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Promoting a culture of academic awareness and honesty: developing an institutional 'good academic practice' website and understanding how students can and do make use of it

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Abstract

Despite our best efforts, plagiarism continues to be of major concern. For many, the response is to intensify disciplinary penalties and enhance the use of detection software and deterrents. Although these can help, they do not address the most common causes of plagiarism, namely poor academic practice. To address this, a different tactic is required in which educational development is promoted as the key to enhancing academic integrity.

In response to this, the UK Open University created the *Developing good academic practices* website to enable all of its learners (irrespective of prior educational experience, level and/or area of study) to better understand issues around plagiarism and become more confident and competent learners.

Using a constructivist approach, the site emphasises academic skills development rather than focusing on plagiarism, while interactive quizzes integrated throughout the site, allow learners to test their knowledge, understanding and application, in ways that best suit their needs.

This paper considers some of the key logistic and pedagogical difficulties encountered while creating a resource that could operate effectively at the institutional level, while simultaneously addressing discipline-specific needs and maintaining a sense of relevance for all its potential users.

Introduction

Anyone working within the higher education sector and who regularly reviews the educational press and online support sites, is left in no doubt that plagiarism is a major issue of concern (e.g. the frequent articles on sites such as Times Higher Education, www.timeshighereducation.co.uk/; the numerous workshops on plagiarism run by Higher Education Academy, www.heacademy.ac.uk; the many international plagiarism conferences including the biennial events by plagiarismadvice.org). Periodically, high profile cases of deliberate cheating (by both students and/or academics) hit the headlines, the outcome of which can have a significant impact on the institute's professional and academic reputation (e.g. see discussions in Sikes, 2008; Sutherland-Smith, 2010). Less likely to hit in the media headlines, but of greater on-going concern, are the numerous cases of lower level and often culturally engrained occurrences of plagiarism that are prevalent in many institutes, reported in institutional studies on students' perception of plagiarism and learning practices (e.g. see discussions in Coughlan, 2008; Elander et al, 2010). This low level form of plagiarism has been linked to changing ethical standards (i.e. what is currently perceived as acceptable practice based on the learning environment in which a student is operating), and is often blamed on ease by the internet makes material available (e.g. cutting and pasting from websites; obtaining and sharing answers in online discussion groups; purchasing commissioned work from essay sites, Park, 2003, Atkinson and Yeoh, 2008). Further blame is apportioned to the conflicting demands on student's time and increasing work-loads experienced in today's educational system (Postle, 2009). As with high profile cases, this form of low level culturally ingrained plagiarism can have damaging implications for an institute's reputation, as well as that of its academic staff and graduates.

In an attempt to address such concerns, many HE institutes have intensified the disciplinary actions and penalties applied when a student submitting plagiarised material is caught. At the same time, increasing levels of awareness of the need to check for plagiarism in assessed course work, has resulted in a rapid proliferation in the use of detection software and other forms of reactive deterrents (e.g. Atkinson and Yeoh, 2008; Sutherland-Smith, 2010). Despite these actions, or perhaps as a direct result of increased checks on the originality of assessed work, the general consensus is that plagiarism and the number of cases of serious academic misconduct within higher education, continue to rise (e.g. Park, 2003; Badge and Scott, 2008; Coughlan, 2008).

Added to these issues, the growing internationalisation and globalisation of higher education is resulting in an increasing numbers of students entering the UK education system, who may be studying with English as an additional language, and who have been immersed in culturally distinct academic experiences resulting in very different expectations of what the perceived norms are in terms of good academic practice. This in turn raises additional issues in terms of ensuring all students (and staff) share a common understanding of what represents good academic practice within the context of higher education within the UK, and what in turn constitutes plagiarism.

To help understand the root cause of plagiarism, a number of surveys have been conducted by HE institutes to elicit student perception and understanding of:

- i) what plagiarism is and in turn what academic integrity means from their personal learning context;
- ii) the type of student perceived most likely to plagiarise, and why this is the case;
- iii) the prevalence of unintentional poor academic practice through to intentional cheating across the higher education sector; and
- iv) whether different forms of poor practice, plagiarism and intentional cheating are viewed as the cultural norms amongst certain sectors, or whether they are viewed as inappropriate across the board (Bennett, 2005; Ellery, 2008; Selwyn, 2008).

Although the results from such studies vary and are often either institution or discipline specific (indicating an additional cultural nuance, in which learners need to be contextually aware of the norms within each subject-area and discipline they study; Borg, 2009), the results generally indicate that for some students in today's online learning community, the cultural norm has indeed shifted, whereby cutting and directly pasting information from online sources is seen as standard practice, with no need to acknowledge this freely accessible (and hence commonly known) source of information (Ellery, 2008; Selwyn, 2008; Colnerud and Rosander, 2009).

Although more transparent disciplinary policies and their associated penalties can help combat some of the more intentional cases of cheating by deterring students from intentionally passing off plagiarised material as their own work, these alone do not address nor stop the most common causes of plagiarism. In the vast majority of cases, plagiarism occurs as the result of poor academic practice and/or due to a lack of understanding of the literacy skills expected within a particular academic culture (Carroll, 2004). To address these issues and ensure all students have the appropriate skills and competency levels required to avoid plagiarism, a different tactic is required in which positive educational development is promoted to both develop and enhance levels of academic integrity (MacDonald and Carroll, 2006; Ellery, 2008; Sutherland-Smith, 2010).

For this to work, individual students must take personal responsibility for their learning. They must be willing to develop an appreciation and awareness of their current academic literacy skills, and to assess the appropriateness of these skills to meet the academic demands of both the discipline and the level of learning being undertaken, i.e. they must contextualise their learning skills. Offering systematic support that can help learners meet individual needs in a cost and time-effective manner in today's mass education market is not a simple task. Likewise, devising a system that will engender a learning culture in which the individual student is encouraged and feels motivated to actively engage in a self-directed iterative process, which they perceive to be personally relevant and one that enables them to both recognise and develop their competency levels to meet current learning needs, is without a doubt, challenging.

Putting plagiarism in context– assessing the situation within the UK Open University (UKOU)

As with many HE institutes (Sunderland-Smith, 2010), and in response to sector-wide concerns, the UK Open University (UKOU¹) set out to review its plagiarism policy, primarily to determine whether the extent of plagiarism identified in the conventional campus-based HE sector was being replicated at a similar level within the institute. The review also set out to ascertain whether there was firstly equitable treatment in terms of the academic and/or disciplinary actions taken against students who were found to have plagiarised, and secondly whether there was a common baseline of proactive support provided to all students to prevent plagiarism, irrespective of which of the eight faculties the student belonged to, the 13

¹ The UKOU is an online, distance learning organisation with an open entry system (i.e. no entry requirements to study at undergraduate level). The majority of its ~150 000 learners comprise of adults learners, who are typically studying part-time, cover the full range of social and economic brackets, and come with a range of previous educational experiences, ranging from none at all to having already completed higher education awards at undergraduate and/or post-graduate level.

administrative regional or national centres they resided in, and/or which one of the ~8000 Associate Lecturers was supporting them at a particular point in time in the student's academic journey. The initial outcomes of this review were then used to: i) revise the institutional plagiarism policy and procedures, creating a new system that was designed to be more transparent and easier to apply by everyone involved in the learning process; ii) instigate a new institutional wide deterrent system (using text-comparison software); and iii) develop an all-encompassing learning resource that could be used across the UKOU, to promote awareness of what was perceived as good academic practice and hence how to avoid plagiarism.

This paper reviews the last of these three outcomes, focusing on aspects concerned with the development of this institutional learning resource, and highlighting issues that have arisen since its initial release to the student body. The paper ends with a brief review of student usage in its first few months, in an attempt to provide some insight into its potential success and highlight ongoing issues associated with trying to develop a more honest and open culture of academic integrity across a dispersed institute with a very diverse student population.

Method of development: using a constructivist approach to promote good academic practice

The two main objectives of developing a new learning resource to accompany changes to the UKOU approach to plagiarism were to: i) engender a greater sense of awareness of key issues associated with academic integrity versus plagiarism; and ii) ensure all stakeholders including students, staff and external partners understood and could clearly demonstrate the differences between good and poor practice, within the context of HE learning in the UKOU. To be effective from a logistical as well as costs-basis, this resource needed to operate across the whole institute, and be seen by staff and students alike as something that was pertinent to their studies, irrespective of the level or actual subject-area being studied. Furthermore, to ensure the academic population were fully aware of issues around good academic practice and the UKOU plagiarism policy, it was important that this resource was fully integrated into standard learning resources within each course, and that individuals could see a benefit of repeatedly accessing it throughout their academic career. In accordance with the principles of motivation to learn (Merrill, 2002), the resource therefore needed to make its relevance to the individual's learning needs and expectations instantly apparent, as well as maintain user attention and a desire to use (and reuse) it from an extrinsic (need to know) as well as intrinsic (want to know) perspective. To be seen as something worthy of spending precious study time on by today's time-starved students, the resource also needed to instil confidence that by using it, the learner was actively enhancing their learning and could quickly assess progression in terms of measurable outcomes thereby gaining a form of personal assurance (Keller, 2008).

A small working group comprising of four academic staff from different faculties, plus four academic-related and four technical support staff from across the UKOU, was established to develop the learning resource and to embed some of the diverse range of pre-existing faculty-specific and generic learning materials into one easily accessible and institutionally uniform site.

In line with the most common epistemological approach used within online learning environments, it was agreed that the resource should be designed from a constructivist approach (Rovai, 2004; Wood and Thomas, 2007), in which users would be encouraged to reflect on personal experiences and place these within the context of the generic learning skills being developed. It was also agreed that the site should actively promote and develop good academic practices needed by all academics, rather than the more common approach used in similar support sites where the emphasis is on identifying plagiarism and stating why such practices are wrong (i.e. identifying negative practices). For these reasons, the learning resource site was eventually named the '*Developing good academic practice*' (DGAP) website rather than opting for a more typical name such as 'avoiding' or 'understanding plagiarism'. By emphasising positive skills development and encouraging the individual to do so within a personal context, it was hoped this would engender a more honest and open culture, in which students would be actively encouraged to recognise their individual authorship, and openly acknowledge and understand how they had used the work of others to contribute to their learning (Elander et al, 2010).

In keeping with the constructivist approach, a range of individuals (including students, teaching and research staff, course team chairs, and disciplinary office staff) were asked to describe their personal experiences of good academic practices, the plagiarism policy and associated disciplinary penalties, with these presented as illustrative audio sound-bites and case-studies. This was done to encourage users to recognise that developing good academic practice is an iterative process that occurs throughout an individual's academic career, rather than something that is learned at one point in time. It was hoped that these illustrative voices would also enhance the learner's motivation to engage more fully with this

resource by means of gaining a deeper understanding of views and expectations of what constituted good academic practice from across the UKOU.

Structure of the site

In terms of actual content, the *Developing good academic practice* (DGAP) site is divided into a series of short self-contained topics each of which take between 5 – 40 minutes to work through, and which in turn can be grouped as follows:

- (i) *enhancing theoretical understanding* – raising awareness of academic integrity and what constitutes good practice (Sections: *Introduction to the site*; *What is good academic practice?*; *Why do some students plagiarise?*);
- (ii) *developing practical skills* – promoting development of good academic literacy skills and enabling individuals to assess their levels of competency (Sections: *Writing in your own words*; *Collaboration versus collusion*; *Common knowledge*; *Referencing and quoting*; *Academic integrity quiz*)
- (iii) *raising awareness of the policy* – outlining the university plagiarism policy and explaining how the disciplinary procedures are applied (Section: *How the OU responds to plagiarism*)

At present, the majority of users access the DGAP site from the Study Skills section on ‘StudentHome’ (the main student portal within the UKOU). Work is currently underway to encourage all courses and programmes to include a direct link from the course website to the DGAP site (embedding this within the assessment resources area), and to make direct references to the site in the course study guides as well as direct student to use it at key points in the year by adding links into the online course study calendar.

One of the earliest decisions taken by the working group was to build the DGAP site around a simple framework, which offered students a choice on how to engage with it. The site is therefore structured so that students can choose to work through it in a logical, sequential manner, dip into specific topics of interest or go straight to the formative academic integrity quiz. Students are informed that by starting with the academic integrity quiz, they can test their current academic skills and knowledge of the UKOU plagiarism policy, and ascertain whether they needed to review any particular topics, or whether they already had a good awareness of the issues at hand. By offering these choices, the students can maximise their study time and focus attention on particular aspects of concern and/or interest.

Within each topic, a mixture of generic and discipline specific examples have been used to enhance awareness of how particular issues associated with academic integrity and good academic practice can vary depending on the level of study and/or the study area. This has been done to increase student awareness of different cultural expectations within the various academic disciplines (Borg, 2009), and to further emphasise that developing good academic practices is an iterative process that will evolve as the student advances through their studies.

In addition to the whole site quizzes, each topic ends with an interactive formative quiz presented at ‘introductory’ or ‘advanced’ levels; the introductory level is pitched as being suitable for anyone entering higher education level study, whereas ‘advanced level’ is more challenging, and is aimed at students who established within higher education studies. Each quiz is based on a small question bank in which questions are cycled on each attempt. This function enables students to repeat each quiz and test their understanding of the issues being assessed, rather than simply recalling the right answer or order of answers to a specific question on a repeat attempt. As with the topic quizzes, the final academic integrity quiz, is presented at introductory and advanced levels, in which the questions change on each attempt.

All of the quizzes are formative, with the feedback given as a final numerical mark which is complemented by a brief summary statement outlining the level of achievement (i.e. competency) demonstrated at that particular point in time. In line with Vygotskyian constructivist principles of learning progression (Vygotsky, 1974), this reactive support is complemented by proactive guidance, highlighting any particular issues the student needs to consider to ensure they can meet expected competency levels. This additional ‘feed forward’ advice has been incorporated as a means of promoting reflective development and encouraging the individual student to feel confident in and have an opportunity to gain an explicit measure of their academic literacy skills application (MacDonald and Carroll, 2006).

Initial findings

The DGAP site was initially made available to all UKOU students and staff at the beginning of June 2009. Its launch was intentionally low-key, with information about how to find the site and its intended purpose, advertised through a series of news items posted on StudentHome, equivalent staff portals, and in student and staff online newsletters. Furthermore, to help raise awareness of the change in university

policy and existence of this learning resource site amongst academic staff, an 'Academic Integrity' conference was held in June 2009, at which the site was demonstrated. In addition to these targeted promotional activities, all faculties and their associate course teams were encouraged to integrate this resource into course-specific support materials by including links on websites, referring to the site within course-specific study guides, explaining how and when students could make best use of the resource to enhance their learning, and including recommended usage periods on the course calendars. (Although some of these actions were put in place by some course teams, this is very much an ongoing process across the UKOU.)

During its first eight months (01-Jun-2009 to 31-Jan-2010), the DGAP site had just over 51 500 hits from ~11 000 unique student users. Given the total UKOU student population of ~150 000, this was disappointing, but not entirely unexpected due to the low-key launch during this initial testing period, designed to allow checks to be made on the clarity of content and different methods of delivery of information (e.g. text, audio, interactive activity etc.).

To date, two peak periods of usage have occurred in July 2009 (coinciding with the news items on the student online newsletter and website), and January 2010 (just prior to the main start dates for UKOU courses, commencing in February each year), with a third slightly smaller peak occurring in October-November 2009 (coinciding with the main report-based examination period [early October] and two autumn course start dates [October and November]). On this basis, the next expected peak of usage is June (associated with the summer examination period).

The most common duration per visit has remained at the rather low level of < 5 minutes (~69-75% of student users), with an equally steady number visiting the site for 5 – 30 minutes (~19-24%). More interestingly, the number of unique student users accessing the site for >30 minutes during a single visit is beginning to show seasonal fluctuations, varying from ~4% to 10%, with peak extended usage times occurring in September and October 2009 (potentially linked to the main examination period and/or autumn course start dates), and January 2010 (potentially linked to the February course start date).

Visits of <5 minutes tend to comprise of visits to single topics, whereas slightly longer visits often consist of students reviewing several topics and/or repeating quizzes. Only a small percentage of students appear to be working through each of the topics in order either during a single or series of visits.

Website order	Most popular sections (hit count from highest to lowest)	Hits for associated self-assessment quiz (as % of hits for main section)
2	(1) What is good academic practice	29
6	(2) Referencing	17
5	(3) Common knowledge	21
1	(4) Introduction	N/A
4	(5) Collaboration versus collusion	27
3	(6) Writing in your own words	51
8	(7) How the OU responds to plagiarism	22
10	(8) Academic Integrity quiz	357*
7	(9) Why do students plagiarise	30
9	(10) Other resources	N/A

Table 1: Comparison of the order of popularity of sections within the DGAP site, and relative usage of associated section quizzes (based on the percentage of hits from 01-Jun-09 to 31-Jan-10). *The value of 357% for the academic integrity quiz is a result of student users repeating these quizzes within single visits to this section.

In terms of total numbers of hits, *What is good academic practice?* is the most frequently visited section attracting x2.5 - 3 as many hits as the next two most frequented sections on *Referencing* and *Common knowledge*, and x5 as many hits as the *Introduction* section to the DGAP site. In contrast, the least frequented section is *Other resources*, which so far has attracted half the number of hits as the next least frequented section (*Why do students plagiarise*) and x22 fewer hits than the most popular section (*What is good academic practice?*). Usage data indicates that unique users are typically visiting the site more than once, and although no definitive patterns have yet been identified in terms of the precise type of learner that is repeatedly using the site, initial results indicate that level 1 students and students studying

with English as an additional language that new to post-graduate study, are more likely to revisit the site, than other students. In terms of disciplines, psychology students at present tend to use the site more often than other disciplines (this may be an artefact of current initiatives within this programme, or due to the interdisciplinary nature of the programme, spanning four different core disciplines). In terms of gender, female students currently appear to be up to three times more likely to revisit the site than male students.

Focusing on the self-assessment quizzes, students appear to be more likely to attempt the overarching *Academic Integrity quiz* (providing a quick means by which to assess current levels of understanding and application of the issues developed across the entire site) than they are to attempt any of the topic-specific quizzes. So far, the topic-specific quizzes have been accessed at the equivalent rate of just over once for every four times the related topic is accessed (Table 1), the one exception being the *Writing in your own words* quiz, which has been accessed at the equivalent rate of once in every two hits. (This may be an artefact of the structure of this topic, in which the core learning activity is accessed via a hyperlink to a stand-alone resource rather than a series of linked pages within the DGAP site as in the other sections. As such, with only one page to read in the DGAP site, students may be clicking through to and attempting the *Writing in your own words* quiz rather than following the hyperlink to the main activity.)

Closer examination of student engagement with the academic integrity and section-specific quizzes is beginning to reveal some interesting practices. In a number of cases, students are repeating specific questions, which they have either answered incorrectly or taken more than one attempt to complete. In the majority of cases, these students are showing immediate progression in that they are correctly answering the repeat question (which has been randomly selected from the question bank) more quickly than their first attempt. There is also clear evidence that some students are repeatedly working through specific quizzes in an attempt to work through all of the different variations of questions within the associated question bank, whilst others are repeating specific questions and working through the correct and incorrect answers, as a means of accessing all of the feedback comments.

Discussion

There is still much to do on this site in terms of interpreting findings and embedding the resource more effectively within academic culture at the UKOU. This discussion section therefore provides an overview of some initial logistic and pedagogical difficulties that have been encountered, in terms of the conflicts that have arisen by creating a resource that can operate from a broad generic stance (at the institutional level), while simultaneously attempting to address smaller-scale discipline-specific needs and expectations from both the student and teaching staff perspectives.

Mode of engagement

When designed, it was expected that students would automatically access the *Introduction* section. This provides a brief overview of the purpose of the site, and suggests different ways in which it can be used to best suit individual learning needs. However, usage statistics indicate that only a small percentage of unique student users who have visited the DGAP site, have actively viewed this section.

Given that students are returning to use the site and are already doing so in variety of ways, it could be inferred that this indicates the site is self-explanatory and does not require an introduction. However, as some students (e.g. those new to HE study and/or study with the UKOU) may benefit from direction on how best to incorporate this resource into their learning, and how to carry out self-reflective assessment, it may be advantageous to move this advice to a higher level within the DGAP site, such that all students view this information whenever they enter the site.

Usage statistics also indicate that students are preferentially accessing specific topics, rather than working through topics in order. The drop in hit rate for topics presented lower down on the first page may therefore reflect a lack of awareness of how these relate to their learning, rather than the due to a decline in student motivation as they work through the site. As such, if more students are to be encouraged to access the less frequently visited topics (e.g. overview of the UKOU plagiarism policy), these need to be immediately apparent to the user, in terms of how they relate to their learning. Alternatively, this information needs to be embedded in the other topics, and/or cross-links added into each topic.

Timing of engagement

Based on peaks in usage, students are primarily using the DGAP site immediately prior to commencing a course, and leading up to the final report-based examination period. Both of these timings are appropriate in terms of informing learning and building individual confidence in their academic integrity skills, however if students are to be encouraged to use the site more frequently (e.g. when constructing other pieces of assessment or when working collaboratively with peers) then clear direction is needed from the course teams and/or tutors in the form of reminders to access relevant sections of the DGAP site or by

embedding links in the online study calendar. Likewise, the proportion of students using the DGAP site at the start of a course and prior to the final examination period could be increased by including references to the site in the study guide. This could be achieved with minimal to no impact on currently scheduled study time, allowing students to feel more confident in their academic integrity skills without distracting from their main course-specific work (Ellery, 2008).

Acknowledging different levels of learning

One of the biggest pedagogical drawbacks of many resources designed to help students avoid plagiarism, is that they are often constructed from a single perspective, whereby all students irrespective of current level of learning or educational experience, are expected to develop and accrue the same awareness of plagiarism (e.g. see discussions in Postle, 2009; Elander et al, 2010). Although this may not be an issue in some scenarios, when reviewing discipline-specific issues associated with aspects such as writing in the author's own words, common knowledge and/or referencing, the level of sophistication expected from a student completing their undergraduate degree or commencing postgraduate study is significantly different from someone commencing HE level study for the first time. Sites that by interference, are based around a single competency level either have to be directed at a specific cohort of students (and hence cannot be rolled out at the institutional level), or have to decide which level to aim the advice at, thereby excluding some students by presenting material that is either too demanding, or develops skills at too low a level. Such mismatching will impact negatively on the perceived and actual relevance of this resource, decrease the motivation to engage with it and impact on student's confidence in terms of their abilities to assess whether their current skills actually match those expected within their current studies.

Although the two tiered system of introductory and advanced level quizzes used in the DGAP site only goes part of the way to address this issue, it does at least acknowledge that academic integrity is a continuum, and raises student awareness of the need to review and enhance their skills as they progress through their studies.

Addressing discipline specific needs while delivering the institutional message on good practice

While developing the site, it quickly became apparent that the range of discipline-specific practices used within academic writing was more diverse than initially perceived. Trying to cover all these variances was never an option as the DGAP site needed to retain a sense of coherence from the institutional perspective to allow students to compare their current academic skills against those expected at HE level within the UKOU. In addition, the site also needed to present a single source of support and guidance for continuing students who had not yet decided on the precise academic direction of study and/or were studying across the disciplines or on interdisciplinary programmes. One of the key advantages therefore of developing an all-encompassing site such as DGAP rather than a series of subject (and level) specific resources, is that it allows the student to become immersed within the generic institutional approach to academic integrity, and to use this to develop a personal academic framework upon which subject and level specific practices can be built.

Exposing students to a range of generic and discipline examples throughout the site also addresses one of the common pitfalls of other similar sites, which tend to use generic examples only (which many students have difficulty internalising in the context of their own learning experiences), or use examples from a specific single subject area (thereby excluding students from other subjects, who then view this as irrelevant to their study area). It is hoped that the multi-voiced approach used in the DGAP site will better aid students to sense a relevance and internalise the different scenarios within the context of their own learning, and so become more aware of the cultural diversity within the academic community.

Defining Common knowledge

Students have great difficulty deciding what type of information represents common knowledge, as opposed to what needs to be referenced (Borg, 2009). It was therefore no surprise that the most challenging topic to address within the DGAP site was the section on *Common Knowledge*. Although eventual agreement was reached on what common knowledge represented, defining this so that it would be apparent and pertinent to all students irrespective of their level and/or area of study, proved to be contentious. This resulted in the development of a general definition page, followed by a series of faculty to discipline-specific pages. The approaches used by each discipline vary from a theoretical discourse, a series of worked examples, to interactive questions to allow the student to test their understanding of common knowledge.

Rather than looking at their faculty specific sections only, many students are opting to work through all of the examples to gain a wider appreciation of what represents common knowledge. Although initial responses to the discursive versus applied approaches are mixed, the majority appear to prefer to test their understanding of faculty/discipline specific examples through the inclusion of interactive questions.

Role of the quizzes in supporting learning

Usage statistics indicate all of the topic-specific quizzes are being used at a similar relative rate, with introductory level quizzes typically accessed x1.5 - 2 more often than the advanced versions. Whether this reflects the academic experiences of students accessing the DGAP site (i.e. academic less experienced or less confident students), or is the result of a specific cohort of students choosing to complete the introductory quiz (to boost confidence and/or ascertain their level current level of competency) before testing themselves of the advanced version, is not yet clear. It is likely however to be a combination of both factors.

What is however apparent is that students are preferentially opting to complete the *Academic Integrity quiz* (at both levels) at a higher rate than any of the topic-specific quizzes. The reasons behind this are likely to be varied, but may be an indication that students are using this as a quick check as to whether they need to engage with the DGAP site in its entirety or in part to resolve any gaps or misconceptions in their current academic integrity knowledge base and so maximising study time management. By using the DGAP site in this manner, students can reassure themselves that they understand the different issues associated with good academic practice and are able to apply this effectively, thereby becoming more confident in their own abilities. Given how these quizzes are being used, it is paramount that the feedback and feed forward advice provide is to each student, is as targeted as possible, and can be used by the individual not only to reflect on their learning progression but to also identify any areas in need of further development.

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