to use Turnitin and assistance in configuring their unit and assignment.
- *Students* Require ongoing access to training in academic integrity that is relevant to the discipline. The student focus group suggested the need for ongoing reminders about plagiarism issues from the lecturer and commented on the effectiveness of reporting in broad terms the detection of plagiarism cases within a unit.

### **Support issues**

- Participant drop out rates were higher in the Semester 2 pilot. Although workload issues had been addressed through the use of standard models in Semester 2, individual participants received considerably less individual support from the project leader. Where the institution does not mandate its use, approximately 10% of individual lecturers make use of Turnitin. This is insufficient to ensure effective compliance checking across the institution.
- Participants preferred just in time technical support, which might be sourced from school or faculty technical officers.
- Higher rates of plagiarism detection with improved compliance with university procedures, will increase the demands on those involved in handling plagiarism cases, including Head of Schools, the Academic Registrar and the Discipline committee. A sustainable model is needed for handling plagiarism cases within UTAS, where the rate of plagiarism reporting should be of the order of 250 times the existing rate.

### **Administration**

- Turnitin has been configured for the University of Tasmania to allow individual Faculties to manage both access to Turnitin by academic staff within their Faculty and the generation of reports relevant to the Faculty and its individual schools.
- To enhance compliance with university procedures, Turnitin reports at a Faculty level could be sent to the relevant Faculty Teaching & Learning committee. Individual School summary reports could be sent to the relevant Head of School.
- A summary university wide report could be sent to the Teaching and Learning Committee.

## **Framework for limited rollout of Turnitin in 2005**

### **Participation**

- Participation would be on a purely voluntary basis, with the expectation of a minimum of 5 units per faculty during the year.
- All participating units would need to require electronic submission of all appropriate assessment task.

### **Submission models**

One model would be supported centrally:

- auditing model: staff submit student assignments to Turnitin, students do not access Turnitin.

Teaching staff, if they wanted to, would be able to use:

- educative model: students are able to submit drafts to Turnitin and view the reports, before they submit their final version to Turnitin and are able to view the final report. Staff are able to view the reports on all student submissions to Turnitin, both draft and final.

### **Review of reports**

Two models would be used to determine which Turnitin reports were investigated by markers:

- high probability: Turnitin reports that showed greater than 50% text matching
- random: A set number of Turnitin reports are reviewed, chosen by random selection.

### **Evaluation**


- Turnitin statistics for the unit to be reviewed by the Head of School
- Faculty statistics to be reviewed by the relevant Faculty Teaching and Learning committee at the end of each semester

### **Training and Support**

- Ongoing availability of resources and workshops for staff and students on academic integrity issues and university policies related to plagiarism. Staff workshops offered at a School level. Student training to be embedded in the unit.
- Turnitin documentation available from the Turnitin website

## Appendix A: Sample Turnitin report

### Print version format

<b>author:</b> Jim Allen	<b>title:</b> <a href="#">Globalization</a>	<b>paper ID:</b> 12584391	<b>submitted:</b> 02-13-04 1:17 PM PST
<b>similarity index:</b>  (89% matching text)		<b>version:</b> # 2 (03-08-04) <input type="button" value="v"/>	<a href="#">side-by-side version</a>
<b>Sources:</b>			
<b>link</b>			
Internet	<a href="http://www.strategicfinancemaq.com/2000/08e.htm">http://www.strategicfinancemaq.com/2000/08e.htm</a> (archived copy)		
Internet	<a href="http://www.opportunityservices.com/blog/archives/000193.html">http://www.opportunityservices.com/blog/archives/000193.html</a> (archived copy)		
Internet	<a href="http://www.unesco.org/culture/industries/trade/html_eng/question20.shtml">http://www.unesco.org/culture/industries/trade/html_eng/question20.shtml</a> (archived copy)		
<b>Report text:</b>			
<p><u>Thesaga of globalization often reads like a novel. Global competition and electronic commerce are transforming business practices. For financial professionals, the story turns on the need to transform themselves from "bean counters" and tax experts into the next generation of business heroes - supply chain managers. They are the professionals who execute top-notch operations by integrating suppliers and customers throughout planning and operations. Supply chain management has emerged over the past few years as the key to success in the global economy, regardless of industry or company size. Its premise is simple: Operational strategies should be designed and managed around customer needs. As a company adapts to a customer-driven supply chain, it is critical to develop appropriate performance measures. As the organization becomes more permeable, measurements must incorporate team members - suppliers and customers - outside the traditional organization.</u></p> <p><u>Foreign investments are increasingly an important area for international trade in general and for trade of cultural goods and services in particular. By the end of 1996, the total stock of foreign direct investment owned by companies outside their home countries was over \$3 trillion and OECD members were the source of 85% of all foreign direct investment. During the Uruguay Round there was strong interest in starting new negotiations of a free-standing, enforceable multilateral investment agreement, but countries' positions on the issue were very different.</u></p> <p><u>Can you measure how your company's people investments contribute to the bottom line? Do you have data tying specific personnel initiatives to increased corporate performance the way you have numbers showing the return on an IT investment?</u></p> <p><u>You probably have strong correlative evidence that supports your people programs, but do you have proof that they work? Well, take heart, neither</u></p>			

### Side by side version format

The screenshot displays the Turnitin.com Originality Report interface. At the top, the browser address bar shows the URL: [http://dev1:5002/or\\_sidebyside\\_master.asp?r=51.3190663988333&svr=1](http://dev1:5002/or_sidebyside_master.asp?r=51.3190663988333&svr=1). The report title is "Turnitin Originality Report" and the version is "# 1 (04-04-03)".

On the left, a metadata box shows:  
author: Ed  
title: Is S  
submitted: 04-  
paper ID: 1123054  
similarity index: ■ (75% matching text)

Callouts provide the following information:  
- "View different versions of each report, based on custom analysis" points to the version dropdown.  
- "Print version shows list of links with paper text" points to the "print version" link.  
- "Similarity index indicates percentage of a paper for which we found matching sources" points to the similarity index bar.  
- "Color-coded text indicates matches to a given source. The left window contains the text of the submitted paper; the right window contains the source content" points to the side-by-side text comparison.

At the top right, a "links (% match)" bar shows percentages: 13%, 11%, 8%, 7%, 7%, 6%, 4%, 2%, 2%, 2%. A "next 10" link is also present.

The source list includes:  
url: <http://www.computerworld.com/mobiletopics/mobile/story/0,10801,74321,00.html>  
info: This is an Internet source. For all Internet sources, we first try to display the "live" web page linked to above. If the page has changed or moved, we display a text version stored in our database.

Callouts for the source list:  
- "Use the tabs to navigate through all matching sources" points to the source list.  
- "Exclude and re-analyze selected sources to customize your report" points to the "X" and "refresh" icons.  
- "Link opens a new window directly to the source; info distinguishes between current and expired Web pages, student database matches, and commercial database content" points to the source URL.

The "Report text:" section shows a side-by-side comparison of text. The left window contains the submitted paper text, and the right window contains the source content. The text is color-coded to show matches. The source title is "Sniffing, war-chalking and more: A wireless vocabulary evolves" by BOB BREWIN, dated SEPTEMBER 17, 2002.

## Appendix B: Pilot details – participation

Faculty	School	Unit code and campus	Semester	Comments
Arts	Asian Languages and Studies	HMA102 – Hobart and Launceston	2	Completed
Arts	Government	HSG101 – Hobart	1	Unable to complete
Arts	History and Classics	HTC200/300 – Hobart	2	Completed
Arts	Visual and Performing Arts	FFA102 – Hobart	1	Completed
		FFA103 – Launceston	2	Unable to complete
		FFA250/350 – Launceston	2	Unable to complete
		FFA254/354 – Launceston	1	Completed
		FPB102 – Launceston	2	Unable to complete
Commerce	Accounting and Finance	BFA2/311 – Hobart, Launceston, Cradle Coast, Singapore	2	Unable to complete
		BFA302 – Hobart, Launceston, Cradle Coast, Singapore, Malaysia	2	Completed
		BFA306 – Hobart	1	Completed
Commerce	Information Systems	BSA101 – Cradle Coast	1	Unable to complete
		BSA207 – Hobart and Launceston	2	Unable to complete

<b>Faculty</b>	<b>School</b>	<b>Unit code and campus</b>	<b>Semester</b>	<b>Comments</b>
		BSA306 – Hobart and Launceston	1	Completed
Education	Education	EPF150 – Cradle Coast	1, 2	Completed
		EPF350 – Launceston	2	Incomplete
		EPF450 – Launceston	1	Completed
		ESP220 – Launceston	1	Completed
Health Sciences	Anatomy and Physiology	CHG110 – Hobart	1, 2	Completed
		CRH500 – Distance	2	Completed
Law	Law	LAW101 – Hobart	1	Unable to complete
		LAW203 – Hobart	2	Unable to complete
SET	Agricultural Science	KLA115 – Hobart, Distance	1	Completed
		KLA233/333 – Hobart	1	Completed
		KLA396/496 – Hobart	1	Completed
SET	Architecture and Urban Design	KDA124 – Launceston	2	Completed
		KDA212 – Launceston	1	Completed
		KDA222 – Launceston	2	Completed
SET	Computing	KXA151 – Hobart and Launceston	1	Completed
		KXA154 – Hobart	2	Unable to complete

<b>Faculty</b>	<b>School</b>	<b>Unit code and campus</b>	<b>Semester</b>	<b>Comments</b>
		KXA253 – Hobart and Launceston	2	Unable to complete
		KXA359 – Hobart and Launceston	1	Completed
SET	Geography and Environmental Science	KGG150 – Hobart	2	Completed
		KGG407 – Hobart	1	Completed
SET	Zoology	KZA350 – Hobart	2	Completed

## Appendix C: Pilot details – Communication Strategy

### Semester 1

Event	Date	Comment
Memo to HOS and A/Deans from Sue Johnston on high level Academic Integrity briefings	22 <sup>nd</sup> March	
Memo to HOS from Chris Goodacre, requesting nomination of units for Turnitin pilot	23 <sup>rd</sup> March	
Academic Integrity briefing conducted in Launceston and Hobart	6, 7 <sup>th</sup> April	Attendance: Launceston 4, Hobart 18
Pilot participants' video conference	30 <sup>th</sup> April	Attendance 10, Hobart, Launceston and Cradle Coast. Covered purpose of the pilot, legal issues and university plagiarism policy and procedures
Information kits sent to participants	3 <sup>rd</sup> May	Including documentation for staff and students on, university policy and procedures on plagiarism and academic integrity; Academic Integrity information and Turnitin.
Email to participating HOS from Chris Goodacre	3 <sup>rd</sup> May	Notification of who was involved in the pilot from the school. Provided information on university policy and procedures on academic integrity issues
UniTas article on Turnitin Trial	4 <sup>th</sup> May	
Update information emailed to pilot participants	19 <sup>th</sup> , 28 <sup>th</sup> April, 1 <sup>st</sup> , 10 <sup>th</sup> , 20 <sup>th</sup> May	Updates on new resources available through the Vista course and upcoming events.
Email to participating lecturers, student evaluation questionnaire	20 <sup>th</sup> May	77 completed questionnaires returned
Focus group of students who hadn't used Turnitin	2 <sup>nd</sup> June	4 students attended, all in Hobart and all from the Faculty of Commerce
Staff participants focus group	28 <sup>th</sup> June	9 participants attended and apologies were received from 4 other participants

## Semester 2

Event	Date	Comment
Memo to HOS from Chris Goodacre, requesting nomination of units for 2 <sup>nd</sup> semester Turnitin pilot	27 <sup>th</sup> June	
Information kits sent to participants	early August	Including documentation for staff and students on, university policy and procedures on plagiarism and academic integrity; Academic Integrity information and Turnitin.
Email to participating HOS from Chris Goodacre	11 <sup>th</sup> August	Notification of who was involved in the pilot from the school. Provided information on university policy and procedures on academic integrity issues
Turnitin website redeveloped <a href="http://www.utas.edu.au/turnitin/">http://www.utas.edu.au/turnitin/</a>	16 <sup>th</sup> August	Website contains resources for staff and students. The staff site contains resource material on relevant legal issues, training materials, project documentation
Pilot participants' video conference	23 <sup>rd</sup> August	Attendance 5, Hobart. Covered models to be used.
Staff training courses	27 <sup>th</sup> 30 <sup>th</sup> August,	4 staff in Hobart 1 in Launceston, 2 hour sessions covering academic integrity issues and use of Turnitin
Student training	20 <sup>th</sup> , 29 <sup>th</sup> September and 6 <sup>th</sup> October	approximately 90 students at Hobart and Launceston. Covering overview of academic integrity issues and how to use Turnitin

## References

Carroll, S. 2002, *A Handbook for Deterring Plagiarism in Higher Education*, The Oxford Centre for staff and learning development, Headington

O'Connor, S. 2003, *Cheating and Electronic Plagiarism – Scope consequences and detection*, Paper presented at EDUCAUSE conference May 2003, Adelaide,  
<http://www.caval.edu.au/about/staffpub/>

Project website: <http://www.utas.edu.au/tl/supporting/academicintegrity/turnitin.html>