University of Reading

Student projects: plagiarism and assessment

Conference or Workshop Item

Presentation

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Student Projects

Plagiarism and Assessment

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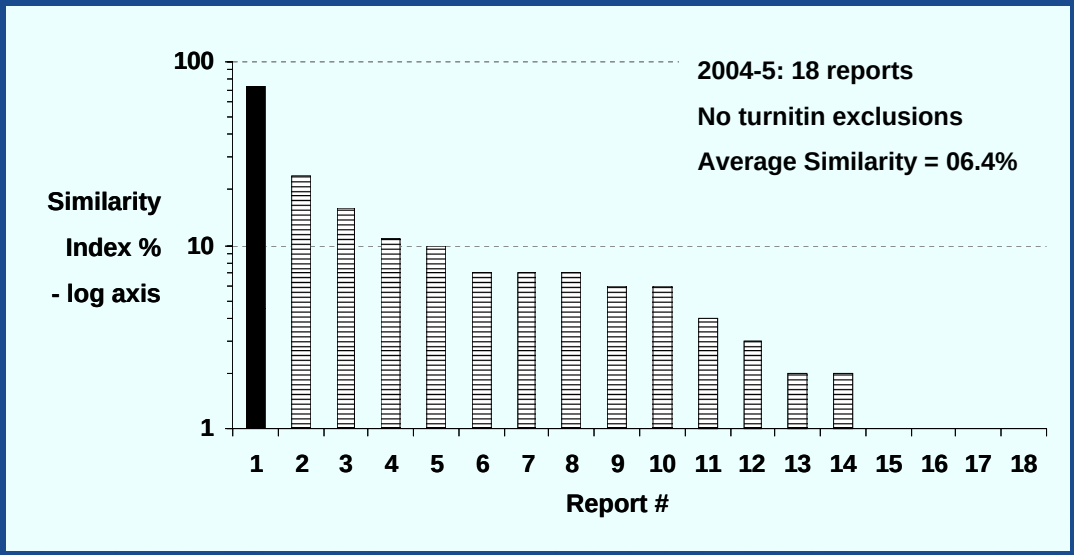
The Information Technology Project

- customer-centred project delivered by student
- 20%+ of study programme by weight, ~400 hrs work
- 40% = pass, a hurdle for the B.Sc. (Hons.) degree
- conducted in a 'Virtual Company' regime
  - projects awarded on a competitive basis
  - senior PM (mentor), QA (convenor), colleagues (students)
- assessment areas, largely based on final report
  - Investigation, analysis and design, implementation, PM
- looking for judicious mix of 'own' and 'other' voices

First Cohort, 2004-5

- regime in which the module was conducted
  - 'virtual company' v 'academic' experience
  - nature of support provided
  - level of mentoring and monitoring
- Project Reports provided the major feedback
- one student's report
  - semi-detached from project
  - references somewhat out of line with the core text
  - smoking gun: one incongruous phase
- response: Google, turnitin … University process

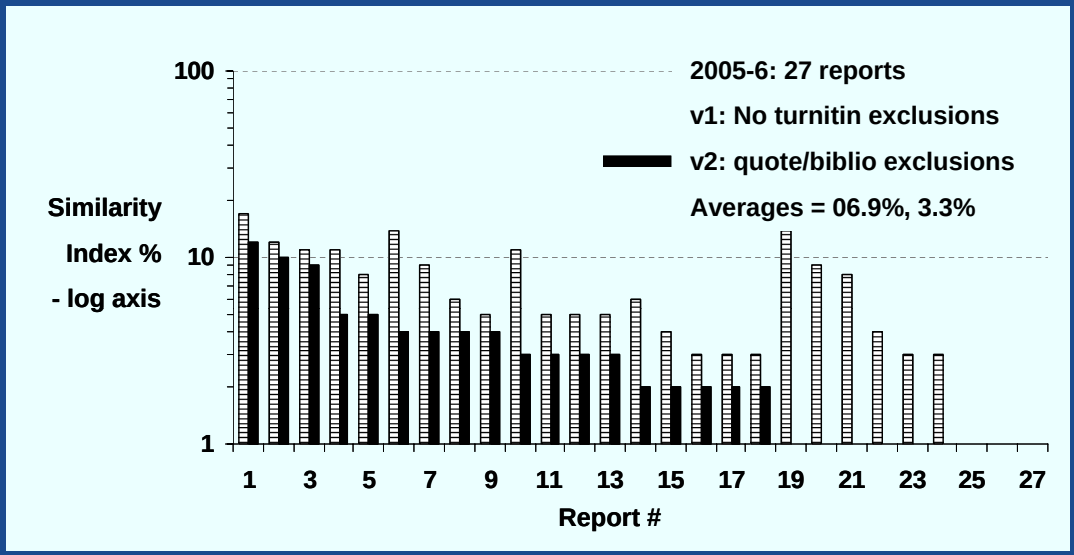
turnitin on the 2004-5 Reports



Plagiarism Prevention Measures

- earlier references to SSE-specific advice on citation
- all mentors advised mentees during the year
- repeat references in lecture on report writing
- students advised that all reports would be scanned

turnitin on the 2005-6 Reports



Analysis of turnitin 2005-6 results

- 2004-5 reports reviewed in 2005:
  - 6.4% without turnitin exclusions
- 2005-6: 6.9%, and 3.3% with turnitin exclusions
- 2004-5 reports reviewed again in 2006:
  - now 10.6% and 7.2%, without and with turnitin exclusions
- observations
  - inflation in Similarity Scores from 6.4 % to 10.6%
  - 6.9% is an improvement against a contemporaneous 10.6%
  - 2005-6 reports are less resistive to turnitin exclusions
  - encouraging signs of better referencing by students

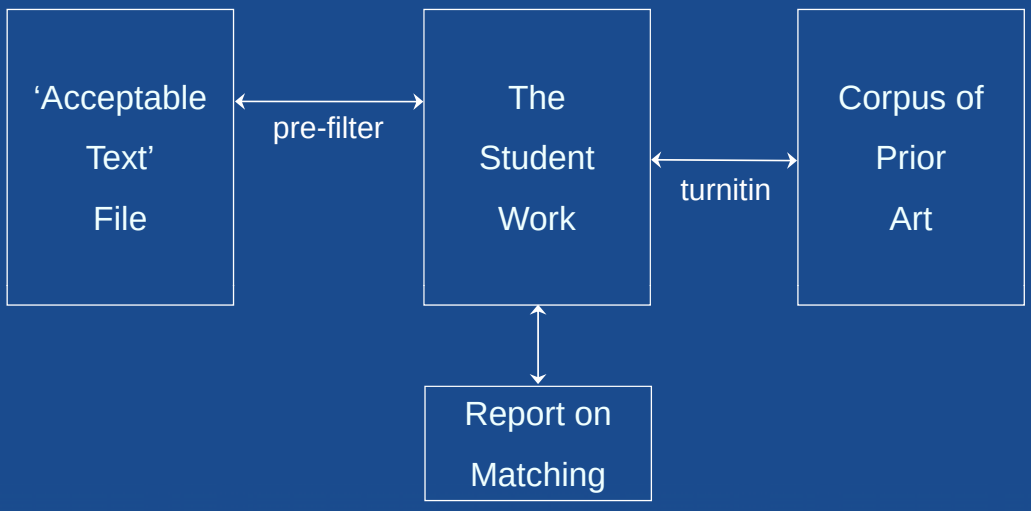
JISC PAS and the turnitinUK service

- service and support have been good
  - turnround time: instant to 36 hours
  - response to queries last year: quick and sympathetic
  - colleagues find quantification usefully backs up judgement
- the 6.4% → 10.6% inflation seems to indicate that
  - 'background radiation' in the universe is increasing
    - Inevitable? An infinite number of monkeys …
  - plagiarism signal accompanied by more 'similarity noise'
  - increasing percentage of 'false positive' matches
  - increasing workload ignoring these ignorable matches
  - service will become decreasingly attractive to users

Suggested software improvements

- attach more significance to courser-grain matching
  - an MT four times longer is more than 4 times as significant
  - current similarity index = SI% ∝ sum(length of MT)
  - let T = sum(length^k) with $k > 1$: k = 1.5 is proposed here
  - then T/S indicates the granularity of the matched text
- focus on Statistically Improbable Phrases (SIPs)
  - a 'My turnitin' would ignore your domain's lingua franca
- deletable MTs – added to an 'Acceptable text' file
  - one source may match both significant and ignorable MTs
  - a deleted source can be replaced by another
  - an 'ignorable match' may indicate part of the lingua franca

Proposed Matching Process



Assessment and the ‘target student’

Two key Reading Information Technology programme aims

- students should be socially mature
  - able and willing to help and be helped by colleagues
  - aware of the needs of the project team they are in
- students should build on the established ‘state of the art’
  - ‘reuse’: key engineering discipline, specifically taught
  - Object Orientation is central to the Information Systems industry
- assessment methods should encourage this
- society needs honest team-players, reusing wisely

Summary

- plagiarism case in 2005 led to:
  - reactive use of turnitin in 2005, advertised use in 2006
  - increased measures to prevent plagiarism in 2006
- signs of
  - improving standard of referencing by students
  - increasing level of time-wasting turnitin ‘false positives’
  - danger of reducing value from turnitin
- scope for improvement in ‘Matching Services’
  - ignorable ‘Matched Texts’ as well as ignorable ‘Sources’
  - a non-linear measure indicating granularity of matching
  - focus on Statistically Improbably Phrases