THE EFFECTIVE USE OF TURNITIN™ SOFTWARE IN DEALING WITH E-PLAGIARISM

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ABSTRACT

Plagiarism is one of the major challenges facing academic integrity globally. Plagiarism has increased since the dawn of the information age, which brought about accelerated technological advancements, i.e. e-plagiarism. Technology has made it easier to cheat and more difficult to detect plagiarism. The purpose of the study on which this article is based, was to investigate the effectiveness of Turnitin™ software in dealing with e-plagiarism at Tshwane University of Technology. A qualitative case study was conducted with Partners (2006-2007) in Partners@Work programme. Findings revealed that Turnitin™ is effective in dealing with e-plagiarism in the teaching and learning environment.

Keywords: e-plagiarism, Turnitin™, institution of higher learning

1. INTRODUCTION

Institutions of higher learning are often faced with the huge task of ensuring that their researchers and students produce work that is of a high standard and integrity. Members of staff at Tshwane University of Technology Library and Information Services are involved in training users on how to deal with the information at their disposal. They teach students always to acknowledge the sources they use, in order not to find themselves guilty of plagiarism.

Technology has, on the one hand, brought with it many advancements and developments, yet on the other it has made it easier to cheat and more difficult to detect plagiarism when it occurs. Lester and Diekhoff (2002) argue that it is important that university administrators work together with lecturers to encourage efforts to detect cheating and to punish those that are found guilty of this offence. Tshwane University of Technology (TUT) finds itself faced with a number of challenges brought about by the rapid development of technology. TUT Library and Information Services (LIS) have for some time been teaching students about plagiarism as part of the Information Literacy programme. The rapid development of technology has necessitated the inclusion of e-plagiarism in the modules.

This article reports on the effective use of Turnitin™ e-plagiarism detection software in a teaching and learning environment. It commences with a literature review regarding the use of Turnitin™ in teaching and learning, plagiarism and e-plagiarism. This will be followed by the research methodology used during the investigation that is reported on here. Furthermore, findings on lecturers' perceptions on the use of Turnitin™, the

use of Turnitin™ in teaching and learning by lecturers as designers in Turnitin™ software as well as end-users, and detecting plagiarism from Turnitin™ report will be discussed in depth.

2. LITERATURE REVIEW

Wikipedia (n.d.) defines plagiarism as the unauthorised use or close imitation of the language and thoughts of another author and the representation of these as one's own original work. Foss (2006) describes plagiarism as taking someone else's words and ideas and presenting them as your own.

Flannery (2004) refers to e-plagiarism as cyber cheating. T.H.E. Journal (2005) describes e-plagiarism as online plagiarism. Auer and Kruper (2001) describe e-plagiarism as mouse click plagiarism, while Lester and Diekhoff (2002) define people who engage in e-plagiarism as Internet cheaters. For the purposes of the study on which this article is reporting, the term e-plagiarism is used to refer to plagiarism that takes place online, for instance copying of material from a website without acknowledging the source thereof.

Wikipedia (n.d.) uses the term designer as a broad term for a person who designs any of a variety of things. This usually implies the task of creating or of being creative in a particular area of expertise. The term is frequently used to refer to someone who draws or in some ways uses visual cues to organise his/her work. Wikipedia states further that designers are usually responsible for making a model that takes into consideration each step in a product's development, including not only how a product will be made but also how it will be used. For the purposes of this article, the term designer will be used to refer to a lecturer who designs activities within Turnitin TM.

Answers.com (2007) defines an end-user as the ultimate consumer of a product, especially one for whom the product has been designed. In this article, end-users are the participants in the Partners@Work (2006-2007) programme, i.e. those who handed in their assignments in Turnitin™ as students.

2.1. The use of Turnitin™ in teaching and learning

Turnitin™ is software that is recognised worldwide as effective in e-plagiarism prevention. Turnitin™ is used in teaching and learning to encourage less copying and more learning and to assist in promoting academic integrity, because many students mistakably believe information to be free (Turnitin.com, n.d.). Institutions of higher learning globally are promoting a culture of learning rather than copying. Turnitin.com (n.d.) emphasises that educators should view Turnitin™ original checking as a tool to help in the detection of plagiarism. Turnitin™ assists in creating better writers and researchers. According to Davis (2007), over 70% of students perceive

Turnitin[™] as useful for understanding how to avoid plagiarism. Students can use Turnitin[™] as an educative tool to check their work for correct referencing (La Trobe University, 2009).

2.2. Plaglarism

The Council of Writing Program Administrators (n.d.) asserts that "ethical writers make every effort to acknowledge sources fully and appropriately in accordance with ethical contexts and genres of their writing". Buranen (2009) also says that due to the complications associated with defining plagiarism in our postmodern, technological realm, it is not only the student's responsibility to take cognisance of ethical considerations in writing, but also that of teachers, librarians, learning centre directors and tutors.

Passing off another person's work as your own is dishonest and can damage your career (Burns, 2009). Liebler (2009) on the other hand says that the high incidence of plagiarism indicates that effective approaches to dealing with plagiarism are not widely adopted by faculty.

2.3. E-Plagiarism

Martin's (2005) study on e-plagiarism using Turnitin™ found that students who have a strong belief that e-plagiarism will be detected, are less likely to eplagiarise, and these are the students that tend to develop better writing skills. They also have more confidence and tend to be more creative. On the other hand, Deubel (2005:5) declares that learners have for a long time copied and submitted homework from other learners, cheated in exams, shared assignment/ test solutions via e-mail, and incorrectly cited or omitted references in text-based assignments. Some plagiarised unintentionally or because of pressure to earn good grades; others just seemed to lack ethics. Scanlon and Neumann (2002) support Deubel (2005:5), mentioning that peer pressure is one of the strong contributing factors as to why some students eplagiarise and make heavy usage of paper mills. According to Scanlon and Neumann (2002), paper mills encourage students to use the assignments online for free or at a fee without having to acknowledge the source. They articulate that, when some students learn that their peers copy and paste some materials online, they are likely to follow suit.

E-plagiarism has been reported to be on the rise. Various studies have validated that students learn to e-plagiarise at an early age, a habit which they often carry along to college (Curriculum review, 2003; Scanlon, 2003; Lester and Diekhoff, 2002).

Whereas some students e-plagiarise out of ignorance, not knowing that it is an offence, others know they are not supposed to do it but do not realise the seriousness of it in academic circles, or that it can have far reaching negative consequences on their academic and career paths. Others know they are not

supposed to plagiarise and they know the consequences thereof, but they just hope not to get caught.

3. RESEARCH METHODOLOGY

Qualitative case study methodology was selected for this study. McMillan and Schumacher (2001:398), Merriam (1998:19) and Welman and Kruger (2004:182) state that a qualitative case study is used to obtain an in-depth understanding of a particular situation and the meaning of that situation for those involved in it. A qualitative case study therefore relies on an intensive description and analysis of a singular unit or bounded system. Qualitative research is exploratory of nature. It has a descriptive focus, and data is collected in natural environments. This helps in understanding the experiences of people in their natural setting, without taking them out of the contexts they are acclimatised to. Qualitative data focuses on ordinary events and phenomena occurring naturally, thus reflecting real life situations (Miles and Huberman, 1994; Maykut and Morehouse, 2001).

Creswell and Plano Clark (2007:112) and Creswell (2003:156) mention that the researcher should select people and the research site that can best provide data, put a sampling procedure in place and determine the number of individuals that will be needed to provide data. The participants in this study were fourteen TUT permanent staff members known as partners, who participated in the P@W professional development programme in the use of technology, from June 2006 to June 2007. The partners are thirteen permanent lecturers and one librarian. These participants were selected across the six TUT learning sites and were trained and empowered to integrate, design and implement technology-enhanced courses (Simelane, 2007:10)

In this study, we used non-probability sampling. White (2005:119) states that a researcher uses subjects who happen to be accessible, efficient and inexpensive to conduct research. Convenience and purposeful sampling was used to form a sample. Participants were selected based on their convenience, interest and availability (Creswell, 2003:156). McMillan and Schumacher (2001:175) state that convenience sampling comprises a group of subjects selected on the basis of being accessible who may represent specific types of characteristics. The fourteen participants who participated in the P@W programme from June 2006 to June 2007 at TUT were selected because they were available and accessible.

Data about the lecturers' perceptions and the effective use of Turnitin™ in teaching and learning was collected by means of a survey. Document analysis was used to determine the extent of e-plagiarism. The documents that were used were the research proposals that partners compiled during the course of the Partners@Work programme.

Survey data was analysed manually following Coffey and Atkinson's (1996) method of analysis. According to Coffey and Atkinson (1996), analysis should include classifying, categorising, coding, and collating of data. Weisberg, Krosnick and Boen (1996) point out that data can be analysed in a descriptive or explanatory manner, as was the case in the current study. Weisberg et al. (1996) also state that this method allows for reconstruction of social phenomena.

Participants used Turnitin™ as designers of the assignments and also as endusers to submit their research proposals for the Partners@Work programme in the Information Literacy Blackboard course of the LIS. After the participants had handed in their proposals in Turnitin™, the software generated a report of plagiarised work together with the original sites from which the work was quoted or plagiarised. The reports were then individually analysed according to the different criteria as generated by the Turnitin™ software.

4. FINDINGS AND DISCUSSIONS

This section discusses the lecturers' perceptions of the use of Turnitin™, the use of Turnitin™ in teaching and learning by lecturers as designers, as well as the use of Turnitin™ as end-users and of detecting plagiarism from the Turnitin™ report.

4.1. Lecturers' perceptions of the use of Turnitin™ as designers

TUT academic staff members find themselves pressured to keep up with technological advancements. Institutions of higher learning encourage students to be computer literate and to utilise online resources fully. This comes with a challenge that the more the students become competitive in using cyber resources, the more difficult it is to control their usage thereof while also ensuring that they cite and acknowledge their sources correctly.

Participants indicated that they have used Turnitin™ and that they found it very supportive and accommodating as they could design in such a way that the students had to hand in the assignments themselves and that they also had to check their own reports. One participant said: *I only used it once and it seems to be a good and helpful instrument.* Another participant indicated that Turnitin™ is a very nice tool. Six of the participants felt that it is a useful tool to detect e-plagiarism particularly when working on research projects. One of the participants indicated that it is a great tool that can help a great deal in research and assignment writing to deal with e-plagiarism.

However, there were participants who found the software to be time-consuming in checking the individual students' assignments. One of the participants felt that *Turnitin™* evaluation is time-consuming due to a high number of students completing the assignment. Four of the participants mentioned that they had not yet experienced the software in their teaching.

One of the participants said that she had ... not used it as part of teaching. She used it for her personal research and found it not to be very concise.

The analysis revealed that one of the participants indicated that the Turnitin™ software did not cater for designing or detecting plagiarism related to mathematical or numerical information and this participant asserted, I have not used it for Electronics 1, since there are very little written answers in the subject and I have not presented the course online. Electronics 1 answers are mainly calculated and circuit diagrams. Other participants felt that they did not get enough exposure and they did not use the tool satisfactorily. One participant indicated, I have not used it a lot, but will do so more in the future.

The findings also revealed that participants have mixed feelings as far as Turnitin™ user-friendliness is concerned. Four of the participants perceive Turnitin™ to be simple to utilise and easy to access the documents. They established that it was easy to create the assignment and to navigate through the system. Participants remarked

It is very easy to use and easy to create an assignment.

I did not find it too difficult to use.

The software itself is user-friendly. Accessing it is simple.

Turnitin™ is very user friendly.

Two of the participants felt that it was not simple to use the Turnitin™ software and indicated: I personally find the software not user-friendly. Although I do not use it often, using a trial and error approach, I used to get lost in the report.

4.2. The use of Turnitin™ in supporting teaching and learning

Technology has brought with it many advancements and developments, yet at the same time it has made it easier to cheat and more difficult to detect plagiarism when it occurs. The study conducted by Lester and Diekhoff at Midwestern State University revealed that the majority of the students who participated in their survey, reported that they cheated (Lester and Diekhoff, 2002). This is indicative of the underlying problem that exists amongst institutions of higher learning worldwide. South Africa as a country that has climbed on the bandwagon of technology is also affected and TUT is no exception. Twelve of the participants indicated that they would use Turnitin™ in their teaching and learning. One participant revealed that Turnitin™ was a great tool since it could assist a great deal in research and assignment writing to deal with e-plagiarism.

Other participants indicated that they would not use it since their subject deals with a lot of numerical calculations. One of the participants mentioned that in

Electronics 1 there is very little written work; answers are mainly calculated answers and circuit diagrams, thus Turnitin™ may not be very helpful in that subject.

The TUT technology-enhanced modules for P@W used the Blackboard learning management system. The P@W programme was designed to help lecturers to integrate good pedagogical practice into course content by making optimal use of various technologies. Technology-enhanced modules utilise a variety of Blackboard tools such as learning content, learning modules, e-mail, discussions, announcements, calendar, Who's online?, Weblinks, Turnitin™ and assignments (Simelane, 2007:124).

Some of the participants revealed that they would prefer to use Turnitin™ integrated with Blackboard, so that it becomes easy to navigate and to access students' work in one platform. One of the participants mentioned that she prefers to use Turnitin™ integrated with Blackboard, as she likes to have all her information together in the same place. She said, All the learning materials, learning activities and assignments as well as assessment activities have been consolidated in one table from where students navigate to the different activities. Another participant indicated, I prefer that students work in one place therefore would like the Blackboard to be integrated with Turnitin™.

Eight participants indicated that they preferred to use Turnitin™ integrated with Blackboard. One participant asserted that she ...would stick with using it in the Blackboard for now. Another participant said she would like to access Turnitin™ ... from Blackboard, for easy navigation.

However, two of the participants opted to use Turnitin™ directly from the Turnitin™ website because not all assignments will be on Blackboard, and due to insufficient access to Blackboard in their department. One participant declared that he will use the *Turnitin™ website because not all articles/ assignments will be in Blackboard.* Another partner said: *Turnitin™ website, if used at all. Because of insufficient access to Blackboard in the department, I am not sure when I will be able to use Blackboard.* Findings revealed that two of the participants will use both the Turnitin™ website and Blackboard learning management system.

Using Turnitin™ as an Assignment Design Tool

Acknowledging that Turnitin™ is not perfect and that it has got its own shortfalls, Royce (2003) declares that the human element in e-plagiarism detection is always vital. Furthermore Royce (2003) states that we should always bear in mind that the e-plagiarism detection software are deterrents, tools and weapons and they have to be used wisely, bearing their shortcomings in mind.

With a lot of exposure to a variety of technological gadgets, TUT is faced with a great responsibility of having to educate the TUT community about the flood of online information they are exposed to as well as how to deal with it. One of the challenges facing TUT in this regard, is to educate the TUT community about e-plagiarism. One of the purposes of this study was to identify and determine the extent to which TUT staff can utilise Turnitin™ as e-plagiarism detection software in order to deal with e-plagiarism in teaching and learning so that they can teach their students how to use the software and thus discourage e-plagiarism in their research work.

In the survey on which this article is reporting, the Likert scale very easy, easy, difficult, very difficult was used. Nine of the participants indicated that it was easy to use Turnitin $^{\text{TM}}$ as a designer. When talking about using Turnitin $^{\text{TM}}$ as a designer, we mean designing the assignment, and retrieving and checking the assignment. Two of the participants found it difficult to use Turnitin $^{\text{TM}}$ as a designer.

4.3. The use of Turnitin™ in teaching and learning by end-users

Participants were also exposed to using Turnitin™ software as end-users. They submitted their research proposal assignments in Turnitin™. Using the Likert scale very easy, easy, difficult, very difficult, the survey findings indicated that the majority of the participants felt that it was easy to use Turnitin™ as an end-user. Only one participant said it was difficult to use, however with support and training she says, it promises to be a helpful tool.

4.4. Detecting plaglarism from Turnitin™ reports

Lester and Diekhoff (2002) emphasise the importance of a good working relationship between university administrators and faculty to eliminate cheating. Customised originality reports provided by the reporting tool in Turnitin™ give highlighted and coded links to all instances of matching sources. This is more than just an automatic 'googling' of papers or passages thereof (University of New South Wales, 2007). The report that was provided by reporting tools illustrates the amount of work plagiarised. Figure 1 illustrates the percentage of the work plagiarised including quotes and bibliographies. Participants mentioned that the Turnitin™ report provided enough information on plagiarised work. One of the participants indicated that it is necessary to check the relevance of the evaluated results.



Figure 1: The percentage of the work plagiarised including quotes and bibliographies

One of the advantages of this reporting tool is its ability to modify the plagiarised work according to excluded quotes and excluded bibliographies. This function reduced the percentage of plagiarism in the text. Some participants felt that the Turnitin report generation mechanism was useful as one can instruct it as to how one wants it to present and include the report. In the words of one of the participants it is very helpful because you can instruct it not to include quoted work as well as bibliography.

Participants also perceived the report to be very useful as it provided access to the original source document. As one of the participants indicated that it is very useful in that it provides access to the original online source from which the material is plagiarised. Figure 2 shows the assignment submitted and the original online source. On the other hand some participants felt that the report is not easy to use because one has to instruct it to include or exclude the quotes and bibliographies from the source. Participants revealed that the report has to be checked as it sometimes picks up some of the written work which is not plagiarism.

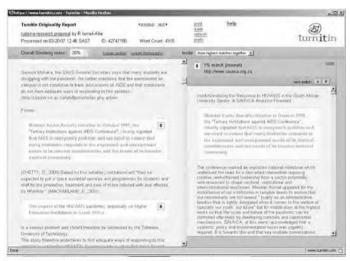


Figure 2: The assignment submitted and the original online source

5. CONCLUSION

This study has shown that Turnitin™ is an effective tool in dealing with eplagiarism. This will be of benefit to TUT in discouraging and curbing eplagiarism. A lot of training of staff members and students will be needed initially in terms of using the software and ensuring its effective usage. Once all are familiar with using the software, the quality of both research and assignments should improve a great deal. The training of Turnitin™ should thus also be incorporated into the Information Literacy training of the Library and Information Services at TUT so that every trainee going through the course will learn about this Turnitin™ software.

TUT LIS has recognised the need to include e-plagiarism in the Information Literacy Programme as it has become a problem as a result of the rapid development of technology; hence the introduction of Turnitin™ e-plagiarism detection software as part of the modules. In exposing the staff members and learners to the usage of Turnitin™, TUT would be getting rid of ignorance in this regard.

6. RECOMMENDATIONS

Whiteman and Gordon (2001) point out that it is the responsibility of both the student and the lecturer to ensure that e-plagiarism is avoided at all costs. TUT should therefore support the use of Turnitin™ in teaching and learning and encourage more staff development in this regard. Staff members should attend workshops and training sessions on the use of Turnitin™ in order to integrate the programme in their teaching and learning. They should also ensure that students use the software effectively to improve their writing and

summarising skills when writing assignments and projects.

Turnitin™ could be used to detect, discourage and eliminate plagiarism. It could also be used to teach good research principles regarding copyright and good paraphrasing skills.

Using Turnitin™ would ensure that TUT staff and students take legal and ethical issues, like copyright and plagiarism, into serious cognisance when doing research work and writing assignments. This will subsequently improve the quality of academic work produced at TUT and also raise academic standards. It is also helpful that there is a link on the institution's website indicating the availability of the software for usage by all at the institution.

Turnitin™ should be integrated with Blackboard so that there can be coordination between learning materials and checking for traces of eplagiarism. This will assist the learners to recognise that learning and writing at academic institutions go hand in hand with incorporating the proper legal and ethical issues of academic writing.

TUT should use Vernon, Bigna and Smith's (2001) three methods in dealing with e-plagiarism, namely investigating the theft directly by search, the usage of detection devices, and the usage and application of e-plagiarism detection software, in this case, Turnitin™.

Because Turnitin™, like all similar software, cannot access all online sources around the world as some online information is not accessible outside some given jurisdictions; it should however be used with such facts in mind.

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