

GOOD IMAGES, EFFECTIVE MESSAGES? WORKING WITH STUDENTS AND EDUCATORS ON ACADEMIC PRACTICE UNDERSTANDING

Introduction/background

Northumbria is a post-92 University in the North East of England with 31,000 students and 3,000 members of staff. Plagiarism is an issue in which Northumbria has had an interest for a number of years. The JISC-funded Plagiarism Advisory Service (JISCPAS) had its origins in a team at Northumbria and several staff have contributed to the debate (Borg 2002, Dordoy 2003, Gannon-Leary & Borg 2003). Dordoy (2003) highlighted the fact that Northumbria staff take plagiarism seriously, in terms not only of detecting and penalizing cases but also in terms of designing assignments. The University has an institution-wide approach, working with Schools and service departments to develop 'Guidelines for Good Assessment Practice', the most recent version of which has an extensive section covering Academic Misconduct. Reviews of practice take place regularly, indicating a sustainable model of support. An Academic Misconduct group has concluded work to develop a student guide, undertake staff workshops and ensure improved access to Turnitin software from the University's virtual learning environment (VLE).

Authors such as Auer and Krupar (2001) have stressed the value of partnerships in achieving success in designing out plagiarism and the project research team exemplifies such a partnership between the Academic Registry and the Materials Resource Centre for Education and Technology (MARCET) which is Northumbria's Staff Development Resource Centre). A further and most important partnership is shown with work

undertaken at Northumbria with the Students' Union. The Education and Welfare officer was a member of the Academic Misconduct Group and instigated an information campaign on 'Plagiarism' in conjunction with the Group.

Focus

This study is not attempting to delve into the many and varied reasons for plagiarism (see Harris 2001 and Evans 2006 for these) but rather to focus on those elements more specifically related to assessment, e.g. the way students are expected to access and process information they need for their assignments (Errey 2007), compounded by the increasing availability of online information and the lack of training in academic literacy skills (Badge et al 2007).

As Ashworth et al (1997) comment, published work of the 1990s on cheating and plagiarism amongst higher education (HE) students tended to presuppose a shared understanding on the part of students and staff in respect of the issues. However, as Stefani and Carroll (2001) identify, in the 2000s we have started to discuss and explore the complexity of plagiarism as a concept and the potential mismatch between staff and student understandings/perceptions of plagiarism (Flint et al 2006). Gourlay and Greig's (2007) Napier case study indicated that academic staff expected students to arrive at the university with an awareness of appropriate academic practice. In fact year one students were conscious of making a transition into an environment with different requirements in terms of, e.g. academic writing, than had been their prior experience. Marsden et al (2005) found high rates of plagiarism amongst students with low levels of academic self-esteem so it is important that students develop confidence in their abilities to cope within the new learning environment.

Deficit model vs. academic literacy model

Macdonald & Carroll (2006) and Haigh & Meddings (2007) emphasise the need for recognition that students are inadequately prepared when entering HE and lack the skills necessary to take a scholarly approach to their learning. Whitaker's (1993) undergraduates, asked to define the concept 'plagiarism', used terms such as "copying" and "stealing" as synonyms. Presumably they were influenced by emotive media coverage (Carroll 2004, Sutherland-Smith & Carr 2005) and what Howard terms the "gotcha industry" (Howard 2002).

The deficit or deficiency model conceives the academic as expert and information rich whilst the student is conceived as an information poor tyro. On the other hand, the academic literacy model conceives of such literacy as having a set of information skills or competencies to handle and access information with the potential to make them information rich. The deficit model may be detected in the literature where reference is made to viewing plagiarism detection software as a 'remedy': Sutherland-Smith and Carr (2005) state that such software should not be considered a panacea for plagiarism and Carbone (2001) asks if Turnitin could be "a pedagogic placebo for plagiarism".

Lea and Street (1998)'s typology progresses from a deficit model, which "suggests that students lack a set of basic skills that can be dealt with primarily in a remedial study skills unit" (Lea & Street 1998: 170), through 'academic socialisation' to 'academic literacy' a concept which Ivanic (2008) has linked to issues of identity, confidence and motivation, all of which are particularly important as students make the

transition from school/college/workplace into higher education (Candlin & Plum 1998; Lillis 2003). Gourlay and Greig (2007)'s study found that, whilst teaching staff expressed views consistent with the deficit model – e.g. blaming students' previous educational institutions for a perceived lack of skills– support staff expressed views consistent with the academic literacy model where skills development was bound up with incremental development of knowledge of their disciplines and, therefore, to be considered as part of the mainstream curriculum. In respect of plagiarism, the deficit model can be used to take a punitive perspective – they should know better - whilst the academic literacy model can be used to take a student empowerment perspective – they can use their academic work to develop not only their knowledge but also their skills (Macdonald 2000, Burkhill & Franklyn-Stokes 2004). At Northumbria, the fact that academic staff, library/MARCET staff and academic support staff from the Learning and Teaching Support section of the Registry are working together – as evidenced by the composition of the research team – should serve to ensure that the academic literacy model is favoured over the deficit model.

As Macdonald (2000) says, a distinction needs to be drawn between intention and ignorance coupled with inadequate writing and citing skills. We need to consider what learning, teaching and assessment strategies we deploy, especially in the light of our changing student population. Macdonald (2000) recognizes this is, in part, a staff development issue. MARCET provides staff development opportunities in collaboration with Schools and Central Services to ensure students have a positive learning, teaching and assessment experience. Indeed Northumbria recognizes this in its Learning and Teaching Strategy, central themes of which include development and use of contemporary modes of teaching delivery; development of effective assessment as a

tool for learning; and developing the expertise of our staff in teaching and supporting learning.

Information management and critical analysis skills are important and need to be developed and students need to be given clear guidance about what is appropriate, reinforced through learning tasks and assessed formatively i.e. to measure the process of analysis rather than the regurgitation of content (Williams 2002). This strategy involves designing out plagiarism by designing assignments which afford little scope or opportunity for plagiarizing in the first place plus provision of clear and consistent advice to students (Harris 2001, Evans 2006).

Barrett and Malcolm (2006) reiterate that, in order to hone their academic literacy skills, students need to perceive the relevance of these skills and the optimum method to ensure this is to relate the skills to a piece of their own work. Macdonald & Carroll (2006) advocate assessment-led solutions such as these which focus on using low stakes, formative assessment, starting from the premise we need to get assessment right in the first place and to integrate actions to deal with it into a coherent, institution wide approach that is evidence-based (Devlin 2006). This holistic approach recognises the need for shared responsibility between students, staff and institution, supported by external quality agencies. Northumbria's activity reflects this, engaging staff from Schools, support departments such as Student Services, MARCET, Library and Learning Services, the University's Secretary's Office, Academic Registry and the Students' Union. This offers opportunities for a sustainable, coherent and balanced approach. Much of the literature (Park 2004, Green et al 2005, Barrett and Malcolm 2006) perceives such an approach as a win-win situation for students and staff. For the

former it means skills development, relevance and reduction of fear of unintentional plagiarism while reinforcing ideas of academic integrity in assessment. For the latter it aids a common understanding of what constitutes plagiarism; avoids variations in practice; and promotes standards of scholarship.

It is a case of protecting student and staff interests plus the institution's reputation as a learning university. One of the central themes of Northumbria's Learning and Teaching Strategy involves development of Northumbria students as effective lifelong learners and in respect of this our intention is to

“produce graduates with sound information literacy skills: in particular knowing when and why information is needed, where it can be found and how to evaluate information and use it in an ethical manner.”(Northumbria University. Learning & Teaching Strategy, 2007)

This is in line with McCabe and Pavela's (2004) principles of academic integrity which stress the recognition and affirmation of academic integrity as a core institutional value and the fostering of lifelong commitment to learning.

Media reports of incidents of plagiarism can cloud the public view of academic integrity in HE and, indeed, even some of the academic journal articles use emotive language in their reports (Righton 2007; Caldwell 2008). There is, of course, always the concern about engendering suspicion and mistrust with concepts of the 'surveillance society' and a 'big brother' culture. Clearly there is the potential danger of jeopardising the staff: student relationship of trust but this should be minimised if the institutional

policies are made transparent (Park 2004) and equitable, fostering good practices and ensuring the good reputation of the HEI.

Northumbria aims to promote “good images, effective messages” with a proactive rather than reactive strategy and high profile institutional use of Turnitin. This article reports briefly on the promotional campaign, concentrating mainly on the results of a small scale project on use of Turnitin. The research team wished to include the following brief reference to the promotion in order to emphasise the holistic approach taken by the institution.

Students’ Union ‘Plagiarism trap’ information campaign

In 2006 the students’ vote for campaign of the year resulted in an invitation to the Chair of the University Academic Misconduct group to work alongside the Students’ Union. Funding was gained from the Regional Development Agency to support the work and to cover the costs of design consultant services to develop the project.

The aims and objectives of the campaign were to ‘raise awareness of Northumbria University’s approach to development of academic practice, thereby preventing misunderstanding and academic misconduct’. Objectives were set to use a variety of media to reach as a wide a student body as possible, to engage in high-profile events to communicate the range of support mechanisms available across the University and to run a series of workshops to develop skills and understanding of academic practice such as referencing, use of web searches and sources etc. The outcomes of this work included a set of materials including A5 flyers and post-its that were used in an anti-

plagiarism week in autumn term. Follow-up activity was provided through the semesters. Links to activities and the work of the Academic Misconduct group were made where possible. Copies of the five posters became collectors' items and these have been re-used by the Students' Union in subsequent years.

This study is the first of a series intending to establish the extent to which the combined activities at Northumbria have contributed to an effective message regarding academic misconduct. It focuses on use of Turnitin given that staff workshops have promoted this as a formative tool for staff to use with students to develop understanding of the expectations of the UK academic community and to develop skills in academic practice, such as writing and citation skills. The literature has indicated a potential mismatch between staff and student understandings/perceptions of plagiarism and Turnitin affords students an opportunity to identify instances of plagiarism in their own work without incurring penalties.

Methodology

A mixed methodology was employed to enable triangulation. The research team identified Turnitin users amongst the staff and their associated modules. Fifteen staff users who regularly used Turnitin were asked to contribute views of their use of the system and to allow a team member access to Turnitin to view their specific module assignments and the generated originality reports, which helped inform questions for the survey. The team targeted staff from across all Schools at Northumbria in which Turnitin was used to try to ensure fair representation. Six staff responded positively and identified modules which would be 'appropriate' for the project, characterised as

“module/s which you teach which you consider to be the best exemplar in terms of your use of Turnitin”.

Questionnaires designed by the team were mounted on the Survey monkey survey software site. Because the team had only a basic account this placed limitations on the number of questions that could be asked and on the number of respondents. The latter was of no concern because the population sample was small at this pilot stage. The former was a limitation but it did ensure that the team focussed on what they believed to be the key issues at a pilot stage, whilst allowing free text sections on the survey which could be completed by respondents to raise their own key concerns. The URL for the staff survey was emailed to staff. The email cover letter requested that they notify the students via the University’s virtual learning environment of the URL for the student version of the survey. This method ensured that students on the identified modules were targeted. The cover letter also assured potential respondents that the University ethics and data protection procedures were being followed by the team. Although only six out of fifteen targeted staff members had agreed to participate, a version of the cover letter was sent to the other nine staff also on the assumption that non-response might not necessarily indicate unwillingness to participate! Clearly the cover letter indicated the voluntary nature of the project.

Results

Responses were received from five staff and twenty-eight students.

Turnitin

For readers unfamiliar with Turnitin, a brief synopsis may help interpret the results reported here. The concept of an originality report may be unfamiliar. Turnitin

compares students' submitted textual work to its database and an originality report is generated. This shows any matching text and the source from which this is drawn. Turnitin is simply a tool to help find sources that contain similar text. It is down to the expertise of the academic to decide whether submitted work is plagiarized.. In an originality report, a percentage score is given to work submitted. This percentage represents the amount of text in the submission that matches other sources checked by Turnitin. This is not necessarily an indication of the percentage of work plagiarized. Colour coding is utilized to alert users to the percentages involved. These are as follows:

Blue	No matching text
Green	< 25% matching text
Yellow	< 50% matching text
Orange	< 75% matching text
Red	>75 % matching text

Most student submissions are likely to fall within the green category since properly quoted/cited texts and references will be identified. Academic staff may decide, therefore, to check any submissions in the yellow, orange and red categories. They can do this by opening the originality reports which list matching sources Academic staff are able to check text matches with each source throughout the work to identify what percentage of the sources has been used. It is really up to the academic or the institution to decide on a threshold (or percentage of non-original text) above which a paper may be deemed to be plagiarized. Barrett and Malcolm (2006) report that setting, e.g., a 15% threshold produced many false positives, i.e. high amounts of unoriginal text which did not, in fact, indicate plagiarism. This is to be expected, given the assertion above that most student work would fall in the green colour coded category.

Prior research involving Turnitin

Prior research studies which have made reference to Turnitin include the work of Marsh (2004) who analyses Turnitin as a form of anti-plagiarism therapy, taking an approach that addresses many of the broader historical, institutional, economic, cultural, and pedagogical factors informing debates about plagiarism and its detection. Both Marsh (2004) and Paterson (2007) express concern about the impact of Turnitin on the writing process.

Some authors have identified what they perceive as gaps in Turnitin's coverage. Graven and MacKinnon (2008) question whether it has the ability to detect a sophisticated plagiarism attempt using, for example, text replacement tools. Kaner and Fiedler (2008)'s research revealed that Turnitin sampled the engineering professional literature and databases narrowly, so that the student who chooses to plagiarize could in fact use Turnitin to determine what plagiarism would be identified by academic staff.

Other authors highlight the importance of recognising that Turnitin does not indicate whether plagiarism or cheating has occurred or not, it is merely a comparison tool. The judgement on whether academic misconduct has occurred. Learning is undermined if texts highlighted by Turnitin are automatically equated with such misconduct. (Carbone 2001; Sutherland-Smith and Carr 2005).

Several researchers have conducted studies of staff and/or student use of Turnitin. These range from small-scale studies such as those of Sutherland-Smith and Carr (2005) which involved seven members of academic staff and Dahl (2007) which

involved 24 students to large scale such as that of Green et al (2005) which involved a survey of over 700 students.

Much of the research emanates from the Antipodes, especially Australia (Savage 2004; Green et al 2005; Sutherland-Smith and Carr 2005) and New Zealand (Goddard and Rudzki 2005). Koshy's (2008) population comprises students of a Western University in the Middle East which plays host to a diverse community of 70 nationalities. Whilst Barrett and Malcolm's (2006) study is UK-based, the population studied is predominantly international students.

Savage's (2004) Australian study involved a mixture of junior and senior students as well as staff whilst Dahl's (2007) UK study focussed on postgraduate students. In contrast, another UK study by Whittle and Murdoch-Eaton (2008) concentrated its attention on first year students.

The main message that emerges from these various pieces of research is the importance of taking an holistic approach to dealing with academic misconduct and using software such as Turnitin. The need for good guidelines for staff and students, consistent handling of plagiarism procedures and adequate and accurate information about what plagiarism is, i.e. good images and effective messages. (Sutherland-Smith and Carr 2005; McGowan 2005; Mainka et al 2006; Koshy 2008). Text matching was often misinterpreted to mean plagiarism and the focus of students when submitting assignments was preventing text matching on Turnitin. These and other similar findings led to the conclusion that there has been a lack of accurate communication about plagiarism and the use of Turnitin (Koshy 2008).

Both Logan (2006) and Mainka et al (2006) report on rolling out action plans and policies to improve awareness, support and practice within their institutions. In both instances, a positive, proactive approach was taken involving alignment of academic integrity with the institutional mission, adequate student support events and materials and staff development opportunities to encourage the framing of assignments to design out plagiarism.

How Northumbria staff use Turnitin

Staff at Northumbria use Turnitin formatively and summatively, receiving support from MARCET.. Generally, tutors in this study explained the purpose of using Turnitin within a research or study skills module. Students were told of the processes involved and how to access originality reports. Student support is available 24/7 from the Library and Learning Support team. Staff checked that their students could find the submission area and could see the materials on the module site that would help them interpret the originality report. In effect the procedures are similar to those reported in Badge et al's (2007) case study in the school of Biological Sciences at the University of Leicester where students undergo training through formal lectures and a tutorial exercise to teach them about plagiarism (Willmott & Harrison 2003). It also resembles the approach reported in Barrett and Malcolm (2006)'s study where, prior to essay writing, students were given a series of lectures on finding and summarising sources, and were reminded about what constitutes plagiarism.

As one Northumbria academic said,

“In year one, semester one students have to complete an essay and often don’t realise they have copied large sections from textbooks or notes, it was anticipated that this [session] would introduce them to the facility as a guard against unintentional plagiarism.”“

Students' essays were submitted to Turnitin and the resulting reports used to give feedback on how original their words appeared to be. Northumbria academics tended to use a formative approach encouraging students to revise their assignments if the threshold of matching text was over a particular percentage (in some cases any non zero matches) and then to resubmit. Northumbria staff found that decisions on threshold could involve a ‘gut instinct’ especially in subject areas with generic terminology:

“20% and over I would check but often there would be odd words or phrases that might be quite generic Finance expressions so the reports do need to be considered carefully. I have seen matches over 30% which really do not give any significant ‘chunk’ of text that can be matched”

A threshold of 15% of matching text was used by Barrett and Malcolm (2006) who found 41% of students had submitted work identified by Turnitin as possible plagiarism but this reduced to 26% on inspection by academics. After a second submission, incidence of plagiarism dropped to 3% overall. Whilst our sample is too small to talk in percentages, Northumbria staff did comment on a reduction in incidences:

“Good students are excellent and know how to source and cite material. Poor ones reply on Wikipedia. For some there was a difference between the first submitted and second submitted pieces of work so it helped them”

Generally at Northumbria the students were expected to use Turnitin as a self-assessment resource. Some students would seek clarification from academic staff over content and staff were able to guide them on improvements

Evans’s (2006) case study found that Turnitin successfully identified examples of poor scholarship and unfair practice that would have been missed under the usual marking system but highlights the impracticality of rigorously checking every script for plagiarism. Clearly a threshold or cut-off point has to be decided beyond which originality reports are taken on trust and not subjected to further checks. Sutherland-Smith & Carr (2005)’s case study found that checking only yellow, orange and red cases was worthwhile. However, Goddard and Rudzki (2005)’s New Zealand case study participants, in discussing Turnitin colour coding, agreed one could not assume all those assignments coded blue or green were good and those with orange or red codings were bad: much was dependent on teaching modes and levels. One Northumbria academic agreed that:

“This is quite difficult to judge as you also have to determine whether that which has been flagged is actually properly cited and referenced and can therefore be ignored”

One Northumbria student commented on how they disliked the way their assignment was marked as having 9% matches, all of which were for references:

“I had only a few references so I can imagine if I did a bigger one with more references there would be a higher percentage of ‘unoriginality’. Reference sections should be submitted separately not through this system as, at a quick glance, it could look like a student has high plagiarism when in fact they don’t”

Another student commented they were uncertain about how accurate Turnitin was and they were unsure about the thresholds. If academic staff are going to have to examine submissions in depth, this could have time and workload implications. One Northumbria academic pointed out that analysis of Turnitin results could be very time consuming but:

“Better than trying to find the sources in cases of suspected plagiarism, the knowledge that I am going to check their work certainly encourages the students that I come across to identify their sources.”

Consensus was that, used in a formative way, with students being required to use Turnitin and view their originality reports themselves, Turnitin does not have to be onerous for the academic and:

“It is also more beneficial to the students as they see it as a way to improve their work rather than a stick to beat them with when they submit their work for summative assessment.”

Staff perspectives on Turnitin

Getting students to self-submit meant that Northumbria staff did not necessarily have to look at the Turnitin reports at all and might only do so when marking a script that caused them concern, in which case:

“It is then much more convenient if the script already has an originality report and I don’t have to go into the site, and load it up myself and then wait for the response.”

Generally Northumbria staff saw the use of Turnitin as of beneficial to student learning.

“Student feedback has demonstrated that it has made them more informed and less tolerant of plagiarism.”

“Many students feel they are information literate but Turnitin may show otherwise and makes them realize how important writing and referencing skills are.”

However, one respondent did indicate that they perhaps needed to give students more support and, clearly, this does have time and workload implications:

“I have changed one assignment to be able to use Turnitin but now that students are able to use it I need to develop the follow-up so that they can learn more from their experience and result of using it.”

Case studies (Sutherland-Smith & Carr 2005, Barrett and Malcolm 2006, Evans 2006) stress the need to use Turnitin in a positive, educative manner enabling students to check their own work through Turnitin before submission to staff, not to see if they will be ‘caught’. It needs to be integrated with materials/training designed to help students understand issues which, generally, is the approach taken at Northumbria. This is confirmed by one comment made by a staff respondent:

“I had very positive feedback from the students. It is seen as a useful tool not something that is trying to catch them out or trick them.”

Positive remarks from staff in Savage’s (2004) study concerned Turnitin’s effectiveness in promoting a level playing field with regard to assessment; affording students support/reassurance, giving them an incentive to improve citation, and, overall, having the potential to raise standards. These remarks were echoed by Northumbria respondents:

“It has made me more confident in the originality of the work submitted to me for assessment...and has made the students more aware of the need for honesty and originality”

Student perspectives on Turnitin

Savage (2004)'s evaluation of Turnitin trial at the university of Sydney raised issues in regard to student objections in terms of legal issues. None of the Northumbria student respondents raised any objections to use of Turnitin but several highlighted benefits they felt they had derived from its use which corroborate those of Green et al (2005):

“It leaves no room for doubt. You know what you have handed in is yours and that others will have handed in their own work as well. It semi-involves the student in the marking process, gives you a different point of view and I think you do better work”

“As an international student it was helpful to see what exactly I was expected to cite in order to get a better mark.”

Only two fifths of students in Sheridan et al's (2005) exploration of views on the use of Turnitin had gained a clearer understanding of plagiarism although they did acknowledge it had helped them to reference correctly and write assignments in their own words. Students indicated wanting more feedback from tutors on the outcomes of submitting their work to Turnitin. This was the case with some Northumbria student respondents too:

“All I remember is getting results back for the complete assignment. Results from Turnitin were not gone through with each student individually”

Barrett and Malcolm (2006) report that Turnitin reports were used to give 182 students individual feedback on how original their words appeared to be and Emerson et al (2005) suggest the use of a one-on-one tutor clinic to assist students but this has obvious implications for academic staff's workload.

Some students at Northumbria did indicate that they got more support:

“I am an information literate student and the advice and help from staff so far this year has helped me to become so. Turnitin will definitely help improve my skills as I continue to use it.”

As one member of staff commented:

“I see Turnitin as a positive experience for students as many engage with it. They now ask tutors to set it up for assignments and will change their writing as a result but perhaps I need to give more support here”

Concluding remarks

The deficit model is insulting to both students and staff since it implies that the former need to be monitored and their propensity to plagiarise needs remedial action. It also sends out a subliminal message that staff lack the capability to develop students' academic literacy skills by 'designing out' plagiarism. Turnitin is less about detecting poor academic practice and more part of a suite of services that aid student learning.

The pilot study reported in this article demonstrated points about developing practices using Turnitin. For students formative use of Turnitin was beneficial through a variety of practices and the effects of these on learning suggest further development work. Staff views also suggest that development of further policies of use and a facility to share staff practices in academic teams would be beneficial in order to develop student support.

The pilot and the literature indicate future potential research areas. Northumbria has a diverse student culture and one area for future work might be concerned with students for whom English is their second language (ESL). This could be informed by the prior work of Green et al (2005), McGowan (2005) and Koshy (2008).

There are nine schools at Northumbria and, clearly since only five staff participated in the pilot study, several were not represented. A further study could focus on use of Turnitin in different academic disciplines. It has become clear from the literature that there are issues in certain subject areas, e.g. engineering (Kaner and Fielder 2008) and in disciplines which use technical phrases, some of which are unavoidable (and appropriate) but which invariably are highlighted by Turnitin as plagiarized (Whittle and Murdock-Eston 2008). Law students would provide an interesting survey population since they may have greater awareness and perceptions of, e.g., Intellectual Property Right (IPR) which may affect their usage of Turnitin (Green et al 2005; Righton 2007)

Another potential area for investigation is to compare undergraduate and post graduate students' perceptions of the use of Turnitin. Clearly Turnitin has been utilised

with both groups although in Savage (2004)'s study senior students' attitudes were less positive than junior students' attitudes which Savage noted might forewarn of a problem in Turnitin usage in postgraduate modules, although Dahl's postgraduate students generally reacted positively.

Northumbria now has a full account for Survey monkey so future questionnaires can be more in-depth than this pilot version which was based on the free version. The methodology could be subject to criticism because academic staff were free to choose modules to be studied and could have chosen those which showed themselves and their use of Turnitin in the best light. More rigorous sampling could be used in future. One of the benefits of using submissions to Turnitin is that the research team are provided with rich empirical data on what students actually do as opposed to what students say they do, a shortcoming of self-reporting (Park 2003; Goddard and Rudzki 2005). The research team did not fully capitalise on this fact during the pilot study but hope to do so in future projects.

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