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Addressing plagiarism in online programmes at a health sciences university: a case study

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Plagiarism continues to be a concern for all educational institutions. To build a solid foundation for high academic standards and best practices at a graduate university, aspects of plagiarism were reviewed to develop better management processes for reducing plagiarism. Specifically, the prevalence of plagiarism and software programmes for detecting plagiarism was investigated. From that information, best practices for responding to plagiarism were developed and a process to enhance academic integrity was instituted. The results were impressive, the incidence of plagiarism offences reduced by half in three years, and by 75% among the English as a second-language student population.

Keywords: plagiarism; academic integrity; higher education

Introduction

While faculty assume students in advanced degree programmes are aware of the requirements of academic scholarship, the empirical and anecdotal evidence suggest this assumption is false. Reducing academic integrity offences, specifically plagiarism, requires a collaborative effort between faculty, programme administrators and academic support services, such writing centres. In the approach detailed here, plagiarism offences were reduced by nearly half over three years through the concerted efforts of a multidisciplinary team who came to consensus on accepted measures of misuse of sources/plagiarism, implemented a remediation plan for offenders and moved to expel students who were chronic offenders. Our main objective was to develop recommended processes and procedures to better manage plagiarism and secure academic integrity at our university.

Prevalence of plagiarism

Plagiarism at academic institutions is an ongoing problem. Academic dishonesty by students has been recorded in the literature for over 60 years, with prevalence ranging from 23 to 25% in the 1940s, 59% in the 1960s and 60–76% in the 1990s (Bennett 2005; Chao, Wilhelm, and Neureuther 2009). Between 63 and 87% of students in secondary schools admit to plagiarism (Park 2004). In a qualitative study of 4285 college students, McCabe, Trevino and Butterfield (2001) found 75%

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admitted to some form of plagiarism. More recently, Owunwanne, Rustagi and Dada (2010) surveyed 5331 students at 32 graduate schools in the United States and found 47–56% self-reported cheating and plagiarising. In recent years, opportunities to plagiarise have increased because of readily available information on the Internet.

Causes and consequences

Students plagiarise for numerous reasons. For instance, some students do not understand what constitutes plagiarism. Others believe everything on the Internet is in the public domain and can be used without attribution. Common reasons for plagiarism include time pressure, poor organisation, inadequate writing skills, linguistic challenges, and lack of interest in learning and critical thinking. For some students, different cultural beliefs and value systems contribute to plagiarism, while others think that plagiarism is not harmful and no one will be caught. Sometimes, students plagiarise to maintain good grades to meet requirements of scholarships. Finally, some consider plagiarism to be easy to do (Evans 2006; Evering and Moorman 2012; Faucher and Caves 2009).

University faculty members struggle with identifying and combating plagiarism (Chao, Wilhelm, and Neureuther 2009). Like students, faculty may not know what constitutes plagiarism or how to detect it. Even when they do know, they may not have access to detection tools or may have time constraints from heavy workloads or lack of administrative support. Some faculty may hesitate to confront students for fear of reprisal or litigation. Further, larger class sizes, bullet-point lecture notes, decreased time from assignment to submission, and differing faculty expectations for reading and synthesising material may create an environment conducive to plagiarism (Bennett 2005).

Plagiarism can affect the reputation of a programme of study, while also burdening a university because of the time and resources required to assess, evaluate and manage incidents (Lorenzetti 2010). Failing to address plagiarism ultimately undermines academic rigour and blunts the use of higher order skills:

> The habitual plagiarist does not acquire the academic skills of analysis and evaluation, and will not learn how to synthesis ideas or engage in rational argument. Instead the person simply replicates the words or ideas of others without adding anything that is new. (Bennett 2005, 137)

Initiatives to tighten academic standards have the potential to create tension within the university to the extent some view students as customers. From a student's perspective, the reputation of a programme is important, since it impacts the student's ability to market their degree credentials. On the other hand, the potential for students to suffer academic discipline or potential expulsion from a degree programme can decrease tuition revenue. However, if a programme delivers a quality education while maintaining academic integrity, high calibre students will aspire to come to the programme.

Detecting and managing plagiarism

Multiple software programmes exist to detect plagiarism. Turnitin is one of the more accurate tools for detecting plagiarism based on 'its higher successful detection rate

and the lower false-detection rate' (Hill and Page 2009, 177). When using this software, written assignments are submitted to Turnitin and compared to millions of archived papers, articles, web pages, PDFs and online publications. Turnitin generates an originality report that identifies the percentage of similar text strings compared to documents in its database (iParadigms 2013). Identical content is highlighted, underlined, colour-coded and matched to the original source, and similar or matching text is expressed as a percentage; however, careful analysis is needed to make a valid assessment. Bretag and Mahmud (2009) suggest similarity as high as 30–40% may not indicate actual plagiarism, and an overall text-match of 10% or less in each identified section (Internet sources, publications and student papers) is most likely not plagiarism.

When evaluating suspected plagiarism, Warn (2006) suggests the text be evaluated based on 'total percentage of material copied, number of separate word strings copied verbatim, and longest continuous portion of copied text' (197). For instance, the similarity index results should be considered quantitatively and qualitatively, as well as objectively and subjectively. Therefore, clear and consistent procedures are needed to evaluate student work against a Turnitin report or any other software-generated report.

Warn (2006) recognised the need to do more than just detect and manage plagiarism but to 'foster the capacity of academic staff to provide an attractive educational experience in which plagiarism is of little appeal and offers little benefit' (207). Because of a growing interest in a holistic approach to student scholarship, many resources are now available to improve scholarship. For instance, writing centres, student training, faculty professional development, honour codes, library resources, professional organisations, peer-reviewed journals and web sites can be used to create a culture of integrity in programmes and across a university.

To successfully manage plagiarism, a well-structured and documented process should be instituted that categorises the degree of plagiarism and specifies remediation and penalties. Further, each case of plagiarism should be individually evaluated, considering such factors as the intent of students to plagiarise or use content not written by them, the extent, magnitude and degree of plagiarism, and the possible penalties for plagiarism. Important in this evaluation is whether a case is a first suspected offence or a repeat offence on the part of a student. Regardless of the type of procedures instituted for managing plagiarism, they should be transparent, fair and consistent.

Process

The authors' university is located in the United States on two campuses in Arizona and Missouri (over 2000 km apart). The university offers only graduate degrees in the health sciences. This university is comprised of two medical schools, two dental schools, an online college of graduate health studies offering master degrees in public health, health care administration and kinesiology, and doctorate degrees in healthcare administration, health education and health sciences, and a school of health sciences offering online and campus-based master and doctorate programmes in physician assistant studies, physical therapy, occupational therapy, athletic training and audiology. Enrolment is approximately 3200 students from 35 countries. Given the diversity of the university, three directors of online programmes on one campus, with interests in strengthening academic standards, established an ad hoc group to

address academic integrity and investigate equitable and consistent procedures to achieve this goal. The group focused on the importance of developing, promoting and mentoring online students in scholarship principles. Over 4 years, the group has grown to 15 faculty members, representing three schools, nine online post-professional and campus-based entry-level programmes, and the University Writing Centre (UWC).

The first step in developing a process for managing plagiarism was a review of the literature and an assessment of available detection software. Early group discussions focused on defining plagiarism, understanding the needs and expectations of various programmes, and debating the role of culture and language in plagiarism committed by students who are non-native English speakers.

The second step was to determine the threshold for Turnitin scores that would trigger an official offence. A 40% similarity was originally chosen as the threshold that would trigger the collectively agreed upon process of documenting offences and requiring remediation. The second step also required the group to establish fair and appropriate sanctions. After much discussion, a 'three strikes' rule was agreed upon. Students who failed to complete the remedial tutorial would receive a grade of zero on an assignment, the maximum penalty for a first offence. The maximum penalty for a second offence was a failing grade in the course. The maximum penalty for a third offence was expulsion. This three strikes rule and all the ramifications and situations associated with it have continued to be debated, but because each programme has flexibility in determining individual penalties for second and third offences, the rule remains in effect. This flexibility was particularly important in the absence of a formal institutional policy; some faculty and chairs were concerned recommendations to expel a student would be overruled.

The third step in the process was the creation of a remediation tutorial designed by the UWC. The tutorial, facilitated one-on-one by the UWC director, was conducted over 10 days. The tutorial content focussed on skill building exercises in paraphrasing, citing, quoting, referencing and the applying of these skills to revising the class assignment. The text required for the tutorial was the current *Publication Manual of the American Psychological Association*, a comprehensive set of style guidelines and standards for social scientists that is widely used in American colleges and universities.

Implementation

The process was piloted in one programme late in the 2009–2010 academic year. We anticipated no more than 10 students would be required to complete the tutorial, but the total was 20 students. The process began after a Turnitin report of over 40% was reviewed and a programme chair declared the assignments to be a breach of academic integrity. Official notification of an offence began with a standardised email from a programme chair to a student detailing the nature of the plagiarism, the need to participate in the tutorial and the opportunity to resubmit the assignment with a 20% grade reduction. If a student chose not to complete the tutorial, the assignment grade would be zero. The student was directed to contact the UWC and request the tutorial materials (Figure 1).

The first step in the tutorial was to contact the UWC director by phone to confirm that a student owned a copy of the *Publication Manual of the American Psychological Association* and to ask any questions before beginning the work.
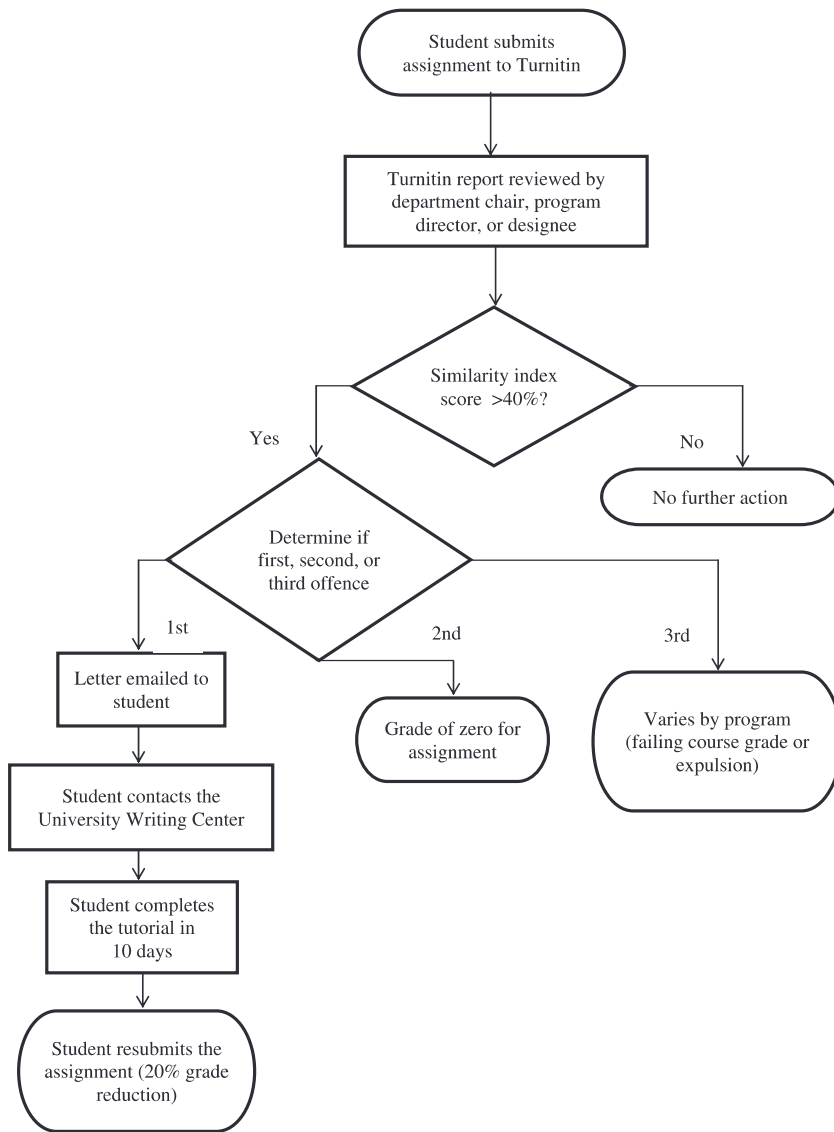
Figure 1.   Academic integrity process.

This conversation diffused student emotions and reinforced that the tutorial was a learning rather than punitive exercise. The second step required reading relevant chapters in the *Publication Manual of the American Psychological Association* and completing, in sequence, a paraphrasing exercise, a reference exercise and a one-page article review requiring paraphrasing, citing, quoting and referencing. The exercises went through review iterations with the UWC director until each was found acceptable. Once the skill-building exercises were completed, a student revised the class assignment, which was checked against the Turnitin report and approved by the UWC director, prior to submission to an instructor.

During the first year of implementation, the wording in the standard email to the student was changed. Consistent with the Council of Writing Program Administrators (2003), the group reframed first offences as a *misuse of sources*. The word *plagiarism* evoked strong emotions and we found some student reactions to the email extreme. Students perceived the email as a direct assault on their personal integrity; others were fearful the offence would follow them on transcripts. Many students spent more time fearful or angry rather than improving paraphrasing, citing, quoting and referencing skills. Because the goal was to facilitate academic success, the wording in the initial email to a student was changed from *this is considered plagiarism* to a first academic integrity offence as *a misuse of sources resulting from a lack of familiarity with the expectations of scholarly writing and inexperience using formal style guidelines. Subsequent serious violations will not be attributed to ignorance or naiveté and will be construed as plagiarism.* After students completed the tutorial, they could not claim lack of knowledge or skills if there was a subsequent offence.

Implementation was extended to other programmes during academic year 2010–2011 and systematic documentation of offences and student tracking began. In this second year, the tutorial was required of 137 students from seven programmes. In the third year of the process, the tutorial was required of 148 students.

In academic year 2012–2013, the fourth year of the process, the group expanded to include the online programme chairs from the university's other campus, making representation more inclusive. These other programmes had used a 20% similarity as the threshold score for Turnitin reports; the group chose to adopt the 20% threshold across most programmes. The group anticipated this lower threshold would increase the number of students required to take the tutorial. However, during academic year 2012–2013, the number of students required to take the tutorial was 118, and in 2013–2014, the fifth academic year, fewer than 100 students were required to take the tutorial (Table 1).

The number of English as a second-language (ESL) students required to take the tutorial in the 2011–2012 academic year was 65; in 2012–2013, the number was 39, and in the 2013–2014 academic year, the number of ESL students required to take the tutorial fell to 16, mirroring the same trend in the number of academic integrity offences.

During the first two years of the programme, the UWC was able to absorb the work without additional resources; however, by Year 3, when 148 students were required to take the tutorial, and more instructors began requiring entire classes to submit draft assignments for review, the need for additional staff resources became acute. In academic year 2012, the university funded a second full-time position for the UWC, bringing the staff to two full-time and five part-time adjunct faculty.

Table 1. Misuse of sources tutorial participation.

	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014
Student totals	20	137	148	118	77
ESL students	0	55	65	39	16
Expulsions	0	1	0	1	0
Failed course	0	3	4	1	1
Withdrew from Univ.	0	3	3	1	2

Note: ESL – English as a second language.

Discussion

Overall, the prevalence of plagiarism in online programmes was reduced by nearly 50% in 3 years, and among ESL students was reduced by 75%. These percentages suggest a shift towards improved academic integrity and a notable level of success for the group. These results are the opposite of what we anticipated with a lower threshold Turnitin score. We believe several factors contributed to the reduction in the overall instance of plagiarism.

According to Turnitin (2014), there is generally an increase in student work identified as plagiarised in a second year of using the software, as more emphasis tends to be placed on identifying offences. After the second year, instances of plagiarism decrease as efforts and enforcement become standard. This is consistent with what we found. Further, programmes across the university were using different detection software. In 2011, our group successfully petitioned the Vice President of Academic Affairs to adopt Turnitin as a university standard. In addition, the online programme chairs required faculty to run all major class assignments through Turnitin, so efforts were consistent across all programmes.

Another university policy change that we believe positively affected results was that the Test of English as a Foreign Language® (TOEFL) scores for admission were raised, and students who were non-native English speakers had more difficulty being admitted to the university. The academic integrity offences for non-native English speakers dropped by 75%, suggesting that the combination of the tutorial and more rigorous admissions standards worked powerfully in our favour. The effort to raise the TOEFL score for admission was spearheaded by one programme director in our group, whose programme is designed as remediation for professionals trained outside the United States who wish to take a US certification examination for national licensure.

We believe the reduction in the number of offences is also attributable to a move by faculty in several online courses, who now require drafts of major written assignments to be sent to the UWC prior to submission to an instructor for a grade. The online UWC staff reviews student submissions for citing, quoting and referencing, provides examples of correct formats, and sends PDF handouts on APA guidelines and expectations of graduate scholarship.

The process to manage plagiarism had other outcomes as well. Two students, who continued to blatantly plagiarise, were recommended for expulsion. Both had a chance to appeal. One student did, won the appeal, but still withdrew from the university. Nine students failed courses because of second offences. Six students withdrew from the university after a first offence, realising the demands and expectations of online graduate work were too great. While failing or removing students was never the desired outcome, we believe these actions were in the best interests of the university, the programmes and the students involved.

There were several challenges we encountered during the process of creating protocols to manage plagiarism and improve academic integrity. We encountered varying degrees of resistance to change, received inconsistent support and mixed signals from administration, had faculty fearful of student reprisal or litigation, and encountered diverse beliefs about the prevalence, intent and definition of plagiarism. Added to these challenges, we experienced varying degrees of commitment to the development of a university-wide policy on academic integrity from university administration.

Grassroots leadership theory

As our group worked to implement change at the university level, the processes and procedures undertaken incorporated the grassroots leadership model which has been employed in higher education for many years in educational reform, curriculum development and revision, and in university policy promotion and application (May, Susskind, and Shapiro 2013). Grassroots leadership has been defined by Wittig (1996) as a form of leadership that emerges from the bottom-up, among those without formal authority, and results in day-to-day small organisational change. This form of leadership is critical to organisational change as it promotes innovation, long-term changes and sustainability.

Often grassroots leadership evolves in higher education as the typical top-down model of leadership can stifle and delay innovation and policy change. Lester and Kezar found in their case study research that the current structure of higher education promotes grassroots leadership:

> With administrative decision-making prevailing across college campus, faculty have less power, authority, and autonomy in institutional matters, using more localized forms of power to exert influence would appear to be the best course of action for faculty to create change. (Lester and Kezer 2012, 121)

May, Susskind, and Shapiro (2013) found that grassroots leadership was influenced by university culture and the level of support provided from administration. The university where we worked had a strong faculty culture that was moderately autonomous; this allowed us to form a group and discuss and explore options for policy change. Though the process was not hindered by administration, nor was support provided.

Higher education faculty have always been involved in informal leadership roles at universities within their roles and responsibilities of advancing knowledge, designing and delivering innovative curriculum, and proactively addressing university policy through faculty senates and leadership committees (Kezar and Lester 2009). Therefore, grassroots leadership is not uncommon in higher education and can be an effective method to influence and implement policy change.

Kezar, Bertram Gallant, and Lester (2011) have identified tactics that faculty use to impose grassroots leadership:

> Organizing extra-curricular intellectual opportunities; creating professional development; leveraging curricula and using classrooms as forums; working with and mentoring students; hiring like-minded social activists; garnering resources and support; using data to tell a story; joining in – utilizing existing networks; and partnering with key external stakeholders (147).

Our group used many of the tactics noted in the literature. The group was able to build enthusiasm by promoting intellectual opportunities for faculty, through performing a literature review and encouraging active discussion of academic integrity standards throughout the country, and sharing best practice strategies to deal with plagiarism. We presented on the topic of academic integrity at three national conferences which promoted professional development. The UWC provided data that had been collected as part of their internal quality assurance processes, identifying the significance of plagiarism at our university. The group continued to grow from a membership of 3 to 15 through gaining the support of like-minded faculty who believed that academic integrity was important to programme and university

credibility, reputation, and ultimate university success and sustainability. We found the use of grassroots leadership to be an effective model to initiate a proposal for process and policy change.

Next steps

Our current goals are to expand the process to manage plagiarism in all schools and programmes in the university, encourage adoption of a university-wide policy, and have formal representation on the university appeals committee. We also see areas for improvement in the existing plagiarism process, including a separate tutorial for students who commit self-plagiarism.

The group would like to leverage its success with plagiarism into other areas of academic integrity. To this end, we want to use the same group process to develop practices to address cheating and falsification of data, which unlike plagiarism are seldom unintentional. In addition, the group would like to encourage a culture of academic integrity based on the six principles promulgated by the International Center for Academic Integrity (2013): honesty, trust, fairness, respect, responsibility and courage. Our group will propose a university-wide assessment of academic integrity to focus on areas that need improvement and to strengthen the culture of scholarship.

Conclusion

This paper presented the progression and outcomes of a grassroots group effort to manage and reduce the incidence of plagiarism in online programmes at a health science graduate university. All of the efforts of a small group over five years occurred in the absence of a university-wide policy on academic integrity. Currently, the process to manage plagiarism described here extends to all but one online programme, has garnered sufficient faculty buy-in, and with the tacit approval of deans has built enough institutional momentum that we hope it will become a standard procedure, and the 'three strikes' rule will become a university-wide policy supported by all stakeholders.

This paper provided an example of how programme chairs and faculty of online programmes and academic support services gained momentum through grassroots leadership, and collaborated to reduce the incidence of plagiarism through the use of detection software and skill building through a facilitated tutorial. These steps can be easily replicated in most college or university programmes and, we would assume, result in similar outcomes to those who choose to follow this simple, collaborative process.

Disclosure statement
No potential conflict of interest was reported by the authors.

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