

Assisting students to avoid plagiarism: The role of formative workshops

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Abstract

Plagiarism has long been a problem in Higher Education institutions and severe penalties have been imposed as a deterrent. However, it should be noted that when an undergraduate enters the university, he/she may not be aware of plagiarism or how to avoid it. To tackle these problems, most UK universities are incorporating lectures, seminars and student workshops to enhance the students' understanding of plagiarism and most importantly how to avoid it. However it is not clear whether these formative lectures/seminars are actually improving the students' academic writing skills.

This study aims to investigate whether formative lectures alone would (a) enhance the students' understanding of plagiarism and (b) improve their academic writing or avoid plagiarism.

The study was carried out in The School of Biomedical and Natural Sciences, Nottingham Trent University, Nottingham, United Kingdom. Postgraduate student volunteers were used in this study. Their basic knowledge of plagiarism was established by a true/false test from ten scenarios (part 1).

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A lecture/discussion on possible ways to avoid plagiarism was given after test. This was followed by a different true/false test (part 2). At the end, the students were asked to take away five different paragraphs on a particular research subject. They were invited to return the next day and write an essay. Each submitted article was checked for good writing practice/plagiarism.

Home students correctly identified 8 out of 10 sentences from part one whilst the international students correctly identified 7 out of 10 sentences. The correct identifications after the seminar increased to 9/10 and 8/10 for home and international students respectively. In contrast, their submitted articles included several incidences of 'potential' plagiarisms. Only 39% of the students produced good articles with little or no plagiarism. Most of the articles (46%) had at least a few occurrences of plagiarism. The study has also suggested that students' knowledge of plagiarism does not necessarily mean that they are capable of good academic writing and avoiding plagiarism. Therefore it may be concluded that short seminars/lectures can be used to improve the students' knowledge of plagiarism. However, several in-course detailed open workshops may be needed to improve the students, academic writing and to avoid plagiarism.

Introduction

Plagiarism has long been a problem in secondary and tertiary education. The problem is further aggravated by the advent of the internet and the worldwide web (McCabe, 2004). Therefore, Higher Education institutions in the developed countries are following certain rules in academic writing. A working knowledge of these rules is critically important for undergraduates (and postgraduates) to avoid plagiarism. The

concept of 'undergraduate plagiarism' is well focused and researched. However, the information on plagiarism at school level is limited. One recent study on avoiding plagiarism at secondary school level has concluded that 'attempts should be made to engage the students to evade plagiarism' (McGregor and Williamson, 2005). Therefore, when an undergraduate enters the university he/she may be unaware of good academic practice and methods needed to avoid plagiarism.

The universities in developing countries may not be so insistent on documenting sources or the concept of 'plagiarism'. These institutions, as Yamada (2003) puts, may also take into consideration of (a) students' inability to understand the new concepts which are mainly written in English - a language other than their mother tongue and (b) their cultural beliefs.

These cultural, political, and social influences on writing practices have been highlighted by several authors in the past (Currie, 1998; Pennycook 1996; Scollon, 1995). They all agree that undergraduates (and postgraduates) for whom English is a second language may not have a good knowledge of plagiarism. Others even had a misconception that all 'foreign students' tend to plagiarise (Mohan and Lo, 1985). Pecorari (2003) highlighted the fact that a majority of the international students, whether plagiarist or not, do not have 'the intention to deceive'. If this is the case, it is apparent that these students lack the knowledge and skills to avoid plagiarism. Howard (1995) pointed out that most of the international students depend 'heavily' on the style or the format from primary sources. She described this 'source-dependent composition as *pathwriting*'. Several other authors accept the fact that most of the international students need assistance to improve their writing skills (Yamada, 2003; Sunderland-Smith, 2005). It is therefore not appropriate to impose severe penalties on them. At this juncture the question arises as to how these students can be informed (or

trained) not to plagiarise. Most UK universities are incorporating lectures, seminars and student workshops to enhance the ability of all students (both home and especially international) to understand plagiarism and most importantly how to avoid it. This is carried out via implementation of institutions' policies without evidence that these formative lectures/seminars are actually improving the students' academic writing skills.

Since learning and writing in a second language is a continuous process, it is not clear whether these 'one day' seminars can help the students to improve their academic writing skills. This study aims to investigate whether formative lectures alone would (a) enhance the students' understanding of plagiarism and (b) improve their academic writing and avoidance of plagiarism.

Methods

The study was carried out in The School of Biomedical and Natural Sciences, Nottingham Trent University, Nottingham, UK. In order to ensure commitment, postgraduate (MSc) students were used in this study. The group consisted of 9 British (Home) students and 13 Indo-Pakistani (International) students. The investigation was carried out in two 3 hour sessions on two consecutive days. All the students attended the first session (day one), however none of the home students attended the second session (see discussion)

A. Student knowledge of plagiarism

Students' basic knowledge of plagiarism was established by completion of a true/false test on day one (part 1). They were given 10 sentences describing different scenarios/situations and were asked to indicate whether each situation was or was not

describing plagiarism. These scenarios were developed from examples of plagiarism given in the 'student code of behaviour' of Nottingham Trent University (www-1) and the author's own experience on undergraduate plagiarism (see also Sivasubramaniam, 2004). The sentences are given below.

Pre-session assessment - Scenarios /situations – (Part 1)

1. Lucy finds an ideal article for her essay which is not copyrighted and decides to copy it without referencing or acknowledgement. - ***It is plagiarism.***
2. Kumar was searching the internet for ideas to write an essay on 'An *in vitro* model to study the syncytial apoptosis in pre-eclampsia.' He finds a web page on the same subject with the same heading. If Kumar copies directly from the internet and changes the sentence order (with or without acknowledgement). - ***It is plagiarism.***
3. If Hunka copies several sentences (word for word) to make several paragraphs directly from another internet article and puts them in inverted commas with proper reference. - ***It is plagiarism.***
4. A student asks a friend to see her essay, notes down the structure and jots down the main ideas. She then goes home and writes her own essay based on the notes. - ***It is plagiarism.***
5. Rachael and Mandy are two MSc students. If Mandy copies some parts of Rachael's assignment (without Rachael's knowledge) and rearranges the sentences. - ***It is plagiarism.***
6. Rachael and Mandy are two MSc students. If Rachael willingly allows Mandy to copy and rearrange the sentences of some parts of her (Rachael's) report. - ***Rachael is involved in plagiarism offence.***

7. Ravi copy-pastes an internet source but gives a false reference. - ***It is plagiarism.***
8. Zita has carried out a series of experiments using colorimetric measurements and got some exciting results to support her theory. However she has forgotten to note one crucial reading so decides to copy this reading from a published source. - ***It is plagiarism.***
9. Marino reads about the famous equation from Albert Einstein ($E=MC^2$), he then uses it in his physics essay without acknowledgement. - ***It is plagiarism.***
10. Your lecturer has given a common example for 'receptor specific targeting in pharmacology'. If you use this example in your formal report but without acknowledging your tutor. - ***It is plagiarism.***

This was followed by a ninety minute lecture/discussion on plagiarism and the ways to avoid it. Students were expected to complete a different but comparable (10 situations) true/false test (part 2). These are given below.

Scenarios /situations - Part 2 (Post-session assessment)

1. Simon has copied several sentences (word for word) to make several paragraphs directly from other articles without putting them in inverted commas or details of the original author in the text. However he has given the proper acknowledgement in the reference section. ***Has he plagiarised?***
2. If somebody understands the essence of the article and tries to write it in his/her own words, then ***he/she does not have to reference it.***
3. Graham has copied several sentences to make several paragraphs directly from other articles AND put them in inverted commas with the details of the

original author in the text. However he HAS NOT given the proper acknowledgement in the reference section. *Has he plagiarised?*

4. If somebody quotes a paragraph by placing it in block italic format with source cited in text and list of references. *Is it plagiarism?*
5. Chen and his mates worked together for a project. If Chen produces a report using the results from the group with acknowledgement to his mates. *Has he plagiarised?*
6. If I use an idea of my friend (or another person) which is not yet written by him, then *I am not plagiarising.*
7. Emma produced an excellent report on 'Cell specific chemotherapy in testicular cancer' for a final year BSc module in 2002 and got 80%. She is now doing an MSc course in a different university where she has been asked to submit the same report. *If she submits the same report she produced for BSc, it would be considered as plagiarism.*
8. Laura has lost the results from her experiment. If she uses the results from someone who did the practical with her then *she can claim they are her results.*
9. You have copied a hypothetical dose-response graph for the vascular effects of 5 hydroxytryptamine from a well known pharmacology book; however you have not acknowledged the source. *Have you committed plagiarism?*
10. Your lecturer has given a specific example from his research which has been published. If you use this example in your formal report without acknowledging your tutor (or the source), *you are plagiarising.*

On completion, both sets of scenarios /situations (part 1 and 2) were discussed with the students. Similar examples were also discussed to give a broad knowledge of plagiarism and how it may be avoided.

B. Practical avoidance of plagiarism

At the end of the first session, the students were asked to take away 5 different paragraphs (blurbs/abstracts from papers) on research in a particular scientific subject. The paragraphs were carefully chosen from published sources in such a way that any student with some scientific knowledge/background could understand them. Students were told to read them carefully and make short notes. They were invited to return the next day with their short notes (together with the original articles) and write an essay of about 500 to 1000 words as an open book test. Articles produced by these international students were only used in the second part of this investigation. Each submitted article was checked for plagiarism (a) using Turnitin[®] software and (b) by proof reading in comparison with original articles for the following;

A. Good academic writing

1. Rephrasing with minimal use of words from the source.
2. Paraphrasing but changing the format to suit the article.
3. Good referencing practice

B. Potential academic misconduct/Plagiarism

4. 'Patchwriting' (Howard, 1995) – Copying from a text and altering the sentence.
5. Paraphrasing (or using) the exact words from the source without acknowledgement.

6. Inappropriate source use - using information quoted from secondary sources and/or referencing them without reading the article.

A quantitative scoring system for the appropriate adaptation of ideas/information from these articles was established assigning '4' for extremely adopted writing practices to '0' for practices that were not discernibly carried out (see Table 3). Individual performances were analysed by adding these scores and comparing them for criterion A with B.

Table 1: Scoring system for degree of adaptation

Degree of adaptation				
Extremely High	High	Moderate	Low	Not used
4	3	2	1	0

Results and Discussion:

This study differs slightly from previous similar studies (Deckert, 1993; Currie, 1998; Picorari, 2003; Yamada, 2003) in that the subjects used in this study are all biomedical sciences students as opposed to language students. These students do need to rely on and/or use previous methods/data to understand basic scientific concepts, so the main focus of this study was to determine whether they can use/modify the scientific material to write a report while maintaining individual authorship.

As expected 'Turnitin[®]' software was 'indiscriminate' in identifying similar phrases from submitted articles and from its own data from published sources. As stressed by Beasley, JD (Uniting Networks Incorporated, USA) in the first proceedings of Plagiarism: Prevention, Practice and Policy conference (June 2004),

proof reading and using human wisdom was essential to differentiate the original 'non-plagiarised' articles from articles that are potentially plagiarised.

A. Students' knowledge of plagiarism

The results from the assessment of the student knowledge [pre-seminar (basic) and post-seminar (induced)] of plagiarism are summarised in figures 1 and 2. Their individual performances are given in figures 3 and 4. As can be seen from these figures, home students correctly identified 8 out of 10 sentences from part 1. The international students correctly identified 7 out of 10 sentences. The correct identifications after the seminar increased to 9/10 and 8/10 for home and international students respectively.

Therefore it appears that the seminar may have enhanced, though not substantially, students' knowledge of plagiarism. The high scores for correctly identifying plagiarism by the international students suggest that they have a good understanding of plagiarism.

Figure 1: Overall Performance - Home students

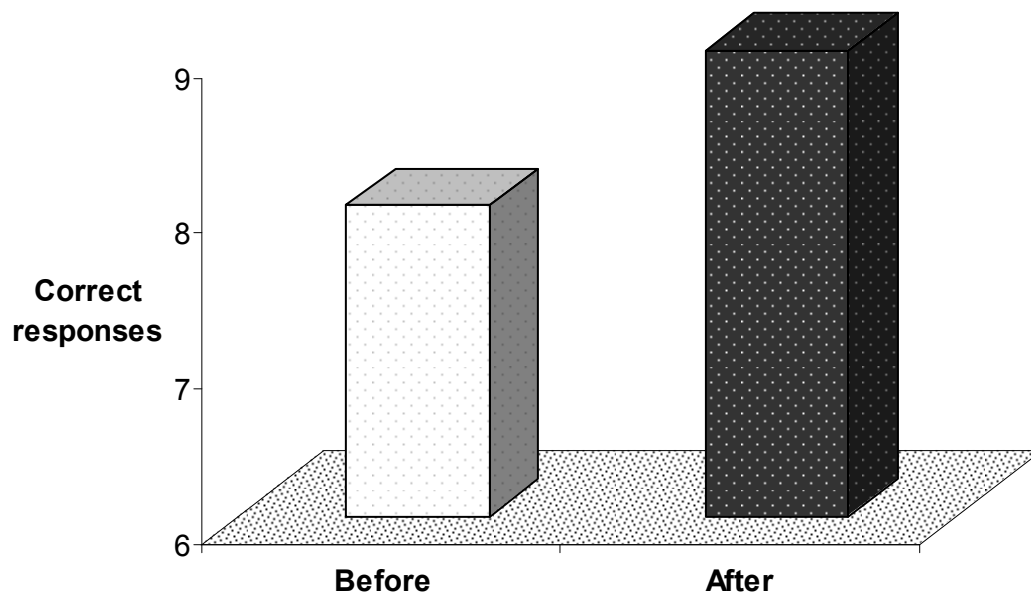


Figure 2: Overall performance - International students

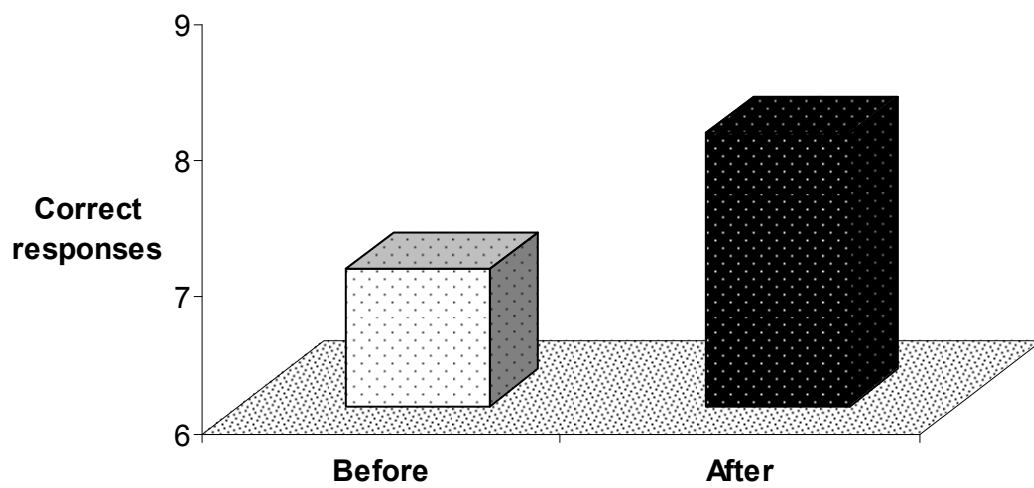


Figure 3: Individual performance - Home students

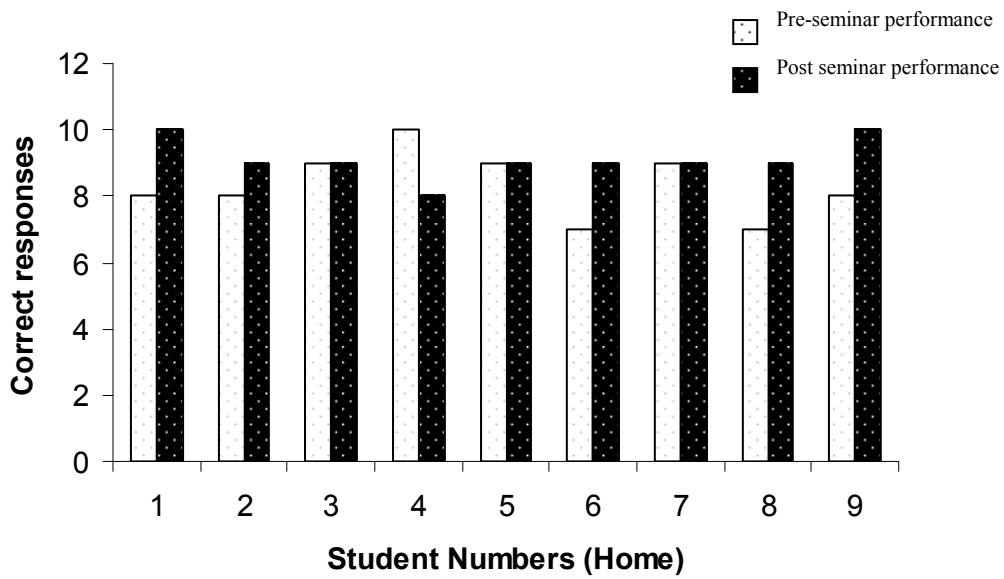
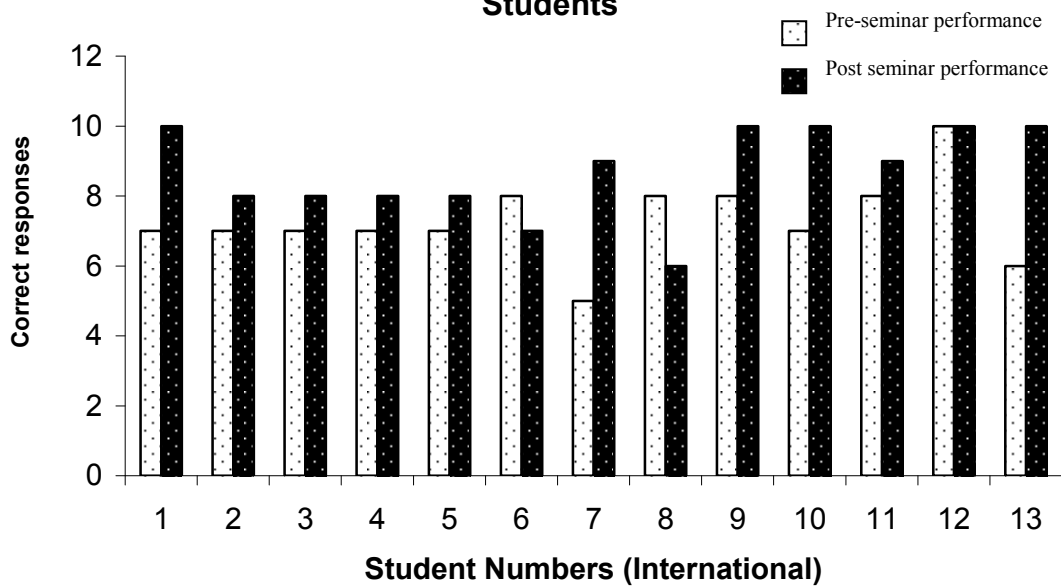


Figure 4: Individual performance - International Students



The results in figure 3 and 4 indicate that three home students (34%) and two international students (8%) already had a good knowledge of plagiarism. The seminar has increased awareness of plagiarism in five out of nine (56%) home students and ten

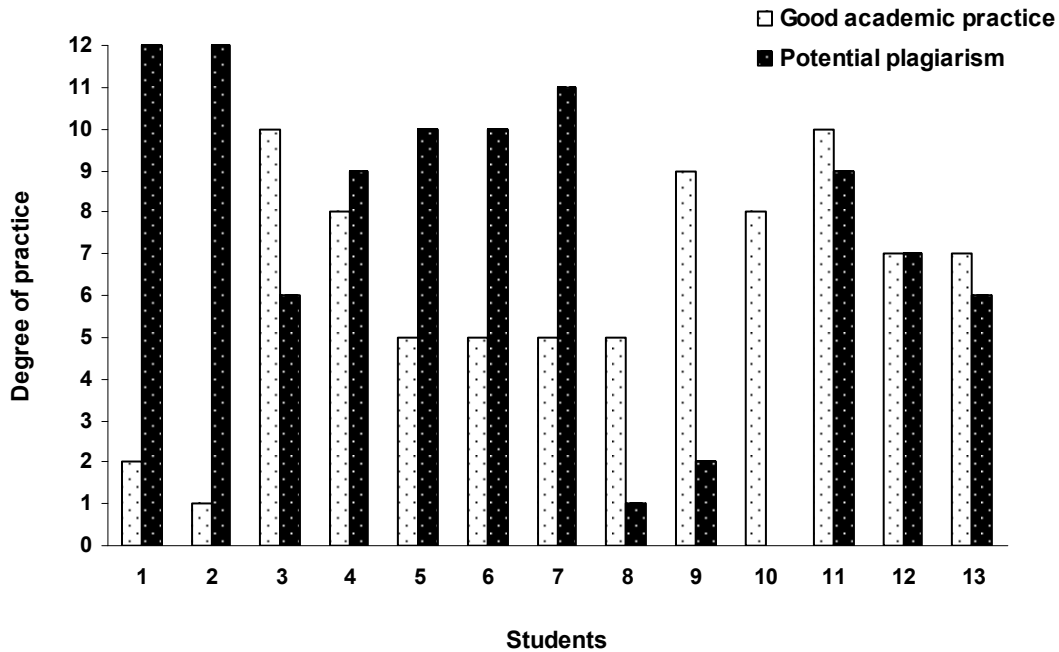
out of thirteen (77%) international students. Whereas, it was interesting to note that the seminar had a negative impact on one home (11%) and two international (15%) students, whose post-seminar performances were reduced. This may be due to the fact that the post-seminar scenarios are slightly different (if anything harder) than the pre-seminar sentences.

B. Practical avoidance of plagiarism

This was analysed from the articles produced by the students on day two. It was unfortunate that all the home students did not turn-up for this session. In contrast all international students did turn-up. (Perhaps this is another cultural issue that needs to be addressed!) Most international students submitted well balanced essays. However, there were several indications that the students were struggling to put the scientific findings in their own words. Almost all of them used paraphrasing with quotations and/or 'patchwork'.

This agrees with the notion put forwards by Currie (1998) '*textual borrowing as survival strategy*'. Some international students even used direct quoting without understanding the sentences themselves. In fact, the number of articles which were well written and presented equalled those mostly with potential misconducts. Each accounted for 38.5% (5 out of 13) submitted articles (see figure 5).

Figure 5: Analysis of articles submitted by international students



About 23% (4 out of 13) of the articles were written mixing both good academic writing and potential plagiarism. Another interesting finding was that many students totally ignored the correct use of material from the information quoted in secondary sources. In the seminar they were told that to use information quoted from the secondary sources they should preferentially read the original article and quote it (for this all the primary sources of quoted articles were made available to them) or acknowledge the primary source with the clause 'reviewed in' or 'quoted in' and give the secondary source. None of the students asked for the respective primary sources, although they were available on request. Some students evaded the problem by not using the information from secondary sources. All the students who did use the data from secondary sources actually acknowledged the primary sources without reading them. This again shows that theoretical knowledge on plagiarism does not necessarily mean its practical avoidance.

Post workshop findings

Two follow-on events were arranged to monitor the progress of these students. First of all, the students were given a chance to ask questions informally about plagiarism over a dinner. Most importantly the individual module leaders were asked to monitor any potential plagiarism amongst these students, in order to obtain feedback from the in-course assessments.

The post-workshop informal chat with these students was found to be interesting. The majority of the Indian students, but not the Pakistani students, asked almost the same question – ‘if we memorise a large part of an article and reproduced it as an answer in a formal examination, would it be considered as plagiarism?’ They all said ‘we have been *encouraged* by our professors (i.e. lecturers) to do so in the past’. This again suggests that there is possibly a cultural difference between Western and Eastern perspectives of academic writing in Higher Education. Although the scope of this study permits only a limited analysis of this topic, it is clear that the differences in educational/cultural structure may contribute to the incidences of plagiarism amongst these students.

Unfortunately in the in-course assessments, at least four students (30%), one repeatedly, have been identified for plagiarising their articles within the first three months of their course. All of them used quoted paragraphs (with/without acknowledgements) but without the context of the article. For example in a report on the investigation about immunohistochemical (ELISA) assay to detect a particular veterinary disease, one student wrote ‘... patients were grouped according to their ethnic background...’.

Although this quotation was properly done with appropriate acknowledgements to the original article, this suggests that the student used ‘cut and

paste' patchwork. As a part of the anti-plagiarism strategy, each of these students was individually counselled on his/her faults and how he/she could have presented the information in a more acceptable manner.

Conclusions:

According to the results discussed herein, it is clear that most of the post-graduate students tested (both home and international) do have a good knowledge of different forms of plagiarism. The study has also suggested that students' knowledge of plagiarism does not necessarily mean that they are capable of good academic writing and avoiding plagiarism. Therefore it may be concluded that short seminars/lectures can be used to improve the students' knowledge of plagiarism. Several in-course detailed open workshops may be needed to improve the students, academic writing and to avoid plagiarism. Perhaps academics should work with their students (in-class-activities), during the course of their degree, to help them to avoid plagiarism.

Further studies:

This preliminary study has highlighted two important facts about international (postgraduate) students. First of all, most of them could understand the different forms of plagiarism. However in practice, they are unable to avoid it. Secondly the 'culture' of their university education may have an influence in their writing practices. Therefore it is necessary to study these influences using a larger group of postgraduates in comparison with entry level undergraduate international students to analyse whether the culture of their tertiary education has an influence on their writing practice. Since most of the Indo-Pakistani students start to use English in

academic writing in universities, the entry level students would be ideal controls to show the influence of Eastern versus Western perspectives of plagiarism.

On the other hand, it is also important to analyse comparatively the 'knowledge versus practice' with home (British) and international students. Although it was one of the aims of this study, it was not achieved because of non-attendance by home students.

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