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SYSTEMS FOR THE PRODUCTION OF PLAGIARISTS? THE IMPLICATIONS ARISING FROM THE USE OF PLAGIARISM DETECTION SYSTEMS IN UK UNIVERSITIES FOR ASIAN LEARNERS

ABSTRACT. This paper argues that the inappropriate framing and implementation of plagiarism detection systems in UK universities can unwittingly construct international students as 'plagiarists'. It argues that these systems are often implemented with inappropriate assumptions about plagiarism and the way in which new members of a community of practice develop the skills to become full members of that community. Drawing on the literature and some primary data it shows how expectations, norms and practices become translated and negotiated in such a way that legitimate attempts to conform with the expectations of the community of practice often become identified as plagiarism and illegitimate attempts at cheating often become obscured from view. It argues that this inappropriate framing and implementation of plagiarism detection systems may make academic integrity more illusive rather than less. It argues that in its current framing – as systems for 'detection and discipline' – plagiarism detection systems may become a new micro-politics of power with devastating consequences for those excluded.

KEY WORDS: alienation, communities of practice, discrimination, international students, plagiarism, plagiarism detection systems

INTRODUCTION

The issue of plagiarism within higher education has received considerable attention in the literature over recent years (Harris, 2001; Carroll & Appleton, 2001; Lathrop, 2000; Dryden, 1999; Myers, 1998; Pennycook, 1996; Scollon, 1995; Howard, 1995, 1993; Deckert, 1993; Sherman, 1992; Kolich, 1983). The Oxford English Dictionary (1995) defines 'to plagiarise' as "to take and use another persons ideas, writing, or inventions as their own." In academia this typically involves students taking the words of others and passing them off as their own in their coursework assessments. In this paper, we do not set out to redefine plagiarism, instead, we wish to provide a more in-depth understanding of why some international students may be predisposed to plagiarise, and

how *plagiarism should not be seen as synonymous with cheating* (Hunt, 2003). Furthermore, much of this literature on plagiarism, coupled with the considerable anecdotal evidence amongst colleagues within our own and other universities, suggests that plagiarism is on the increase.[1] In relation to the literature that has considered why students plagiarise, Carroll (2002) has suggested that most students are unsure what plagiarism is. She argues that this lack of understanding of what is and what is not plagiarism contributes to students plagiarising unintentionally. Furthermore, Angelil-Carter (2000) claim that there is also a lack of clarity across a university about what constitutes plagiarism and a discrepancy in the way plagiarism is detected and enforced (Biggs, 1994; Ryan, 2000; Scollon, 1995). Carroll (2002) also argues that the move from examination to coursework and project based assessment has resulted in not just over assessment, but students experiencing continual pressure to attain high marks (Carroll, 2002). Others suggest that poor time management by students, or the institutions setting simultaneous deadlines is a major contributing factor (Errey, 2002). Though all of these issues are relevant to international students, very little literature has focussed specifically on the theme of this paper, namely why international students may be discovered as borrowing the words of others when studying in countries such as the UK. No literature to date has considered what issues this raises for the introduction and use of electronic detection systems, the focus of this paper.

On Borrowing Words

Several commentators have noted that already published material is utilised as a resource for students to imitate its vocabulary, structure and ideas (Shi, 2004; Leki & Carson, 1997). This is seen as being particularly the case for non-native speakers, many of whom view this as being acceptable practice. As was evident in Matalene's study (in Shi, 2004), where after the teacher had explained what plagiarism was, a Chinese student noted:

we understand that in her country or some others plagiarism is forbidden . . . However in our country, things are a little different. We may perhaps call what our teacher calls 'plagiarism' as 'imitation,' which is sometimes encouraged, especially for a beginner.

Thus it seems that for students in China copying the words of others is legitimate, and indeed a central part of their education. Shi's (2004) detailed study of Chinese students who's second language was English, and Canadian students who speak English as their native language, found that often Chinese students copied long strings of texts in their work, as

compared to English speaking students, indicating that they have no awareness of the risks associated with plagiarising, nor do they have an awareness of how to reference. In contrast she found that English-speaking students would use citations for even short strings of borrowed words. Shi (ibid) argues that there are differences between Chinese and English-speaking students as to how many words can be 'borrowed without citations.' She suggests that the Chinese students "imitated and reproduced large segments of others words with no apparent intention to steal and cheat." She draws on Angelil-Carter (2000) to argue that this may be due to books being viewed in some cultures as authoritative texts, and the copying of that text being an act of respect rather than as plagiarism.

A further explanation provided in the literature for why Chinese students copy the words of others derives from the power structures between teachers and students. Turner (2000) claims that the authority of the teacher and the subservience of the student is a commonplace value in the Chinese educational context. Turner (ibid) notes that in the Chinese classroom the norm is for the teacher to speak and the students to refrain from asking any questions. Further, it is unusual for the teacher to ask students questions during the class. Turner (ibid) found that if questions are asked, they only require factual responses and not opinions or justified arguments. She further claims that students are not encouraged to take notes other than exact copies of those written on the whiteboard. Furthermore, she explains that as work is almost completely exam based, this not only means that students are assessed individually, but also that students are unlikely to have any experience in structuring and developing an argument in an essay, nor as Turner (2000) highlights:

will they have any experience of using references or multiple sources of information to inform their written work or their thinking . . . . The teaching method emphasises the correct memorisation and reproduction of teacher's notes or textbook information-referencing is not used, since almost the entire essay [in the exam] may be in the form of *memorised sections of text*. Information is viewed in a unitary way: The teaching of facts. Critical examination of different perspectives on a subject, and the development of an argument is absent within Chinese education. (Emphasis added)

As such, one central feature of the educational context within China is how the exact reproduction of the teacher's voice (or prescribed textbook) might be seen as necessary to succeed. Further, Biggs (1994) warns that this should not be viewed necessarily as an inferior approach to learning (Biggs & Watkins, 1996).Others suggest that Chinese students may be predisposed to copying the words of others due to their

different view of language. Pennycook (1996) has argued that the Chinese
view of language is quite different from that in Western Countries: "In
this [view of language] primacy is accorded to language and not to the
'real' world, notions such as metaphor, which suggests that some word
'stands for' something else, become quite different because reality is in
the language and not in the world" (p.221). The Sinologist Hans-George
Moeller (2003, p.75) also expresses this view that the author and the text
are inseparable noting that:

Chinese theory of 'forms and names' granted an equal ontological status to both the
matter *and* the designation of the things. To use a more formal expression, not only the
signified but also the signifier was considered to be inherent in the things. *The signifier
was not conceived of as an arbitrary 'label' or as being only attached to things a
posteriori. Its name belonged to the thing just as much as its form.*

Obviously, there is an issue with regard to the degree that this an-
cient view of language is still evident in contemporary everyday prac-
tice. Nevertheless, to the extent that it still is, it would suggest that for
Chinese students altering the exact expression of something might plau-
sibly be seen as altering the reality of the world itself. Where would the
authority to do this come from for a student? Furthermore, capturing the
exact expression – through meticulous memorisation – would be seen as
capturing the reality as such. Thus, students would be encouraged to
express reality by using the words, the exact expression of the master –
i.e., retaining the master's voice as it were.

The differing cultural norms to attributing a specific text to an author
was highlighted by Moore (1997). This study found that native English
speakers mentioned the author explicitly in their essays while the Asian
students who had English as a second language (ESL) used attributions
that were implicit such as 'it was said' or 'the article aims to' (in Shi,
2004). Shi's (2004) study similarly found that North American students
would present the author in their essay as a named individual, while the
Asian students would 'tuck away the author in a less central position.'
Moore (1997) provides an explanation of this cultural variation in at-
tributing sources claiming that Asian students regard an original text as
being information, while native speakers view a text as reflecting an
individual's point of view.

Copying words verbatim, and patching them together is reported to be
acceptable practice in many Asian universities. This was confirmed in
Dryden's (1999) study, which quoted a Japanese professor stating that:
"Students are supposed to show how well they can understand several
books and digest them in a report or a paper. They aren't asked for
original ideas or opinions. They are simply asked to show a beautiful

patchwork... as long as you mention all the books in your bibliography, you can present the ideas from the books as if they were yours, especially if your patchwork is beautiful" (p. 80). In this sense, the study by Dryden (1999) highlights how patch writing is viewed as *an active and informed engagement with a text*, rather than mere 'mindless' copying.

Similarly, Shi's (2004) study found that much of the Chinese students writing was "patch writing, interwoven with sentences or phrases copied from original sources." Shi (2004) found that Chinese students relied heavily on the source text due to their "limited language ability and lack of experience with citations," and as a consequence does not believe that they could express the words better themselves (Hayes & Introna, 2004; LoCastro & Masuko, 2002). Shi (2004) notes that as learners, "many L2 (ESL) students consider it legitimate and natural to reproduce chunks of others' words because many of them would doubt whether they have any words of their own in a language that is not their L1 (Native students)."

Shi (2004) concluded her study by noting that for those students providing syntactically reformulated text, that this latter form of copying demonstrates a step away from direct copying, a move perhaps necessary for these ESL (Chinese) student writers to eventually own these words, noting "the frequent replication of words from the preassigned source texts might imply an effort of these L2 students in a context of learning." Crucially, Shi (2004) suggests that for many overseas students copying and integrating the words of others is central to their development as academic learners, noting that by insisting firmly on no copying of texts we actually deprive them of the strategy or natural resource that many L2 students rely on. Shi (2004) suggests that universities in western countries need to relax the requirements for overseas students, noting "we need to distinguish legitimate appropriation of language from dishonest copying so as to make ways for novice L2 writers to traverse the boundary and become members of the academic community." Indeed, others have suggested more strongly, that copying is a central and expected part of the development of students whose first language is not English (Hayes & Introna, 2005; Hayes & Introna, 2003; Bloch & Chi, 1995; Campbell, 1990). The inappropriate use of sources is also attributed to students whose first language is not English, not having the proficiency or experience in referencing. It is important to note that none of the literature to date has explicitly considered the differing regional educational practices and cultural assumptions within China and Asia more broadly, nor has this literature explicitly attended to the large populations of ethnic Asian and Chinese students who are

residents and nationals of other countries such as the USA and the UK.

On Detecting Copies

Before going on to outline the focus and the structure of this paper, we will first briefly describe how electronic detection software operates. It is important to recognise that Plagiarism Detection Software detects *copies* not plagiarism. There are a number of proprietary brands that have emerged in recent years, most notably *Turnitin* and *EVE*, each of which have their own propriety algorithms for detecting plagiarism. In general, plagiarism detection systems make a digital fingerprint of a document that it then uses to compare documents against each other. The fingerprint is a small and compact representation of the content of the document that can serve as a basis for determining correspondence between two documents (or parts of it).[2] These fingerprints are said to be extremely accurate in detecting copies even though it is estimated they may be only 0.536% of the original document size.[3] These fingerprints are then compared with web pages, previous documents submitted to the specific plagiarism detection Software Company, and increasingly electronic libraries. It is clear from various experiments with Turnitin that plagiarism detection algorithms are reasonably robust at linking copies (not plagiarism) or part copies back to its source document (Introna & Hayes, 2004).

This paper will consider how and why Chinese and Asian students *plagiarise*, and specifically the issues this raises for electronic detection. To do this, the paper is structured as follows. The next section will describe our methodology. Section three will summarise the findings from an earlier empirical study conducted by the authors. The following section will consider the implications for employing electronic detection systems such as Turnitin for international students. Section 5 will offer some brief conclusions.

METHODOLOGY

Our empirical research was conducted with a cohort of MSc students studying an MSc in Information Technology, Management and Organisational Change (ITMOC), at Lancaster University Management School. We sought to understand the students past practice and judgements on

various manifestations of academic malpractice in their home universities. There were 46 students in that year's cohort with a diverse range of nationalities, including students from India, Pakistan, China, Indonesia, Thailand, Greece, and a selection of others from Europe, the Pacific, the Caribbean, Africa and South America.

We conducted focus group interviews and distributed questionnaires. Supplementing this was considerable informal discussion with ITMOC students. The authors are past and present programme directors. This led to an exceptionally high response rate from the questionnaires, as well as a high attendance at the focus groups. The focus group interviews lasted approximately 45–60 min each, and were organised on the basis of national/regional origin. They were tape-recorded and the notes were later transcribed. This resulted in five groupings, a Chinese group, an Asian (other) group, a Greek group, a UK Group and a group from the rest of the world. The explanation for the Asian (other) grouping was due to there being insufficient numbers of students from individual Asian countries to warrant a category themselves. This group comprised of one Thai, one Pakistani, one Indonesian and two Indian students. The Chinese group comprised of seven students. We acknowledge that this sample is not statistically representative of the diversity of educational practices across China and the rest of Asia. Nonetheless we suggest that it can be considered as indicative and form the basis of some preliminary analysis which can then inform future studies based on a higher sample size. As with the questionnaires, our focus group discussion sought to understand the students' experiences prior to coming to Lancaster, though the conversation inevitably became referential to their experiences of plagiarism since arriving in the UK. Students at most if not all UK universities will have the opportunity to attend seminars delivered by study skills advisors covering topics such as: Getting the most out of lectures; taking notes; reading skills; essay writing skills; and of course referencing skills. Some postgraduate programmes such as ITMOC also host their own programme specific seminars and workshops that cover such issues. However, we have found, as have many of our colleagues, that the prior educational practices of many international students are so ingrained that even with such sessions, it is hard for many of them to adapt to the different practices expected of them in the UK. It is primarily for this reason that we believe it is important to focus first on the cultural assumptions and practices in their country of origin before looking in detail at their experiences while studying in the UK. As this paper explores the cultural understandings of plagiarism for students from non-western countries, and the use of

plagiarism detection systems in UK universities, we will solely report on the Chinese and other Asian students.

STUDENT'S ATTITUDES TOWARDS ACADEMIC INTEGRITY IN COURSEWORK

This section will introduce the issues that emerged in the focus groups and questionnaires. The first surprise that faced us when initiating our empirical work was to find that both the Chinese and other Asian (referred to just as Asian) students explained that they had little experience of coursework during their undergraduate education and thus were not able to comment extensively on the issue of plagiarism in coursework. In China, it was estimated that they only write one essay during their entire undergraduate education – though Chinese students did note that they wrote a number of reports. They claimed that though they were required to reference in their coursework, it was not as rigorous as it is in the UK. However, Chinese and Asian students noted that as most courses only required students to consult one textbook, referencing was seldom required. Due to most Asian and Chinese students either not having done coursework, or at best only having completed one or two non-essay based pieces, it is more revealing to look at how serious they *judge* cheating in coursework to be rather than their previous practices (*action*). As Table I indicates, 40% of Asian and 30% of Chinese students did not judge copying material word for word as being serious.

Table II highlights that both student groups judged copying a few sentences word for word without referencing it as being not or trivial cheating, with 100% of Asian students viewing this as not being cheating or only being trivial cheating, while for the Chinese students approxi-

TABLE I

Copying material, almost word for word, from any source and turning it in as your own work

		Asian (%)	Chinese (%)
Action	Once or more	20	40
	Never	80	60
Judgement	Not or trivial cheating	40	30
	Somewhat or very serious	60	70

TABLE II

Copying a few sentences of material without referencing them

		Asian (%)	Chinese (%)
Action	Once or more	75	56
	Never	25	44
Judgement	Not or trivial cheating	100	60
	Somewhat or very serious	0	40

mately two thirds of the students saw copying a few sentences of material without referencing them as being not cheating or trivial cheating. This indicates, not only that copying several sentences is likely to be endemic in coursework submissions, but also that it is not seen as being serious or unacceptable practice by either group of students.

Due to the limited coursework that most students had undertaken in their home country this only emerged as an issue for a small number of the Chinese and Asian students. Based on their undergraduate experiences in Asia and China, coupled with their experiences with coursework since arriving in Lancaster, several students suggested that plagiarism might often be unintentional due to the way they make notes while researching their essays. They explained that in the process of researching and drafting an essay, they collect numerous electronic and non-electronic references, keep several windows open at one moment in time, and copy and paste between them. They recognised that this could be dangerous in terms of not clearly identifying the work of others, losing track of the different sources, or alternatively, very tempting to pass it off as their own work.

In relation to the essay writing practices of students (Table III), between 50 and 75% of the Asian and Chinese students *judged* receiving

TABLE III

Receiving substantial, unpermitted help on an assignment

		Asian (%)	Chinese (%)
Action	Once or more	25	40
	Never	75	60
Judgement	Not or trivial cheating	75	50
	Somewhat or very serious	25	50

unpermitted collaboration from fellow students in their coursework to be trivial.[4]

Marks were seen by the Asian and Chinese students to be the main pressure they experienced that led them to cheat. All Asian and Chinese students concurred that competition was fierce at their previous institutions. In China, though high marks were seen as important so as to undertake an overseas postgraduate programme, they were also important in terms of finding a good job. Chinese students suggested that it was due to this that students felt they may need to cheat, as one Chinese student mentioned, "*Marks mean everything when students have no work experience. Marks are the only thing that companies judge you on.*" Asian students reported similar views.

Table IV supports these qualitative views, highlighting that 60% of Chinese and 40% of Asian students viewed getting good grades in order to undertake postgraduate study as being fairly or very important. When asked about family pressure to achieve high marks, this was seen to be significant among Asian and Chinese students, where 40% of Asian students and 50% of Chinese students saw family pressures as being fairly or very important. This was explained to have led several students to feel alienated from their educational context. It is important to recognise that as those who were interviewed were students that had aspired to and were studying in the UK, they may not be representative of the attitude of the rest of the student population in China and Asia. Alienation was also attributed to the emphasis on memorisation, which some students viewed as being meaningless. This was compounded by some of the books and material that was presented to them being out of date. This resulted in students being output (marks) rather than process (learning) orientated. The feelings of alienation and disaffection from their educational context assists in explaining why it is that though Chinese and Asian students believe cheating is wrong they still engage in it in quite an extensive way. Interestingly, this shared sense of alienation resulted in a strong degree of collegiality among students. For example,

TABLE IV

Pressures that motivate students to get good grades

	Asian (%)	Chinese (%)
From parents or other family	40	50
To get into a graduate program	40	60

collaboration in tests and exams was said to be common in all of the Chinese and Asian countries represented.

DISCUSSION

This penultimate section will consider the issues that our empirical insights and the literature to date presents to the use of electronic detection systems such as Turnitin for international students. For the purpose of clarity, we have separated these into five issues, though each are related.

Detecting Copying Not Plagiarism

Our study and the literature highlights that for a number of cultural and historical explanations, students from China and the rest of Asia may be predisposed to copying words and utilising them in their own coursework submissions. This has been highlighted as being due to a number of culturally laden reasons. First, authors and teachers are viewed as being authorities on subjects, and consequently are perceived by Chinese students to be the only people authorised to have a view on a particular subject. This is akin to Moore's (1997) finding that Asian students view texts as containing information rather than representations of particular views on the subject matter. Secondly, the literature and our primary data, indicated that for Chinese and Asian students, memorising texts and repeating them verbatim in examinations and coursework has been the focus of their learning experience throughout all levels of education. Third, it is very likely that students, who are novices in academic writing, may present their work through patch writing, as this is the approach they have traditionally adopted when completing their coursework essays and reports. Finally, our empirical research, which is supported by some literature, suggests that students are ignorant to the conventions and requirements for academic referencing.

It is important that we state we are not making any judgement that this approach to teaching and learning is inferior to that in the UK, merely different. However, it does imply that Chinese and other Asian students are culturally predisposed to copying words, and as a consequence, with the introduction of plagiarism detection software applications, international students are likely to be detected. It is important to note that plagiarism detection software applications do not detect plagiarism, only copies of texts. However, we suggest that due to such culturally embedded practices, it is undesirable – one could even say wrong – to take a simplistic view of plagiarism that equates copying with plagiarism, as it is more than likely that there may not be any deliberate intention to

commit malpractice. In this sense we note that it is important to re-
cognise that the interpretation of the reports that plagiarism application
software applications provide, needs to be made with a detailed un-
derstanding of the above. Otherwise, the documentary evidence high-
lighting the extent of the text that has been copied may significantly
influence decisions and judgements being made by individual academics.
This also raises the question as to how these culturally informed insights
might be disseminated to those academics making decisions on cases of
'plagiarism' committed by Chinese and other Asian students.

Situating Copying and Arguing

A further important issue emerging from the literature and our empirical
study is that even when international students from countries such as
China and the rest of Asia become aware of the different assumptions
and expectations pertaining to borrowing words they will not have
sufficient skills to differentiate between the nuances of what is or is not
deemed plagiarism, nor will they have developed the skills and ex-
perience to move away from patch writing. One reason for this de-
ficiency of skill is the different nature of the assessment that is likely to
be asked of them. In China and the rest of Asia, our empirics and the
literature reviewed indicates that students do not have much experience
of completing coursework, and further, the experience that they have is
more likely to be in writing what Shi (2004) terms summary pieces.
These are typically summaries of 'objective facts' contained in one
textbook. In contrast, when studying in the UK, they are required to write
opinion pieces – where they are expected to form an argument. This
means that in contrast to their history of relying on one textbook, in the
UK students are expected – especially at postgraduate level – to be able
to read material from multiple sources and distil from it the important
points, arguments and issues. In Western Countries, students are typi-
cally expected to give a critical account of the literature and to be able to
formulate their own position, with regard to the material, which they
must be able to justify. They need to provide clear evidence of critical
evaluations and reference to appropriate sources. Further, they are often
expected to present and support these views openly through discussion
and questioning in a group or lecture context. However, for Chinese
students whose previous educational context did not legitimate the de-
velopment of their own views and arguments either in the classroom
as Turner (2000) found, or in their assessments as was evident in our
empirics and in the literature review (LoCastro & Masuko, 2002;
Pennycook, 1996; Introna & Hayes, 2004), adjusting to a different nor-

mative context that values the development of their own academically substantiated opinions is likely to be not only confusing, but also difficult. It is important to recognise that learning is profoundly connected to the context that it takes place within (Lave and Wenger, 1991). From this perspective we would argue that due to the significantly different normative contexts in which learning takes place, it is perhaps inevitable that Chinese and Asian students will be detected and identified as 'plagiarists' when studying overseas. When texts are submitted to a plagiarism detection service such as *Turnitin*, rather than merely relying on the acontextual evidence of the report, further contextual investigation may suggest that the student is in the processes of experiencing and learning how to write an argument and opinion based essay, and how to become a member of a community that has very different practices (Lave and Wenger, 1991). Thus, the inappropriate use of detection systems may be detrimental to the learning and development of some overseas students.

Emphasising Detection at the Expense of Education

We might also suggest that if plagiarism detection software is introduced with the intention to detect 'plagiarism' (as the name suggests, the emphasis is most often on the detection of assumed plagiarism, rather than the identification of copied text for educational and development purposes) then this is likely to limit the opportunities and time that students have to learn how to write in the new western, not to mention subject specific, educational context. Lave and Wenger (1991) note that for learners to develop the abilities of experienced participants – in our case students that are skilled in presenting arguments in this context – they must first be provided with time to be able to observe and participate in the practices of that community. However, the use of detection software from the outset, and the typical university penalties that may ensue, do not allow the time and possibilities to experiment with writing their argument and opinion-based pieces. Indeed, this early state of their educational experience in the UK is likely to be crucial, as Lave and Wenger (1991:36) warn that newcomers need to see the value of them becoming full practitioners in order for them to participate. Indeed, the emphasis on detection is likely to hinder overseas students' chances to learn the expectations and reasons for these values. Without providing legitimate opportunities to learn how to write, by for example observing and discussing the approaches to writing with others, the opportunities to learn are reduced with potentially disastrous consequences for the student. The issue of the time required to access, observe and participate

in a community's practices is heightened by the fact that most Chinese and Asian students are on intensive one year postgraduate courses – as such they neither have a great deal of time to learn how to write in the appropriate way, or if 'detected' have insufficient to learn and ensure that it does not happen again.

Discriminatory Detection Systems

A further concern that the introduction and use of plagiarism detection systems may bring is that they might be discriminatory against students whose first language is not English as opposed to those native speakers. This cultural mismatching of context and skills in learning becomes more acute when student essays are batch submitted for checking and a threshold as a percentage of a document copied is set quite low (as one can do in these systems) for cases to be further investigated. Chinese and Asian students are more likely to borrow large strings of words as they seek to 'retain the master's voice,' or they may lack the familiarity with formulating opinions rather than merely summarising, or their citation skills may be limited. In contrast, UK students would often consciously paraphrase the words and arguments of others – without referencing them – so as to try to disguise their plagiarism (Shi, 2004). By doing this they are likely to ensure that they are pushed down below the line of detection, and in so doing, ensure that non-native students are detected.

Indeed, Shi's (2004) study found that native speakers will be more able to use patches in such a way that they may be identified as paraphrases rather than direct copies. This is particularly important for electronic detection, as they are based on the principle of character sequence detection meaning that it can only identify plagiarism where there is an exact copy made of a string of characters (irrespective of location on the page). This sort of detection will obviously tend to show up those students who tend to retain exact copies of phrases or sentences. It will therefore not detect those that deliberatively copy structure, arguments or ideas but express these in 'their own words.' Thus, plagiarism detection systems operate with the assumption that to plagiarise one need to use the exact words of another, yet this assumption favours the native speaker and disproportionately penalises the non-native speaker. Through their careful use of synonyms and slight changes in the structure of sentences, the native speaker can remain undetected by the software's algorithm. Such subtle changes require a sophisticated linguistic ability far beyond the level of a non-native speaker. It is evident that if the task of plagiarism detection is delegated to algorithms then there is a strong possibility that this might be creating the conditions

for constructing international students as plagiarists and allowing the native speaking plagiarist to remain undetected.

Discrimination and Alienation

A serious implication that may arise from the inappropriate implementation of detection systems that disproportionately identify overseas students as being plagiarists is that they may lead to further detailed scrutiny of non-native students. In contrast, those native speaking students that have consciously plagiarised are likely to remain undetected, and escape any further scrutiny. This is not only an act of discrimination, that is likely to result in unfair disciplinary sanctions in western universities such as expulsion or significantly lowered grades, but perhaps more fundamentally, could lead to students feeling alienated. This alienation may result in students adopting an output (marks) oriented approach, as may have been the case in their home country. Thus a major concern that arises with the introduction and use of electronic detection systems is that with the emphasis being on detection, rather than assisting students from non-western countries develop their academic writing abilities, then it is only likely to add to their sense of alienation. As major actors in the network it is as much the responsibility of academics in the UK to address these conditions, as it is the non-western students' responsibility to respond to such attempts. Further, as the internationalisation and commercialisation of higher education are inextricably linked to such ethical concerns, then these are issues that higher education policy makers in countries such as the UK and Australia need to attend to.

CONCLUSIONS AND IMPLICATIONS

Let us summarise our argument. Students from other cultures arrive in the UK educational system with a disposition towards academic writing where exact copies of parts of prescribed texts or lecture notes are included in the texts they submit for purposes of assessment. This form of writing is often encouraged and sometimes expected from students. When they enter the UK system they are expected to submit academic writing that contain an independent substantiated argument that is properly referenced. As such they find themselves in a community that has substantially different practices and values, to the point that some of their previous legitimate practices are illegitimate and even seen as 'cheating.' They try and cope with these new practices by imitation, often borrowing exact phrases and words they feel unable to express.

They tend not to value this as inappropriate behaviour as this was mostly seen as legitimate in their previous educational context. In trying to cope they fall foul of the plagiarism detection software that identifies their use of exact phrases as 'plagiarism'. In this context plagiarism detection systems may unwittingly serve as a mechanism to construct them as 'plagiarists' since:

- These systems may be implemented with the assumption that copying is equal to plagiarism
- They may be implemented with the intention to 'catch' presumed plagiarists rather than with an intention to support new members in a community of practice trying to cope with radically new practices and norms
- The way detection systems detect (by detecting exact copies) means that non-native students become disproportionately identified and scrutinised, creating a stark contrast between them and those that plagiarise without using exact copies.

This disproportionate scrutiny may increase these students' sense of alienation leading them to turn to the very practices (of actual plagiarism) that UK universities were hoping to steer them away from.

If this argument is correct – as we hope we have demonstrated – then the plagiarism detection systems in UK universities may be constructing plagiarist rather than improving academic integrity. In fact it may make academic integrity more elusive. We suggest that plagiarism detection systems need to be implemented within a completely different frame (Orlikowski & Gash, 1994) than is currently the case. The current frame of 'detection and discipline' must be replaced with a frame of 'development and support.' Specific activities that may be introduced to support the establishment of this frame may include introducing students to what is understood as plagiarism in the UK. Students could complete exercises that allow them to practice paraphrasing, referencing and importantly, how to formulate arguments, and how the work of others is utilised to substantiate and support these arguments. Further, electronic detection may be used to support this development process, allowing students to determine which copied text should be in quotation marks, and which needs to be paraphrased. This may assist students, along with guidance and advice from tutors, to gradually move away from their long established patch writing practices. Academic staff for their part needs to better appreciate the steep learning curve required of overseas students, and in turn, assist their students in adjusting to the UK higher education system. This may include a recognition that plagiarism should not necessarily be equated with cheating, and further, some pla-

giarism such as patch writing, is central to the development of overseas students. By raising awareness of the challenges faced by non-western students in the UK among academics, this should assist in avoiding students feeling as alienated from the UK educational context as they may have been in their own. Without initiating a 'development and support' frame, detection systems in UK universities may indeed be a micro-politics of power in which the legitimate interests of learning and education become translated into a system for the production of illegitimate members with enormous personal implications for those that become unjustly excluded.

NOTES

[1] O'Connor (2003) describes one recent Australian study that spanned 20 subjects and six universities. This saw 1925 essays being submitted into Turnitin, an electronic detection service that compares electronic work submitted with the 2.6 billion publicly available pages on the internet, and to all the essays previously submitted to Turnitin for checking. This study found that 14% of essays 'contained unacceptable levels of unattributed materials.' Further, unacceptable levels of plagiarism were found to be present in all six universities and in over 70% of the subjects. The report also highlighted that what was detected electronically is just the tip of the iceberg, as Turnitin did not cover most books, journals and paper mills etc (O'Connor, 2003).

[2] A fingerprint is created by removing spaces and other formatting information so as to first have a continuous string of characters. Following this the characters are then divided into groups of between 5–8 characters depending of the specific software, each character is then turned into an integer (in the example 'how to' becomes '77') through what is called a hash function. The software then selects a sample of these hashes to for a document fingerprint.

[3] Experiments done by the authors of winnowing (Schleimer et al., 2003).

[4] Unpermitted collaboration in coursework refers to the expectation that it will be completed individually.

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