will be given guidance to show them how to ensure that they are able to reference correctly and therefore avoid plagiarism. It is important that these issues are picked up and addressed early, because not doing so could mean that a student is not aware of the problem until it is picked up later in their studies, possibly at the time of submitting their project where the issue is likely to be greater and to be seen as a more serious offence. The excuse that 'It is a first offence, all my other work has been referenced correctly' is not really acceptable, as if a student has shown a capability of referencing correctly in previous work, there is no reason why they should then plagiarise, as they have shown an understanding of how to reference.

The two main issues that appear through an apparent lack of understanding, other than not knowing how to reference, are the use of large sections of text copied from a source (with or without reference). This is usually seen in the work of a student for whom English is not his/her first language. The student feels that if s/he try to paraphrase the author they will not be able to say it correctly, and may lose the meaning of the text.

The other issue is lack of understanding of what paraphrasing is. We often see work where the student believes that they are paraphrasing and referencing the work of another author, but in fact they are copying the work (words and ideas) of that author, and then just changing a few of the words within the text (for example *frequently* is changed for *often*, and *quickly* is changed to *rapidly*). Often a citation is included at the end of the copied text, but as the majority of the text is taken exactly from the source, quotations would be more appropriate Therefore the citation is not the correct form of referencing and so it is flagged up by the Turnitin software as similar text. The students understand paraphrasing as writing the text in their own words. They believe that changing one word for another, thus using some different words to the author, means that it is written in their own words. It may help the students to see that paraphrasing will also show their understanding of the text that they are discussing. Good paraphrasing will show that they understand the meaning of the text rather than just show their ability to copy the text with some word changes.

The *Academic Discipline Policy* at the University of Bedfordshire does try to address the issue of whether an offence is deliberate, or is due to lack of understanding. The aim of the policy is to ensure that cases where there is evidence that the student knowingly plagiarised their work are seen by the Academic Conduct Panel, and that for cases where it appears that the issue is due to lack of understanding the student is given the support and guidance to help them to understand so that they do not make the same mistake again.

Citation Matters: Two Essays on the Student Journey of Citation and How Google Scholar and the Principle of Least Effort Can Affect Academic Writing

Avtar Natt, University Library, University of Bedfordshire

Abstract

The paper consists of two short essays on citation matters. The aim is to get the academy thinking about citing and referencing from a student point of view. The first essay (on the student journey of citation) is an attempt of a framework for the academic writer, from the time they are an undergraduate student to an academic researcher. The worldview of citing and referencing is argued to develop in accordance to academic level. The second essay is on academic writing and the principle of least effort. With a few searches on Google Scholar, cyberplagiarism and the pilfering of citation context was demonstrated. With emphasis on patchwriting, the temptation of the academic writer to corner cut is not argued as being exclusive to students but more apparent by students. Technology is also argued to create a conflict for the academic writer showing a path where they can reduce effort.

Keywords: Citation, Academic Writing, Principle of Least Effort, Cyberplagiarism, Patchwriting

Introduction

It is the attempt to combine two research interests that gets me here. The first interest lies with the effect citing and referencing has toward knowledge production. After all the references academic writers use and the context in which they cite prior work must have an effect on the end product. Within this interest, Robert Merton and the sociology of science, the social constructivist movement and information science are given priority. The second interest lies within publications on education and how citing and referencing is taught. Issues surrounding the role of technology, plagiarism and resulting academic writing styles is given priority. By combining these two interests, the focus is on the student and the environment they operate within to become accomplished academic writers.

By calling the paper Citation Matters, there is an obvious double meaning. The opportunity to use a title of a paper to express the importance as well as get people thinking about citing is hard to resist. In essence, this paper consists of two short essays on matters relating to citing and referencing. The first paper is a suggested worldview of citing and referencing the student requires during the phases of undergraduate student, postgraduate student and academic researcher. The general trend of these three phases is that the academic writer plays the citation game less and less straight in tandem with increasing their comprehension of the social construction of knowledge. The second essay consists of a demonstration via Google Scholar of how

easy it is to plagiarise from the internet. With a few simple searches, enough content was found on Google Scholar to not only pilfer ideas but to potentially spare an academic writer from reading a text by relying on the resulting citations. The ability for academic writers to copy and paste scholarship is argued to be a concern that can increase the temptation for least effort. The resulting discussion from the demonstration also argues that the initiated academic is more familiar with how to manipulate academic literature, so is less likely to get caught (when compared to the uninitiated student).

1. The Student Journey of Citation
Premise

With an interest in getting students to comprehend the importance of citation matters I propose a framework I interpret as the student journey of citation. The framework is broken down into three phases in line with a student progressing from undergraduate to postgraduate to academic researcher. Differences in academic discipline is acknowledged but considered extraneous because the focus is on a student progressing by academic level. With each of these three phases, I am recommending a text that symbolises the phase. The small number of references is intentional, as the aim is for the readership to consider reading the references for themselves.

To elaborate on what I am meaning by a student journey of citation, I am referring to the (point in time) worldview of citation practice a student should realise as an undergraduate student, postgraduate student and as a researcher. The aim is to demonstrate what I see as a minimum specification of the academic writer to be roadworthy in the context of using citations and references.

Phase 1: The Undergraduate Student
Recommended Text:
Merton, R. K. (1983) 'Foreword' In Garfield, E., *Citation Indexing – Its Theory and Application in Science, Technology, and Humanities*, Philadelphia: ISI Press, pp. v-ix.

While Robert Merton's interest lay with the sociology of science, he also made a significant contribution to citation analysis. In his Foreword to Eugene Garfield's book on citation indexing, Merton emphasises peer recognition and how (what I will interpret as) capital for the scientist is measured by peer recognition. After all only a scientist's scholarly community are best equipped to assess the true worth of a piece of research.

When considering the student journey of citation the following quote best sums things up:

'Citations and references thus operate within a jointly cognitive and moral framework. In their cognitive aspect, they are designed to provide the historical lineage of knowledge and to guide readers of new work to sources they may want to check or draw upon for themselves. In their moral aspect, they are designed to repay intellectual debts in the only form in which this can

be done: through open acknowledgement of them.' (Merton, 1983, p.vi)

Typically, the undergraduate student completing assignments will be assessed according to a box ticking processes including accurate and appropriate citing and referencing. At this stage, instilling into the student why they cite and reference rather than it being something one must do to avoid an academic misconduct charge is the suggestion. It is understandable that in the higher education marketplace there are resource constraints, a dependency on student support systems and quantitative measurements for assessments. Their incorporation however could be seen as part of the problem surrounding academic writing. Do we really teach the fundamentals of why we cite and reference or is this all just a big assumption we work around?

Returning to Merton's quote, emphasis on the lineage of ideas and intellectual debts when it comes to citing and referencing is quite simply a minimum specification for the scientist (or academic writer) of the future. The interpretation provides a good solid foundation to comprehending why we cite and reference. Merton's interpretation is not immune from criticism and it can be seen as idealistic and incompatible compared to the current citing and referencing practices that go on. Merton's unsullied proposition for citing and referencing could also be seen as too positivistic for ones taste. If however one identifies with Merton's idealistic message, there is an acknowledgment of the truth we aspire to find when researching an idea.

Phase 2: The Postgraduate Student
Recommended Text:
Small, H. G. (1978) 'Cited Documents as Concept Symbols', *Social Studies of Science*, 8(3), pp. 327-340.

Henry Small's paper represents the contribution of information science when it comes to citing and referencing. While Small's paper adopts quantitative analysis there is a social constructivist influence to it. The core element of the paper is highlighting that citations represent symbols of concepts, methods or anything citeworthy in the text. 'This leads to the citing of works which embody ideas the author is discussing. The cited documents become, then, in a more general sense, 'symbols' for these ideas.' (Small, 1978, p.328). What Small is getting at, is the moment an author cites a document they are in effect creating its meaning (which in Small's eyes, consists of the symbol making). Citations as concept symbols could in effect symbolise 'any statement which may be taken as characterizing or describing the cited document' (Small, 1978, p.329). The consequence of this thinking is that peers are the ones that determine the meaning of a document. So as an example, Merton (1983) in a paper by Author A in 1984 could be cited as an interpretation of citing and referencing in line with the times. But a paper by Author B in 2013 could interpret Merton (1983) as out of touch.

When associating Small's paper with students and citation practice, I propose that the idea of citations as

concept symbols be seen as a deployment tactic for any student doing original assignments. While this type of assignment is typically representative of postgraduate assignments there is also applicability for undergraduate dissertation students and such like. Both Merton and Small's interpretation need to be considered in conjunction with each other but Small's deployment tactic could be seen as a progression from the more defensive stance of Merton. For assessments, the box ticking is still going on, the citing and referencing still needs to be tip-top but the progression is in the level of independence and citation evaluation the writer needs to have. By using a citation as a concept symbol, the aim is also to promote interpretation and evaluation of ideas into one's own words and not just filling space with quotations. Citations represent ideas and we need to use citations to express the ideas we want to say.

Phase 3: The Academic Researcher
Recommended Text:
Latour, B. (1987) *Science in Action: How to follow scientists and engineers through society*, Cambridge, Mass: Harvard University Press, pp. 21-62.

Bruno Latour's chapter on literature develops the idea of peers deciding the fate of research by acknowledging citation context, which he reframes according to positive and negative modalities. The context of a citation can put spin on a critical paper so it appears less damaging to the reader and a lesser known paper can be embellished so it appears as fact. Further still, the 'presence or the absence of references, quotations and footnotes is so much a sign that a document is serious or not that you can transform a fact into fiction or a fiction into a fact just by adding or subtracting references' (Latour, 1987, p.33).

A take on Latour's thinking is that we carve the literature of others in conjunction with our own interests to impress others when it comes to saying what we want to say. Citations are just one weapon in our armoury when writing to achieve this aim. Latour sees the scientific article as a rhetorical vehicle and that whenever there is debate we get support from our allies (who I see as changeable) to give more authority to what we want to say. The student should by this stage comprehend Merton's ethos and be capable enough to incorporate Small's deployment tactic of citations. On top of that, the student becoming an academic researcher needs to come to terms with citation context and not be blinkered to overlook the tactical game playing that occurs in scholarly communication.

'Whatever the tactics, the general strategy is easy to grasp: do whatever you need to the former literature to render it as helpful as possible for the claims you are going to make...help your allies if they are attacked, ensure safe communications with those who supply you with indisputable instruments...oblige your enemies to fight one another...if you are not sure of winning, be humble and understated.' (Latour, 1987, pp.37-38)

An example of tactical citation practice is what Latour refers to as the perfunctory citation, where citations by an author can infiltrate a pre-existing citation network (also known as a citation circle). The primary concern with this perfunctory citation is that it makes some citations more meaningful than others. In an age of evaluation metrics based on citation practice, the perfunctory citation risks downgrading the citation from a representation of an idea to that of a tradable commodity. Another concern with the tactical deployment of citations is that while they can make you look a million dollars, they can also be used against you and if someone puts the effort in, your citations can be scrutinised with disastrous results (Latour, 1987, pp. 33)

Bruno Latour's Actor Network Theory (ANT) may not be for everyone but as an individual chapter it is a great guide in informing the researcher of the future one form of how the scholarly communication game is played. Latour's writing in this chapter comes across as militaristic but in doing so, the message is pretty clear: Use the work of peers and anything else at your disposal to say want you want to say but prepare yourself if there is a worthy opponent.

Final Thoughts
The first point to emphasise is that the proposed student journey of citation is not a theory of citation. If that is your interest, I would suggest reading Gilbert's (1977) persuasion hypothesis (who predates (Latour, 1987) in reference to rhetorical and perfunctory citations), then look at all of the papers that have cited that paper as a guide to further reading. The student journey of citation is a suggested framework for the comprehension of citing and referencing the academic writer requires from the moment they start as an undergraduate student to a published academic author. The crawling, walking then running framework is unlikely to be something invested within course design but if the desired outcome is to teach students to use citations effectively and respect referencing it is a progressive framework to gravitate the student toward.

Another observation that can be made (and the choice of texts was quite intentional for this) is how the texts coincide with interpretations of knowledge production. There is a progression from Merton's sociology of science laying emphasis on peer recognition, to Henry Small combining information science and social constructivism to Latour's progression of social constructivism to Actor Network Theory. The principled nature of citing and referencing looks to have morphed into a 'peculiar trade in a merciless world' (Latour, 1987, p.60) where gamesmanship and rhetoric are key. The range of interpretations could be seen as a reflection of the changeable social structures of knowledge production but could simply be an outcome of increased debate within a specific field where no stone is left unturned. There are also practical considerations to consider. We don't always have the time and means to read and reflect on everything we want but we do manage to make the time and means to read what we need and say what we want to say. If we don't do that

for academic writing, we could be there forever, getting lost in tangents, considering ifs and buts to protect ourselves from the same peers we seek approval from.

2. Academic Writing and the Principle of Least Effort – Supported by Some Thoughts on Cyberplagiarism, Patchwriting and Google Scholar

Premise
The proposition is that in current times Google Scholar can be used by academic writers as a tool to corner cut and reduce effort. Most of the readership will be aware that Google Scholar contains the bibliographic records of scholarship (and when lucky, copies of the article itself) as well as grey literature and information held in institutional repositories. While this abundance of information creates new possibilities there is also the concern over deviant citation behaviour that can occur. To test my contention, I will demonstrate how easy it is to cyberplagiarise and take the citation context off a paper.

Some Definitions
Before the demonstration I would like to clear up a few definitions.

By cyberplagiarism (or cyber plagiarism, also referred to as Digital plagiarism (Barrie and Presti, 2000)) I am referring to the relationship between information on the internet and a consequential type of plagiarism behaviour. Those involved with assessments will no doubt identify with the authors arguing that the ease of information on the internet has led to the rise in plagiarism (Eysenbach (2000); (Kralik (2003); Pupovac, Bilic-Zulle and Petrovecki (2008); Szabo and Underwood (2004)). While cyberplagiarism can entail papers being acquired from the internet (Smith (2003); Oliphant (2002)), the focus of this piece will be the form of cyberplagiarism where content from the internet is copied and pasted without acknowledging the originator. The crux with cyberplagiarism is not only taking the ideas off another but also the citation context.

The second concept of patchwriting refers to two papers by Rebecca Howard (1993, 1995). Howard (1993, p. 233), defines patchwriting as 'copying from a source text and then deleting some words, altering grammatical structures, or plugging in one-for-one synonym substitutes'. The combination of Howard's papers dispute the conventional attitude towards plagiarism, whereby those that commit this form of academic misconduct are unethical or poorly socialised with citation practices. Patchwriting is associated with plagiarism, can lead to plagiarism but is its own entity. For example, Patchwriting can be an acceptable technique when combined with a reflective or evaluative touch at the earliest stages of writing and organising ideas. It is just that patchwriting can be unacceptable when it is just glossing over the pilfering of texts. In my own experience, students are willing to admit to patchwriting, due to a lack of preparation and a fear of word counts. Furthermore, students informally

confess to a complete misinterpretation of paraphrasing and assume that citing a text once is free reign to use whole chunks of the cited text. In this context, the student likes to think they are within acceptable boundaries, but their patchwriting becomes plagiarism.

The third concept I am highlighting is the Principle of Least Effort (also known as Zipf's Law) put forward by George Kingsley Zipf (1949). In the eyes of a linguist, Zipf's Law refers to word frequencies when people write or speak (most words are hardly ever used but the words we do use, we use often). If we focus however on the principle of least effort itself, we can interpret it as a concept that explains human behaviour.

'In simple terms, the Principle of Least Effort means, for example, that a person in solving his immediate problems will view these against the background of his probable future problems, as estimated by himself. Moreover he will strive to solve his problems in such a way as to minimize the total work that he must expend in solving both his immediate problems and his probable future problems.' (Zipf, 2012, p.1)

Thus if one is a student just expecting to pass a course in higher education (the reasons why at this point are extraneous and varied), taking a path where there is less effort spent to meet this outcome is understandable.

Demonstration
To start things off, I type in the book I intend to look up (so it becomes a searchable concept symbol), the author of the book as well as a keyword (representing the subject I am researching) in Google Scholar.

Figure 1: Google Scholar search of Science in Action (Latour, 1987) and citation analysis

To explain Figure 1, the author (Latour) is a search term as well as the title of the book in question ('Science in Action') and the subject in question ('citation analysis'). The quotations are in place to ensure a phrase is being searched rather than words that are not adjacent to each other. This search is intentionally structured in a way so Google Scholar retrieves any mention of Bruno Latour's Science in Action as well as 'citation analysis' being mentioned anywhere in the text. At the time of this demonstration (May 2013), I retrieved 336 results. The top five results according to Google Scholar make up Figure 1.

The results in Figure 1 satisfy my aim in retrieving citations of Science in Action as well as containing some mention of citation analysis (which is a gamble as I have not included synonyms). Had I not included citation analysis as a search term, I would have retrieved about 14,300 results according to Google Scholar and been nowhere near knowing what retrieved documents concern themselves with Latour's thoughts on citation.

To demonstrate cyberplagiarism I will look within the papers of Figure 1, use CTRL + F and provide samples of citation context where Latour (plus the publication year of the appropriate text) was mentioned:

'As Latour further indicates, citations are not put in papers to indicate to others who has influenced the production of the work but to display the 'black boxed' (established) knowledge. If one does not agree with a referenced statement, one must, in essence, dispute it with the cited definitive authority.' (MacRoberts and MacRoberts, 1996, p. 441)

'Latour's views, similar to those within the various new perspectives in the sociology of scientific knowledge, emphasise that the boundaries between the social and technical in scientific practice are blurry. Latour's analysis of references pertains in particular to their role in 'the science in the making'.' (Luukkonen, 1997, p.29)

'Latour makes understandable the heterogeneous and apparently chaotic picture of the actual use of citations. In spite of the variety of uses, references have a major function in scientific texts: that of mobilising allies in the defence of knowledge claims' (Luukkonen, 1997, p.29)

'Latour's view of the role of references (citations) in scientific texts is related to a theory of construction of scientific knowledge, a process in which scientific controversies are settled and knowledge claims are turned into facts. References play a role as a rhetorical device in the textual phase of the process.' (Luukkonen, 1997, p.30)

'Others (e.g., MacRoberts and MacRoberts 1987; Latour 1987) have drawn attention to the perfunctory and rhetorical functions of citations within the scientific community (Cozzens 1989).' (Leydesdorff, 1998, pp. 6)

'Latour (1987) treats references as resources for persuasion rather like battalions. But he warns that their

force may vanish if readers actually read what authors cite...Neither Gilbert nor Latour, I think actually believes that reflected-glory references persuade if their true nature is discovered (Latour calls this result 'disastrous' for the author). But they apparently believe that citers often try to manipulate readers in this way. Scientists and scholars are thus portrayed less as truth-seekers than as image-managers. Such a portrayal is controversial, to say the least.' (White, 2004, p. 109)

Out of the five references in Figure 1, only Robins, Gosling and Craik (1999) was unsuitable for this exercise. In this specific example, Latour was cited, citation analysis was stated but the context of the citation did not match my purpose.

At this point I am proposing that the sum of Macroberts and Macroberts (1996), Lukkonen (1997), Leydesdorff (1998) and White (2004) gives me not only enough ammunition to spare me from having to read Chapter 1 of Science in Action (that concerns itself on literature) but also provide me with a set of papers critiquing the same chapter. An interesting comparison for the reader could be to compare the aforementioned quotes with my own interpretation of Latour in the student journey of citation essay (I can assure you, I have read the book and wrote this essay after the essay on the student journey of citation). If we now consider the amount of freely available (but not necessarily copyright cleared) scholarship that is available via Google Scholar, an individual could potentially take the citation context of an article, book or thesis and be able to comprehend it without ever reading it. In other words, one could incorporate the ammunition above (even dropping the odd direct quote from Latour) and portray the critique and legwork to be their own, as none of the other authors are cited. The authors are only used for their citation context.

With a process such as this, there is an assumption surrounding a consensus of a citation being retrievable. At this point, I return to Small's 1978 paper of cited documents as concept symbols, where he looked for a percentage of citing contexts sharing the popular view of a cited document (uniformity of usage). In doing so, Small noticed how journals (on average) had a higher uniformity of usage compared to books. This trend is hardly a surprise as books cover more ground than a journal article but what it gets me thinking about is the importance of using appropriate concept symbols in Google Scholar to retrieve a relevant sample for analysis.

I return to Google Scholar.

Figure 2: Google Scholar co-citation search of Latour (1987) and Gilbert (1977)
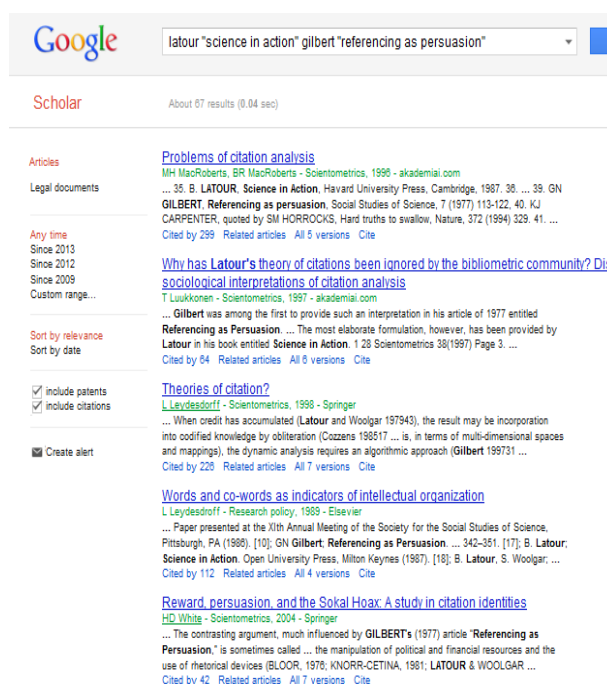
For figure 2, I opted with co-citation (papers citing two papers I consider seminal for my purpose; in this instance those by Latour (1987) and Gilbert (1977)) as a retrieval strategy. Figure 2 is an attempt to retrieve papers concerned with the persuasion hypothesis (Gilbert, 1977) and Latour's thoughts on citation. Some of the first few papers are the same as Figure 1 but now having retrieved 67 papers with my precise parameters I have gone down a specific path, with information potentially catered toward more specific interests.

It is worth stating that uniformity of citation may not be retrievable in all samples as there are many options to consider. What is comprehendible is that obtaining the uniform use of a citation can potentially be retrieved with the correct strategy and if there is enough (but not too much) scholarship out there. Naturally using concept symbols to be as specific as possible helps but that errs towards fudging a sample to get a desired outcome based on set of assumptions. Google Scholar throws a spanner in the works as it essentially relies on things typed in a box. My own experience of using the platform to look at the context of a concept symbol found many chance occurrences with no relevance when looking at the results qualitatively (Natt, 2013).

Discussion

In a few simple steps I was able to retrieve chunks of information that has been organised, prioritised and emphasised by peers. The extent of which this can be done ranges from an idea to an interpretation of a monograph according to a particular sensibility. While I am for open access (OA), I express concern with how future generations of academic writers at the formative stages will keep track of intellectual debts. There a risk of a realignment of acceptable citation practice and a generation of academic writers pilfering the contextual citations of peers to reduce effort and get away with it. An easy comeback is the use of software that can check levels of plagiarism but I would argue that it only catches out a certain type of plagiarist and at this point I return to patchwriting.

Howard's (1993, p.236) opinion of patchwriting is that of 'a healthy effort to gain membership in a new culture' (which one could consider as academia). Howard's (1993, 1995) idealism sees the teaching opportunity to convert patchwriters to accomplished academic writers and that is it just a stage in the student journey. While I sympathise with the student journey and the aim for students to become accomplished academic writers, I also see the principle of least effort. So if a student instead of reading, reflecting then writing is instead cramming, not making use of summary writing and producing their output in the last minute, it produces a different kind of output as well as increase the likelihood of corner cutting.

My own take on patchwriting is that it provides an opportunity to reframe the doom and gloom that surrounds discussion on plagiarism. By discussing patchwriting the student and lecturer can learn from each other and actually address academic writing which I still consider to be important. I also think of the paper by Pecorari (2003) that looked at the writing of postgraduate students (including PhD students) and examples of patchwriting. If the researchers of tomorrow are 'at it' what is there to say that the researchers of today are not? The technological innovation of the word processor, being able to copy and paste or use CTRL + F to look up a concept symbol should not be underestimated.

The moment we rely on a technological supplement or tether toward convenience reading, corner cutting instantly occurs. Only the purist and most classically trained are not 'at it'. Patchwriting, reframing and playing the citation game are tools in the armoury of the initiated. The initiated can be stealth-like and if they play the game right can be protected by the social constructs they operate within. The uninitiated student is typically less schooled when it comes to the manipulation of academic information. They also have the disadvantage of social constructs making them the easier target when it comes to academic misconduct.

Implications

Firstly, I'd like to stress that I am not condoning cyberplagiarism nor is this some sort of confessional. I am condemning cyberplagiarism and the demonstration is an attempt to acknowledge the elephant in the room and express concern with normative citation practice. It is easy to pin plagiarism on the internet or the lowering of academic standards but while there is some validity with such judgements, there are other considerations. What I would like to emphasise is how the longer one operates within the social constructs of academia, the more socialised one becomes to not only produce quality work but to potentially corner cut and get away

with it. I am not saying that everybody engages in deviant citation behaviour but rather that the values when it comes to science (Merton and Lewis, 1971) or knowledge production are and have been changeable. We do not bat straight all of the time. We bat straight enough and know when to play across the line. It gives us free reign to have the odd slog now and then, thinking it is absolutely normal.

Technology and citation behaviour is one example of this change in values and while Google Scholar has the potential to look at a concept symbol within a paper, there is the issue of where the information comes from and how it is ranked. Open Access adds to this issue and with the information being easier to obtain, it is also easier to manipulate. Thinking back to Carr's (2008) article on Google and the change in human cognition, I propose that the relationship between technology and effort can create a conflict for the academic writer. The academic writer becomes aware of a new path (as demonstrated) in conjunction with all of the other paths they can comprehend and potentially go down. Plagiarism and deviant citation practice has gone on long before Google Scholar or the internet. It is just that this new path brought about by technology in conjunction with the ever expanding amount of scholarship can be counterproductive and result in behaviour associated with least effort rather than efficiency.

References

Barrie, J. M. and Presti, D. E. (2000) 'Digital plagiarism--the Web giveth and the Web shall taketh', *Journal of Medical Internet Research*, 2(1) [Online]. Available at: http://www.jmir.org/2000/1/e6/ (Accessed: 31 May 2013).

Carr, N. (2008) 'Is Google Making Us Stupid?', *The Atlantic* [Online]. Available at: http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/ (Accessed: 31 May 2013).

Eysenbach, G. (2000) 'Report of a case of cyberplagiarism – and reflections on detecting and preventing academic misconduct using the Internet, *Journal of Medical Internet Research*, 2(1) [Online]. Available at: http://www.jmir.org/2000/1/e4/ (Accessed: 31 May 2013).

Gilbert, G. N. (1977) 'Referencing as Persuasion', *Social Studies of Science*, 7(1), pp. 113-122.

Howard, R. (1993) 'A plagiarism pentimento', *Journal of Teaching Writing*, 11(3), pp. 233-246.

Howard, R. (1995) 'Plagiarisms, authorships, and the academic death penalty', *College English,* 57(7), pp.788-806.

Kralik, D. (2003) 'Editor's note: Cyberplagiarism…what is it?', *Journal of Advanced Nursing,* 43(6), p.539.

Latour, B. (1987) *Science in Action: How to follow scientists and engineers through society*, Cambridge, Mass: Harvard University Press.

Leydesdorff, L. (1998) 'Theories of citation?', *Scientometrics*, 43(1), pp. 5-25.

Luukkonen, T. (1997) 'Why has Latour's theory of citations been ignored by the bibliometric community? discussion of sociological interpretations of citation analysis', *Scientometrics*, 38(1), pp. 27-37.

MacRoberts, M. H. and MacRoberts, B. R. (1996) 'Problems of citation analysis', Scientometrics, 36(3), pp. 435-444.

Merton, R. K. (1983) 'Foreword' In Garfield, E., *Citation Indexing — Its Theory and Application in Science, Technology, and Humanities*, Philadelphia: ISI Press, pp. v-ix.

Merton, R.K. and Lewis, R. (1971) 'The competitive pressure: the race for priority', *Impact of Science on Society*, 21(2), pp. 146-175.

Natt, A. (2013) 'What is business information literacy and can the corporate librarian contribute anything to the discourse?', *Journal of Business and Finance Librarianship,* 18(2), pp. 146-174.

Oliphant, T. (2002) 'Cyber-Plagiarism: Plagiarism in a Digital World', *Feliciter*, 48(2), pp. 78-80.

Pecorari, D. (2003) 'Good and original: Plagiarism and patchwriting in academic second-language writing', *Journal of Second Language Writing,* 12(4), pp. 317-345.

Pupovac V, Bilić-Zulle L and Petrovečki M. (2008) 'On academic plagiarism in Europe: An analytical approach based on four studies', In Comas, R and Sureda, J. (eds.). Academic cyberplagiarism, *Digithum*, 10 [Online]. Available at: http://www.uoc.edu/digithum/10/dt/eng/pupovac_bilic-zulle_petrovecki.pdf (Accessed: 31 May 2013).

Robins, R. W., Gosling, S. D., and Craik, K. H. (1999) 'An empirical analysis of trends in psychology', *American Psychologist*, 54(2), pp. 117-128.

Small, H. G. (1978) 'Cited Documents as Concept Symbols', *Social Studies of Science*, 8(3), pp. 327-340.

Smith, C.B. (2003) 'Fighting cyberplagiarism', *Library Journal,* 128(12), pp. 22-23.

Szabo, A., and Underwood, J. (2004) 'Cybercheats: Is Information and Communication Technology Fuelling Academic Dishonesty?', *Active Learning in Higher Education*, 5(2), pp. 180-199.

White, H.D. (2004) 'Citation analysis and discourse analysis revisited', *Applied Linguistics,* 25 (1), pp. 89-116.

Zipf, G. K. (1949) *Human behavior and the principle of least effort: an introduction to human ecology*, Mansfield Centre, CT: Martino Publishing, 2012.