



A multi-faculty exploration of academic dishonesty

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Abstract

Background: Academic dishonesty by students, in a learning context, is known to occur, but remains a complex issue. What constitutes academic “cheating” may vary between institutions, cultures and attitudes. What is meant by dishonesty in academic contexts is also unclear. It may be related to factors such as advances in learning information technology, a greater movement towards coursework assessment, the relevance of programmes to future career aspirations, and more external factors such as culture, traditions and gender.

Method: We surveyed students from six different programmes at a multi-faculty university in the UK ($n = 1162$ students), using a previously validated, self-completion questionnaire. Results were subject to descriptive and comparative analysis. Students studying pharmacy, humanities, business, biomedical science, physiotherapy and education were sampled.

Results: The prevalence of admitted dishonest behaviours varied according to degree programme (ANOVA, $p < 0.0001$) and gender (t -test, $p < 0.001$). There was also variation in what is perceived as dishonest behaviour, with students being ambivalent about some behaviours (e.g. “cut and paste” from internet sources).

Conclusion: The extent of dishonest behaviour in this sample varied between the different faculties. There was also considerable variation between the types of dishonest behaviour exhibited by students. There is a clear need to further examine the causes and learning habits associated with cheating behaviour in higher education.

Keywords: Dishonesty, academic fraud, learning behaviour, biomedical science

Introduction

It is easy for the establishment to condemn instances of academic dishonesty. In an environment with an increasingly complex set of relationships between student behaviour, learning context and modern attitudes to higher education, we need to more fully understand motivations that may lie behind dishonest academic behaviour. However, a major problem in assessing academic dishonesty is the lack of a clear definition of cheating. What constitutes “cheating” to one person may be an acceptable form of behaviour to another. Variation in results may be due to different qualities of work being prepared according to differing standards. It is clear that there are no confident assessments of the incidence of academic dishonesty

because of the lack of suitable definitions and measurement techniques (Newstead, Franklyn-Stokes, & Armstead 1996).

Differences may arise between what a student perceives as cheating and what an academic perceives as cheating. The experiential distance between faculty and students will contribute to differing notions and norms of behaviour (Stern & Havlieck 1986). Within academic institutions, ideas about the seriousness of academic dishonesty also differ. Aggarwal et al. (2002) have shown that academic staff at two UK schools of pharmacy have very different opinions on the seriousness of dishonest behaviours when compared with that of their undergraduate students. The student body may consider most types of cheating behaviour

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as being equivalent, posing a risk that the most serious offences may become readily incorporated into student culture, as do the less serious ones.

The prevalence of cheating remains unknown: as Leming remarks, “nearly everyone cheats sometime (depending on the situation)” (Leming 1978). Studies in North America have repeatedly shown that the majority of university students indulge in some form of dishonest behaviour during their undergraduate years, and it is probable that the UK picture is similar (Newstead *et al.* 1996). However, Paldy (1996) contrasts this view (without substantiation), arguing that while some students succumb to occasional dishonest acts, most do not cheat regularly.

Neutralisation is a concern when considering this subject. When students plagiarise, collude or commit other forms of cheating in their studies, and know it to be wrong, this is a problem (Haines, Diekhoff, & Labett 1986). The problem worsens when students neutralise this behaviour, and incorporate cheating into “normal” student culture. Rennie & Crosby (2002) suggest that cheating can become the norm when it becomes “something that everyone else does”. Academic dishonesty has also been presented as a fault of the educational system within which students find themselves. Poltorak (1995) suggests that students feel it is justifiable to cheat on courses that they perceive to be of little use either intellectually or in terms of preparing them for a career.

What are the reasons behind dishonest behaviours and why are they on the increase? For some people, cheating may become a habitual practice. A good predictor of whether a student was likely to cheat in medical school was whether they had cheated before, although other variables like environmental factors also play a role. Students entering an institute where academic dishonesty is not regarded as serious may fall into this category, where the idea of cheating becomes personally justified and therefore part of student culture. This poses the question—how effective are academics in communicating unacceptable academic behaviours to students? Support for this idea is provided by Stern & Havlieck (1986) who showed a negative correlation between student definitions of cheating behaviours and the percentage of students who admitted to this behaviour ($r = -0.4$). The suggestion is that it may be effective for faculty to inform students of the inappropriateness and dishonest nature of behaviours not uniformly thought of as cheating by students.

There are curriculum factors that can sometimes be attributed to triggering dishonest behaviours in learners. For example, lack of motivation towards the learning or the perceived fairness of assessments and tests (Dweck 1986, Norton Tilley, Newstead & Franklyn-Stokes 2001). Recent research in the United Kingdom found that there is a lack of clarity in the messages emanating from academics with respect to

academic conduct and misconduct, and students are unclear about the conduct expected from them regarding coursework, citation of references or how to use information technology (Aggarwal Khan, Bates, & Davies 2002). It is suggested that when codes of conduct are not clear, students feel that cheating behaviours are being condoned, a view echoed by others, who argue that cheating is not viewed as seriously by students as it is by faculty—“messages about the unacceptability of inventing or altering data are not being communicated to students from the beginning of their studies” (Franklyn-Stokes & Newstead 1995). Explaining clearly to students what acceptable behaviour is and what is not, is important if there is a concerted effort to reduce academic dishonesty (Rennie & Crosby 2001).

Glick (2001) presents a theoretical argument that external circumstances are also responsible for the increase in such behaviours; for example, a general decline in moral behaviour may be contributing to the increasing prevalence of cheating among the general student population. Glick argues that some domestic backgrounds imbue young people with high standards of ethical behaviour, yet others leave ethical upbringing to the more pernicious influences of popular culture, media (i.e. television) and consumerism. The idea that part of the problem lies with environment and upbringing has resonance with this argument of “moral decline”. Familial, moral and cultural values are acquired long before university entry. For example, cultures and sub-cultures exist where dishonest behaviours are almost a norm, while others have perceptively higher standards of ethical conduct (Glick 2001).

The attitude of academics towards cheating will affect how the student population perceives the phenomenon. Studies by Franklyn-Stokes & Newstead (1995) draw attention to well-published examples from the United States that have invented experimental data to suit their academic purposes. The authors point out that college students who are exposed to ambiguous public morality are also aware of widely published examples of unethical behaviour occurring within academe, notably these well published exposures of fraudulent behaviour by scientific researchers (Franklyn-Stokes & Newstead 1995). It is interesting to speculate on how positive and negative role models may affect student behaviour.

A major problem regarding the investigation of cheating behaviour is that one must assume that people will be honest about their dishonesty. Measuring the severity of academic dishonesty in universities can present problems. The widening accessibility of higher education to the general population has resulted in a larger volume of students attending tertiary institutions. This inevitably results in a larger staff to student ratio, which may contribute to a fall in standards in these colleges and therefore, a higher incidence of cheating behaviours as tutors

have less time to devote to each student (Taylor, Bates, & Harding 2004). As a result, academics cannot be as vigilant when reading and marking large volumes of coursework, and with students increasingly drawing on internet material, academics now face a major challenge in attempting to identify misconduct.

Pharmacy is a health profession that needs to maintain the trust of both public and health service agencies. The profession requires clear standards of governance, accountability and professionalism, similar to those of the medical profession, and any notion of academic dishonesty during training periods must be viewed in a serious light (Smith, Ryan, & Diggins 1972, Smith 2000). It has been shown that academic dishonesty occurs amongst pharmacy students (Aggarwal et al. 2002), but how this activity compares with that of other students on different programmes is unknown. The experiment reported here follows a previous study, in which the incidence of dishonest behaviour was evaluated in two UK schools of pharmacy (Aggarwal et al. 2002). The study examines cheating behaviour across six different courses or subject areas within a single institution, and aims to identify interdisciplinary trends in academic dishonesty.

Aim and objectives

The aim of this study was to identify the prevalence of self-reported cheating within a multi-faculty higher education institution. The objectives were to:

- (i) Measure the occurrence of different cheating behaviours across six courses within a university using a previously validated questionnaire.
- (ii) Investigate demographic associations and disciplinary differences amongst those who admitted to cheating behaviours.

Method

This study is a survey of undergraduate students, using a self-completion questionnaire, across six different courses (Table I). The study was conducted at a single UK university, of average size, that will not be named in order to maintain confidentiality. Where possible, we have used generic titles for the courses studied as a further measure to ensure anonymity.

Table I. Student demographics ($n = 1162$).

Course of study	Frequency (%)	Proportion of female (%)
Biomedical science	52 (4.5)	33 (63.5)
Business studies	313 (26.9)	189 (60.4)
Humanities	155 (13.3)	86 (55.5)
Pharmacy	313 (26.9)	225 (71.9)
Education	205 (17.6)	189 (92.2)
Physiotherapy	124 (10.7)	107 (86.3)
Totals	1162 (100)	829 (71.3)

The example courses were chosen to cover a range of professional, science and arts courses typically offered in a multi-faculty university. These included a health care profession characterised by a strong science base (pharmacy); a health care profession with a traditionally strong practice base (physiotherapy); a course with a strong vocational orientation (education); an applied science course (biomedical sciences); an arts course (humanities); and a quasi-science course (Business studies).

An application for ethical approval was submitted to the university research ethics committee and granted subject to the condition that course leaders gave consent to sample students on their respective courses. Course leaders for the courses were identified and contacted. The purpose and aims of the study were explained and they were asked to co-ordinate the distribution and return of questionnaires for the study. Subsequently, each course leader was sent sufficient copies of the questionnaire, questionnaire cover letters and information sheets for all students on their courses. Questionnaires were distributed prior to time-tabled lectures, for each cohort year within each course. All questionnaire responses were anonymous. The response rate was determined using the student cohort year numbers on the denominator.

A previously validated questionnaire was used (Aggarwal et al. 2002). The questionnaire included self-reported demographic data, such as age, gender, whether a home or overseas student and if they held a previous degree. In addition, a statement was included to identify those who did not have a laboratory practical element in their courses. The questionnaire is included as Appendix A.

The questionnaire presented 12 scenarios; each derived from previous work using student and academic focus groups and qualitative exploration (Aggarwal et al. 2002). The format of the final version was, in turn, derived from work by Rennie & Crosby (2001), who explored medical students' attitudes and behaviour towards academic misconduct. The first four scenarios represented dishonest behaviours in examination situations, the subsequent five represented cheating behaviours relevant to course work and the final three examined dishonest behaviours towards practical exercises and examinations (Table II). Following each scenario, three questions were posed:

- (a) Whether the student viewed this behaviour as cheating, not cheating, or was unsure;
- (b) Whether he/she had done something similar during their course of study;
- (c) Whether the student was aware of this ever happening in his/her course environment.

A coding frame was developed, and all data entered into a database on SPSSv11.0. Quality assurance assessment was carried out to determine the accuracy

Table II. Questionnaire: Scenarios of possible cheating behaviours.

Scenarios
1 During an end of year examination a student goes to the toilet and whilst there he looks at some previously hidden notes to find answers.
2 Two students sit next to each other in a mini course work test. The tutor asks the students to mark their neighbours answers. The two students swap papers and mark each others leniently.
3 A student writes some notes on her arm before going into an exam and uses these to help answer some questions.
4 As a memory prompt a student writes some mnemonics and abbreviations on her hand before going into an exam.
5 A student is having difficulty writing an item of course work. He borrows work from a friend and uses this to gain ideas for his own write up.
6 A student is having difficulty writing an item of course work. She photocopies the work of a friend, and then uses parts of this to write up her own work, without the knowledge of her friend.
7 A student is having difficulty writing an item of course work. She photocopies the work of a friend, then uses parts of this to write up her own work, with the permission of her friend.
8 A student finds an internet site, which is relevant to his work. He cuts and pastes portions of this into his own work, changing it very little. He does not use quotation marks but lists the name of the website in his references.
9 A student is writing a difficult item of course work. She takes several quotes directly from a journal without using quotation marks and does not reference them.
10 Following a laboratory practical which unfortunately produces no useful results, a student makes up some results for her write up.
11 A student is following a schedule in a practical examination. He does not understand one of the instructions, so asks his neighbour.
12 Students hand down course work and laboratory practical reports for use by lower years.

of coding and data entry using a random sample of entered cases.

Results

The participants were 1162 full time students from the university, representing six disciplines and an overall response rate of 76% (Table I). The majority of participants were made up of business studies and pharmacy students (27% each) while biological science students represented only 4% of the total

sample. The mean age was 22, and the majority were female (71.3%, 829). Home students represented 79.5% (924) with the remainder classifying themselves as overseas; very few of the sample had a previous degree (5.7%, 66). Table III shows the number of students sampled in each programme by year of study, noting that business studies, pharmacy and education are 4-year degree programmes.

For each scenario, students were asked to indicate if (in their opinion) it constituted dishonest behaviour. Table IV shows the summary responses for each scenario for the student sample.

Overall, a large proportion of respondents were unsure about what constituted dishonest behaviour in over half of the scenarios presented to them. For example, one in five students were unsure if borrowing a friend's work for ideas constituted dishonest behaviour. Typically, students were more able to identify dishonesty in written examination scenarios (scenarios 1–4), in contrast to experimental-based tests (scenarios 10–12) where more ambiguity reported. Copying a colleague's work "with permission" (scenario 7) was seen as less dishonest than copying "without permission" (scenario 6). The authority given to the behaviour is seen as important in condoning the act rather than the nature of the act itself. There is significant ambivalence over internet "cut and paste" as a dishonest scenario, with a high proportion of respondents unsure about the classification of this behaviour.

When the student sample was asked if they have ever carried out something similar to the scenarios listed in Table II, few students had engaged in traditional examination cheating, for example, scenarios 1, 3 and 4. However, in the other scenarios, a high proportion of students admitted to performing these dishonest behaviours. For example, borrowing a friend's work for ideas or "cutting and pasting" from the internet seemed to be common practice among students across all six programmes. In addition, pharmacy had a higher proportion of students who copied borrowed work with collusion from their peers (scenario 7). Inventing laboratory results or passing on experimental work to lower years also seemed to

Table III. Number of students sampled by programme and year of study.

Course of study	Number of students in each year of study (%)				
	First year	Second year	Third year	Fourth year	Total
Business studies	118 (38)	117 (37)	UA	78 (25)	313 (100)
Humanities	60 (39)	50 (32)	45 (29)	NA	155 (100)
Pharmacy	79 (25)	87 (28)	75 (24)	72 (23)	313 (100)
Education	UA	90 (44)	65 (32)	50 (24)	205 (100)
Physiotherapy	28 (23)	70 (57)	25 (20)	NA	123 (100)
Biological science	22 (42)	2 (4)	28 (54)	NA	52 (100)
Total	307 (26)	416 (36)	238 (21)	200 (17)	1161 (100)

UA, Student unavailable (on placements); NA, A three-year degree programme.

Table IV. Student responses for each scenario.

Scenario: Is this cheating?	No (%)	Yes (%)	Unsure (%)
1. Accessing hidden notes during an end of year examination	1.0	98.0	1.0
2. Leniently marking a peer's coursework test	24.4	52.5	23.1
3. Writing notes on arm before going into an examination	1.2	97.7	1.1
4. Writing abbreviations on arm before an examination	9.0	83.0	8.0
5. Borrowing a friend's work for ideas	63.5	15.4	21.1
6. Photocopying a friend's work without permission	4.5	89.2	6.3
7. Photocopying a friend's work with permission	27.1	54.8	18.1
8. Cut and paste from internet without quotation marks	26.0	51.5	22.5
9. Copying journal but not using quotation marks	15.6	70.3	14.1
10. Making up laboratory results	26.0	55.4	18.6
11. Talking to neighbour during practical examination	53.9	29.0	17.1
12. Passing on completed work to subsequent years	39.6	38.6	21.8

be common behaviour in those programmes with an element of practical or laboratory course work (Table V).

An aggregated cheating score was calculated from the responses. Cases scored 1 each time an admission of dishonest behaviour was recorded. An aggregated score of zero suggested that a participant had never cheated, while a score of 12 suggested that a participant had engaged in all of the dishonest scenarios presented. Figure 1 shows the score distribution, and suggests that one third of the sample had never engaged in any of the dishonest scenarios (33.5%) whilst 42.4% of the sample claim to have participated in two or more. When this data was examined by degree programme, significant differences in the extent of dishonest behaviours can be seen (one way ANOVA, $F_{5,1092} = 29.39$, $p < 0.0001$: Figure 2). Pharmacy students appeared to be more likely to engage in the dishonest behaviours listed compared with all other students, regardless of degree programme. However, education students were the least dishonest, significantly less likely to engage in dishonest behaviours than students from pharmacy, business studies and humanities.

Further analysis also revealed differences between gender, with male students overall more likely to engage in dishonest activities ($t = 4.1$, $p < 0.001$).

Discussion

This work is the largest study to date carried out in UK reporting the occurrence of academic dishonesty. A total of 1162 valid responses were received, representing a sample response of 76%.

The sample represents a typical university student with the majority being in their late teens or early twenties, studying for a first degree and mainly drawn from UK. Almost three-quarters (71%) of the sample was female.

A major problem in this area of research is the lack of a definition for cheating; in general, however, the sample demonstrated a good appreciation of what

constitutes cheating behaviour. For example, the majority of students regard the accessing of hidden notes during an end of year examination as cheating, whereas a minority regard talking to a neighbour in a practical examination as cheating. More worrying were the relatively high proportions of students who were unsure about some behaviours; for example, nearly 1 in 4 students were unsure if internet "cut and paste" was a form of cheating.

Aggarwal et al. (2002) report that students are unclear about the conduct that is expected from them. This study has shown that while students generally regard the presented scenarios as cheating they were prepared to risk engaging in these activities. Franklyn-Stokes & Newstead (1995) have suggested that this raises the issue that students may think such behaviour is being condoned and that academics are turning a blind eye to it. Most of the students' uncertainty concerns the passing off of internet material as one's own, the borrowing of a peer's work for ideas, and the invention of laboratory results. This uncertainty may be due to students being unclear of what is acceptable. Information technology and the internet offer a relatively new source of data to students so that the inappropriate use of this material may not yet have been classified as dishonest by academics.

Interestingly, education students reported less occurrences of academic dishonesty when compared with pharmacy students, who reported the highest incidence. The reason for this divergence requires closer investigation. Both courses are very different; yet both focused on professionals who occupy responsible positions in the eye of the general public. Further analysis of these two courses, and possibly others, might reveal ways in which elements of the education of teachers could be incorporated into other courses, especially pharmacy, in order to reduce the frequency of academic dishonesty.

Males were significantly more likely to cheat than females. Newstead et al. (1996) reported similar findings and related this to gender differences in

Table V. Proportion of students admitting to a dishonest behaviour as described by the corresponding scenario.

Scenario	Course of study					
	Business studies (%)	Humanities (%)	Pharmacy (%)	Education (%)	Physiotherapy (%)	Biological science (%)
1. Accessing hidden notes during an end of year examination	2	1	1	0	0	0
2. Leniently marking a peer's coursework test	15	13	35	10	25	12
3. Writing notes on arm before going into an examination	3	5	4	0	0	0
4. Writing abbreviations on arm before an examination	5	9	11	0	1	6
5. Borrowing a friend's work for ideas	40	47	63	42	40	35
6. Photocopying a friend's work without permission	2	3	7	1	0	2
7. Photocopying a friend's work with permission	9	16	33	6	4	10
8. Cut and paste from internet without quotation marks	21	15	32	9	14	21
9. Copying journal but not using quotation marks	11	11	23	4	2	8
10. Making up laboratory results	*	*	47	*	17	52
11. Talking to neighbour during practical examination	*	*	54	*	7	34
12. Passing on completed work to subsequent years	*	*	35	*	15	15

* These degree programmes do not have traditional practical or laboratory-based classes.

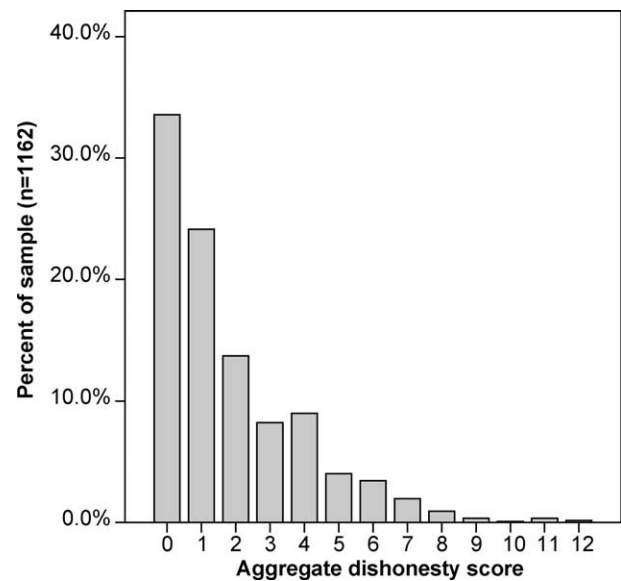


Figure 1. Dishonesty score distribution.

motivation. It is suggested that female students are more intrinsically motivated, having more personal attachment to learning and consequently are less likely to cheat. Within the classification of the serious cheaters (those with higher scores) there is no significant gender difference despite there being more than the expected number of males in this group.

An additional factor is the temporal aspect of attending university. As students progress through university they become more aware of the ethical or moral standards expected in their place of learning and on their course of study. This idea has weighting in this study where education students report less academic misconduct than students from other courses. It is possible that because they are being trained to be teachers, they have actively considered the effects of cheating on the individual, the institution, and the student body. Students from other courses, on the other hand, may become incorporated into a culture of dishonesty without giving due thought to their actions.

Our findings bear similarities with some of the larger American studies. Being multi-factorial, however, it has highlighted that there are differences in the magnitude of cheating in different faculties. Students in this study have shown that they are willing to undertake the less serious acts of academic dishonesty than those rated more serious by academics. Norton et al. (2001) pointed out that “academics, and indeed UK government, has argued that higher education should be about lifelong learning, not just teaching them [students] how to jump through academic hoops”. Norton et al. (2001) thought that students might engage in such behaviour to “economise their efforts” and despite receiving a respected university degree, such graduates may as a result be less prepared for the learning challenges faced on graduation. Given the large proportion of students

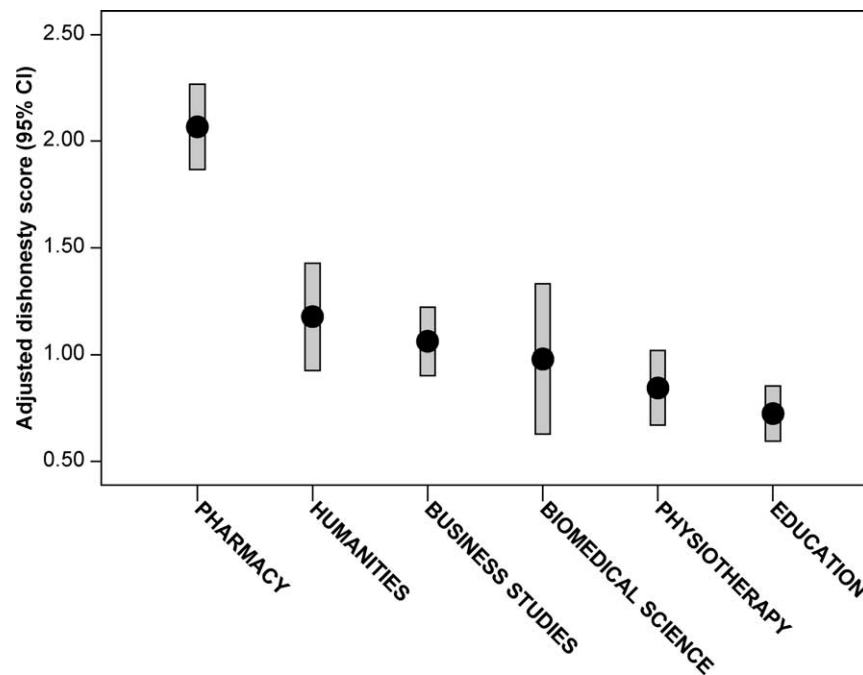


Figure 2. Adjusted dishonesty scores by degree programme (mean with 95% CI).

who admitted engaging in academically dishonest behaviour, such graduates may be less well equipped to enter the workplace.

This study has highlighted that there are differences in the extent of cheating between different faculties. How courses are taught and the pressures of assessment may be important influences and as such, an analysis of the various courses, both syllabuses and curricula, would enhance the findings of this study and may identify why students from certain courses exhibit more academic dishonesty than others.

Although, the findings of this study might reflect the culture one university, they do correlate with the findings of other studies conducted in the area of academic dishonesty and as such, we think, represent a typical university population.

Whilst this study is one of the largest to examine academic dishonest behaviour, it has only assessed the behaviour of students attending six courses; what of those enrolled on other courses? The level of interest in this topic is growing amongst academics in order to reward student endeavours appropriately and to instil appropriate values into those students enrolled on degree programs. Perhaps, academics should review the design of degree courses to ensure that both content and assessment methods develop and differentiate between students. A code of conduct for students may also help and is probably long overdue.

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Appendix A: Students today, pharmacists tomorrow; a survey of student ethics

Each scenario has the following responses:

Is this cheating? Yes/No/Unsure

Have you done something similar during your degree? Yes/No

Have you ever known of this to occur at your School of Pharmacy? Yes/No

- (1) During an end of year examination a student goes to the washroom and whilst there he looks at some previously hidden notes to find answers.
- (2) Two students sit next to each other in a mini course work test. The tutor asks the students to mark their neighbour's answers. The two students swap papers and mark each others leniently.
- (3) A student writes some notes on her arm before going into an exam and uses these to help answer some questions.
- (4) As a memory prompt a student writes some mnemonics and abbreviations on her hand before going into an exam.
- (5) A student is having difficulty writing an item of course work. He borrows work from a friend and uses this to gain ideas for his own write up.
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- (8) A student finds an internet site which is relevant to his work. He cuts and pastes portions of this into his own work, changing it very little. He does not use quotation marks but lists the name of the website in his references.
- (9) A student is writing a difficult item of course work. She takes several quotes directly from a journal without using quotation marks and does not reference them.
- (10) Following a laboratory practical which unfortunately produces no useful results, a student makes up some results for her write up.
- (11) A student is following a schedule in a practical examination. He does not understand one of the instructions, so asks his neighbour.
- (12) Students hand down course work and laboratory practical reports for use by over years.

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