e-Plagiarism Detection at Glamorgan

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I. INTRODUCTION

This paper is a short research communication article. It is a review of an innovative educational technology used for plagiarism detection and feedback at the University of Glamorgan.

"Plagiarism itself is usually linked with academic misconduct by students and by lecturers. The growth of the Internet has made gate-keeping difficult. Academic life tries to balance gate-keeping with facilitation, and this dialectic presents real challenges today, above all..." [1]

Academic integrity and plagiarism have been considered as twinned issues. Many researchers have discussed various electronic plagiarism detection tools and good practices to prevent academic misconduct [2] - [5]. The UK Research Integrity Office [6] provides advice and good practice of how-to guide on conducting research without plagiarism. Plagiarism.org [7] also aimed to promote academic integrity by helping both academics and students to produce quality writing and research. Drawing from various schools of literature, Chew and Jones [8], [9] state that one of the major challenges of traditional learning and teaching activities is the poor quality of academic feedback in higher order thinking level. There are many online assessment and plagiarism detection systems in the market aimed to compliment the assessment and feedback process in the higher education.

II. RESEARCH METHOD

The paper adopts single instrumental case study method [11], [12] to investigate the current phenomenon through analysis of a case – the University of Glamorgan. It provides an in-depth understanding of the Glamorgan’s activities and initial experience for plagiarism prevention. One criticisms of case study research has been levelled, that is the analysis of a single case studies cannot be generalised due to its poor statistically significance [13], [14]. Yin [15] recommends case study research to investigate contemporary phenomena within real-life contexts especially when the boundaries between phenomena and contexts are not clear (in the research case is the context of plagiarism and education). Case study strategy was used in order to understand such a complex issue and add strength to what is already known through previous research.

Creswell [16] proposes to use multiple sources for single case study analysis, such as qualitative observations, documents and interviews. This paper is an in-depth discussion based on an institutional experience, published documents and statistics and quality observation through all training sessions and daily support for the electronic plagiarism detection system, TurnitinUK through Blackboard.

III. E-PLAGIARISM DETECTION AT GLAMORGAN

Many researchers have conducted extensive research on academic integrity and evidently claim that how Internet has vastly increased the plagiarism [10], [17], [18]. Carroll [19] defines plagiarism as the act of either intentionally or unintentionally taking other’s work as your own and for your own benefit without recognising the original author. In the emerging digital culture, it may be tempting for students to embed the “copy-and-paste” culture into their study or even to intentionally purchase essays or assignments from the pervasive online services such as DissertationExpert [20] and eBay [21]. All higher educational institutions in the globe, for more or less, would have a set of plagiarism prevention policy or practice to promote academic integrity. The University of Glamorgan has no exception. The vast experience and
knowledge of a Glamorgan academic in the respective subject area is the most traditional way to detect a piece of plagiarised work. “This paragraph is definitely referenced from XX book without proper referencing” or “I must have seen this paragraph from somewhere else” are the first thought of an experienced academic. Many academics may try to google the student’s work or alternately, adopt one of the plagiarism detection tools on the market to assist in the related agenda. Some of the plagiarism detection tools are able to integrate with a Virtual Learning Environment (VLE) such as Blackboard or Moodle as a building block. SafeAssign [24] and Turnitin [26] are two good examples. The following table summarises from different schools of review for the two competitive services:

### TABLE 1. COMPARISON FOR TURNITIN AND SAFEASSIGN [22] – [26]

<table>
<thead>
<tr>
<th></th>
<th>Turnitin</th>
<th>SafeAssign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>iParadigm (TurnitinUS), nlearning (TurnitinUK)</td>
<td>Blackboard</td>
</tr>
<tr>
<td>Country of Origin</td>
<td>US</td>
<td>US</td>
</tr>
<tr>
<td>URL</td>
<td>submit.ac.uk</td>
<td>mydropbox.com</td>
</tr>
<tr>
<td>Integrate with VLE</td>
<td>Blackboard/WebCT, Moodle, ANGEL or with any class or university portal using Turnitin API Integration Package</td>
<td>Blackboard</td>
</tr>
<tr>
<td>Cost</td>
<td>License fees varies for institutional, departmental or individual quotation: about USD 87 cents per student annually</td>
<td>Free</td>
</tr>
<tr>
<td>Privacy</td>
<td>- Provide individual institution repository - Faced complaints and lawsuits from students who say that the for-profit company’s policy of storing student papers in its database violates intellectual property law</td>
<td>Asks students for permission to store their papers each time they submit an assignment through Blackboard</td>
</tr>
<tr>
<td>Databases Searched</td>
<td>Much larger databases and more subscribers</td>
<td>Smaller databases and fewer subscribers</td>
</tr>
<tr>
<td>Online Assessment</td>
<td>Provide end-to-end service from online submission, plagiarism detection tools, peer-review to online marking and assessment services (e.g. GradeMark and PeerMark)</td>
<td>- Mainly a plagiarism detection tool. - There is a marking service but not widely used (Re: Mark)</td>
</tr>
<tr>
<td>Help and Guides</td>
<td>- Excellent 24/7 help desk, Turnitin User Group and support team based in both UK and US. - Complete online training, help and user guides in both text and video forms</td>
<td>- Supported by Blackboard - Complete online user guides in document and wiki forms</td>
</tr>
<tr>
<td>Other Facilities</td>
<td>Provides many functions such as deselect matched sources with an immediate response, submission dates, resubmissions, more option and default settings and etc that can be decided by the instructor with wider flexibility</td>
<td>Less flexibility if compared with Turnitin</td>
</tr>
<tr>
<td>Support Open Office doc (.odt)</td>
<td>Need to convert to PDF or Word</td>
<td>Yes</td>
</tr>
</tbody>
</table>

According to various researchers’ comments, TurnitinUK provides a wider and better search mechanism for plagiarism detection [22], [27]. Although SafeAssign provide a free service that is embedded in Blackboard, however, it could be argued that the efficiency, effectiveness and flexibility provided by Turnitin are more helpful in enhancing learning and teaching experience in the boundary of academic integrity. Moreover, Turnitin [26] is increasingly widely used in many higher educational institutions across the world. Thus it has a much larger database compared with SafeAssign. It is currently a worldwide standardised online plagiarism prevention service as it has been recognised as the primary choice for 450,000 academics in 108 countries at over 7,000 institutions [26].

The University of Glamorgan has implemented the Learning, Teaching and Assessment Strategy. It provides a focus for the institutional developments in the next five years - to increase the use of online assessment and enhancing prevention and detection of plagiarism [28]. The strategy is supported by the Centre for Excellence in Learning and Teaching (CELT) to promote learning and teaching excellence. CELT encourages all academics across the University and partner colleges to embed TurnitinUK through the institutional VLE (Blackboard) in their teaching module. As such, CELT highlights the benefits of TurnitinUK through Blackboard as to (1) save time and resources - the creation and submission of the assignment, and the generation of originality report will be completely online through Blackboard; (2) promote formative assessment - students can perform “self-check” on their assignment on plagiarism before submission and (3) make the submission of students’ assignments, plagiarism detection and online assessment simpler - everything is integrated in Blackboard environment with a user friendly interface. Figure 1 depicts the idea of TurnitinUK through Blackboard at Glamorgan:
2. Students submit assignments through the submission link on Blackboard in advance of the due date.
3. TurnitinUK returns the digital receipt and originality report (see Fig. 2) to students.
4. By looking at the originality report, students could discuss with their tutors and enhance their work accordingly. Students are allowed to resubmit the enhanced work through the same submission link. (The processes of 3-5 could be repeated as long as it is before the assignment is due.)
5. After the due date, lecturers mark all submitted assignments either offline or online.

The open access to all academics and students with multiple submissions before the due date provide a formative assessment and learning process. It acts as a “self-plagiarism-check” before the final submission.

IV. DEVELOPMENT AND GROWTH OF THE USAGE

Before TurnitinUK was integrated with Blackboard, the University used it through an external website (http://submit.ac.uk). Since the end of November 2008, TurnitinUK is integrated with the University VLE, Blackboard and all academics and students can freely access the tool in the new method. This development brings the e-plagiarism detection at Glamorgan to a new era due to the vast benefits such as efficiency, flexibility and convenience. As such, there is an immense growth of usage in 2009-2010 (see Fig. 3).

CELT offers both pedagogical and technical support for TurnitinUK through two strands: disciplinary-tailored group training or one-to-one support. In addition, CELT communicates within the department and across the University by a wiki [29] and blog post [30]. Blended Learning Champions and Blackboard Administrators act as facilitators to promote and drive academics to e-plagiarism detection through TurnitinUK. All these dialogues generate interest, discussion and debates from academics across the institution effectively. The growth of the usage and uptakes of TurnitinUK in the University is presented in the below figure.

![Fig. 2 A Sample of Originality Report](image2)

![Fig. 3 The Growth of TurnitinUK Usage at Glamorgan](image3)

### TABLE II BENEFITS OF TURNITIN

<table>
<thead>
<tr>
<th>Benefits for Lecturers</th>
<th>Benefits for Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated assignment receiving, and plagiarism detection process</td>
<td>Automated assignment submission, plagiarism-check and feedback process</td>
</tr>
<tr>
<td>Prevent plagiarism</td>
<td>Improve academic integrity</td>
</tr>
<tr>
<td>No lost of assignment – hassle free</td>
<td>Paperless and digital receipt as a prove of assignment submission</td>
</tr>
<tr>
<td>List of sources and references on the originality report make the referencing check easier than before</td>
<td>The originality report enhance learning experience and provide formative assessment process</td>
</tr>
</tbody>
</table>

V. ISSUES AND DEBATES

On the other hand, there are a few issues and debates among the Glamorgan’s academics related to TurnitinUK agenda as follows:

1. Whether or not to reveal the originality reports to students:
   TurnitinUK provides an option during online assignment setup where the instructor can have a choice to permit their students to view the original report or not, and to allow the multiple submission or not. There is an interesting debate among academics whether to reveal the originality reports to students and to allow multiple submissions. Most academics prefer to permit their students to view the originality report as a formative assessment approach to improve academic...
across the institution. Selecting TurnitinUK as the primary e-plagiarism detection system is a legiti- mate activity of the institution. One way over the ‘personal data’ problem is to submit papers without names anyway – using the student’s number instead of names.

3. The stability and availability of TurnitinUK: Several academics who attended the TurnitinUK training raised an important issue for online submission system, “what if the system is down or the Internet provider server is not available during the submission process on the due date?” From pedagogical perspectives, CELT encourages students to submit in advance and not on the last two minutes of the due date and time. By using TurnitinUK, students need to submit their assignments days before to check for the originality and make improvement for the second or third re-submission. That could prevent the problem caused by the “server is not available” in the very last day. From the past experience, TurnitinUK has extremely low rate of service unavailable period and usually the TurnitinUK support team will send out an email reminder or warning for each server maintenance or down time to all University’s TurnitinUK Administrators. However, if the students had accessibility problem during any point of the online submission process, they could always provide a screen-shot of the error page and revisit the page after it is available; or the lecturers could help them to submit the assignment in such odd case.

VI. CONCLUSION

There are various plagiarism detection services and online assessment system available in the market to enhance the learning experience. Selecting TurnitinUK as the primary e-plagiarism detection system is the University of Glamorgan has implemented the building block of TurnitinUK to the University’s VLE (Blackboard) across the institution. TurnitinUK provides a learning environment for students to obtain the current state of his or her performance for academic integrity; facilitates the self-initiative improvement of the work and receive immediate feedback from the originality report.

This paper describes the details and debates of an institutional adoption of this innovative tool and method, TurnitinUK through Blackboard with open access to all academics and students at Glamorgan. Top three issues challenged by the academics are (1) whether or not to reveal the originality reports to students; (2) Privacy and copyright and (3) The stability and availability of TurnitinUK. In summary, this e-plagiarism tool and method at Glamorgan has developed immensely and this has reduced the overall plagiarism rates and enhanced student’s experience in the initial study. The paper is merely an initial discussion and giving details of e-plagiarism at Glamorgan. It is proposed to have further empirical investigation on bigger student cohort such as (1) a comparative experience for same cohort of students who are using TurnitinUK for subject A and not using TurnitinUK for subject B; (2) a comparative experience...
for different group of students who are using TurnitinUK and for those who are not using TurnitinUK.

REFERENCES