

Academic Integrity: The Fool's Dilemma

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Abstract

Academic misconduct amongst students is a consistent problem in education. Plagiarism, cheating in exams and the dangers of inappropriate online comments or behaviours can have significant negative effects upon the student [1]. Academic misconduct is particularly important because there has been a drastic increase in cases all around the world in recent history [2]. The present study took a sample of 121 students from Humber College Lakeshore Campus, Toronto, Canada. This study was interested in exploring students' knowledge of academic policy through testing; participants were split into two groups where one was exposed to written policy and the other to audio-visual policy. The students were then tested on the policy and were compared based on their results. With the exception of one question there was no statistical significance when comparing these two groups. Moreover, in what has commonly been referred to as the fool's dilemma, students who selected incorrect responses actually reported a high level of confidence in their responses. This is troubling because cases of academic dishonesty can be detrimental to academic and professional careers [2-3]. It is essential that issues of academic misconduct be understood and studied at an extensive level because issues of academic misconduct can potentially devastate future prospects for students and institutions alike.

1. Introduction

Often the students are unaware or ill-informed of the impact or consequences of academic misconduct until it is too late. Looking at recent events, one being the Dalhousie University case involving 4th year dentistry students engaging in hate speech through social media [4]. Such severe issues force the academic community to consider the importance of exploring academic integrity. The purpose of this study was to explore how creating a more effective method of educating students will teach them to internalize and apply what is appropriate academic and professional behaviour throughout their careers.

Academic integrity is commonly used as a proxy for student conduct in school regarding plagiarism and cheating, but recently it has expanded further to

behaviour online and outside of school [2]. Students are constantly under pressure to ensure that they conduct themselves in a manner that will prevent any negative repercussions in regards to academic penalties. In the present study, students were tested on their ability to retain and apply academic policy after being exposed to that policy through audio visual or written mediums.

Academic integrity is a topic of interest because academic misconduct is an issue that is on the rise and requires attention from post-secondary institutions [1]. The problem is growing into a more serious concern, so exploring the issue further is important to understand and take proactive measures to avoid issues that may arise. The main concern was to determine which medium of exposure would elicit a higher level of understanding and retention among the participants. It was hypothesized that students exposed to audio-visual policy would perform significantly better than the students exposed to written policy.

2. Literature Review

The perception of academic misconduct among post-secondary institutions is particularly important. An article by Brown et al. [1] explored the perceptions that deans of a number of schools held concerning academic misconduct by their students. Of the schools involved in the study, 78% of the deans believed that less than 40% of their students committed academic misconduct [1]. When the students of these schools were studied, their responses painted a very different picture. On average, 70% of the students admitted to committing academic misconduct. Over the last 3 decades the average of students admitting to academic misconduct has risen substantially. From 1980-1989, 64.8% of the students admitted to academic dishonesty and fast forward to 2000-2008, 95.1% of students admitted to committing academic misconduct [1]. The problem is real and if anything, only becoming more prevalent today in comparison to previous decades.

The concept of academic integrity consists of many different components. For instance, it includes plagiarism, attendance, and social media [5]. Poell and Van Dijck [5] spent time looking just at the particular area of social media. This medium

provides individuals with a new way to communicate with each other, as well as playing a role in the way professional lives work, along with how institutions conduct certain aspects of their operations [3]. Social media is a huge part of daily communication and so it has a great effect on what goes on in an individual's life [3]. Diving deeper into the root of this concept and the problem that exists Hamlin et al. [6] looked at the prevalence and reasoning for academic misconduct and their study found that misconduct occurs by approximately 50-70% of post-secondary students. Students engage in this behaviour for a multitude of reasons as simple as refusing to turn someone they witness cheating in, as well as cheating due to the potential for a higher grade [6]. Another issue which exists is that while there is awareness that this topic is an issue within academic institutions, there is not enough of a consensus on how to combat the problem with a successful solution [6]. In a 1989 article, Jendrek [7] found that of the faculty surveyed, there was 60% who had encounters with students committing academic misconduct. Further digging through this group he discovered that of the instructors who had been involved with incidents, only 65% penalized the student, and furthermore, only 20% of those instructors actually went through with reporting the incident [7]. The major concern here is that faculty members are not enforcing the rules which then ties back to the concerns raised by Hamlin et al. [6] about agreeing on how to combat this issue.

A major inquiry about academic misconduct is why students would take part in something that could damage their personal, academic and professional careers. Pressure to do well may be a major contributor as to why cheating occurs. Keller [8] reported that 69% of students cheated, did so in order to get a better grade. When looking specifically at cheating, this can provide an indicator as to what pressures or reasons are commonly associated with causing an individual to cheat. Furthermore, Davis, Grover and Becker [9] discuss how other reasons why cheating occurred include; student stress, ineffective deterrents and condoning teachers. There are numerous reasons as to why misconduct occurs and so it is important that all the areas are covered when explaining the seriousness of this area [9]. Students are not all wired equally and do not commit similar offences for similar reasons. Although that is true, every student should be provided with ample information on the importance of remaining honest no matter what pressures or stresses they may be facing.

Interestingly, there is also a case to be made that cheating may be affected by the institution which one attends. According to Davis, Grover and Becker [9], they display how in one survey the cheating rates by women reported at a college was 9% and the report levels of men at the university level was 64%.

This is a scary prospect to think that there is such a divide within post-secondary institutions at both collegiate and university levels. This beckons for further investigation as to what is causing such a difference between institutions.

A study by Karpicke & Roediger [10] found that a benefit to testing the individuals is that taking memory tests helps students improve their long term retention of the information. This is particularly important when discussing increased cases of academic misconduct. If testing students on academic policy will further their understanding then that is an avenue that must be explored. In the study that was conducted, a timeframe of one week was selected in regards to the time between when the students would receive the information and when they would be tested on the information. This timeframe provided accurate results in relation to the students' retention of the information that they were provided.

Mercer and Pianosi [11] conducted a quantitative research study involving 43 students. The study was interested in exploring the perspectives of undergraduate students in using audio versions of learning guides for their courses. The results of this study suggest that participants responded positively to the option of using the audio versions [11]. This is a significant finding because this suggests that students are receptive to multiple delivery methods in their education.

Cameron et al. [12] were interested in the effectiveness of video and written materials among participants. The sample included 435 individuals aged at least 40 years old and were compensated \$20 dollars for participating [12]. The study tested the retention levels between written and audio-visual information in two phases. Testing took place right after the exposure, and one week post-exposure. The study reported that during the first round of testing there was no significant difference between the two groups. In the second week the participants who received written documents scored higher [12]. In the second wave of the study, the first round of tests found that individuals exposed to audio-visual information scored higher when tested right away, and in the second week both groups scored relatively the same [12]. This study illuminates the importance of conducting research on learning methods as results vary depending on the sample. It is important to identify why issues of academic misconduct are so serious and how academic institutions can begin to take steps towards finding a solution.

3. Methodology

The present study used availability sampling from Humber College Lakeshore Campus Toronto, ON Canada, which has a population of approximately 8,100 students. A sample of 121 was taken from

first-year students in both degree and diploma programs at the Lakeshore Campus. The sample was divided into two groups, the control group ($n=70$), and the test group ($n=51$). The study in its entirety consisted of 65 females and 56 males ranging from 18-30 years of age which resulted in a mean age of 20. This sample consisted of students in the following programs: Bachelor of Applied Arts – Criminal Justice, Police Foundations, and Community & Justice Studies.

This study took place over the span of two weeks, the first week comprised of introductions and distribution of consent forms, as well as exposure of academic policy, and the second week consisted of the testing retention and application of knowledge through the questionnaire. Students were provided with a consent form and those who decided to participate in the study completed the consent form and were exposed to either the audio-visual or the written policy. The control group was given a one page document of academic policy. They were instructed to read the policy and return it immediately after doing so. The test group was asked to watch a set of four animated videos that contained academic policy information and that concluded the first phase of the study. The participants in both groups were not made aware of their counterparts as to prevent any discrepancies. The study then resumed one week post-exposure, and during this section of the study the participants in both the control group and the test group were tested using the same questionnaire.

In the second phase of the study, participants were administered a questionnaire in which they were given a total of ten minutes to complete. At that point any individuals who had not completed the questionnaire would have to submit the questionnaire regardless of completion. After the testing was complete, the researchers debriefed the participants and provided contact information for any further inquiries in regards to the study.

4. Results

The results of this study were categorized in 3 sections including: retention, confidence, and preference. These results were compiled and analyzed using the Statistical Package for the Social Sciences (SPSS). As mentioned above, the primary reasoning for this study was to determine which medium of exposure would elicit a higher level of understanding and retention among the participants. It was hypothesized that participants in the test group would score significantly higher on the questionnaire as opposed to their counterpart. A factorial ANOVA was used to run tests on all of the multiple choice questions in Part: 2 of the questionnaire (Table 1).

Table 1. Multiple Choice Questions

Source	Df	Mean Square	Sig.
Multiple Choice 1	1	.407	.295
Multiple Choice 2	1	.001	.958
Multiple Choice 3	1	.159	.733
Multiple Choice 4	1	.887	.319

Based on the results of the factorial ANOVA, in regards to the medium used to provide policy information, there is no statistical significance between the retention of the policy information and the subsequent scores on the questionnaire. Looking at a 95% confidence interval it is evident that no questions met the threshold for difference in statistical significance. As a result the null hypothesis cannot be rejected.

Additionally, the factorial ANOVA was also used to run tests on all scenario-based questions in Part: 3 of the questionnaire (Table 2).

Table 2. Scenario-Based Questions

Source	Df	Mean Square	Sig.
Scenario 1	1	.300	.506
Scenario 2	1	.275	.080
Scenario 3	1	7.738	.427
Scenario 4	1	5.994	.000

In regards to the results of the factorial ANOVA for the scenario based questions above, regardless of the medium, with the exception of one question in Table 2 there is no statistical significance between retention of the academic policy information and subsequent scores on the questionnaire. As a result much like Table 1, the null hypothesis cannot be rejected.

4.1. Confidence

An important aspect of this study was looking at the confidence level of the responses given by both groups. As mentioned earlier, participants were asked to report their confidence in the scenario-based questions. The scale ranged from 1-4, with 1 being not confident, 2 being somewhat confidence, 3 being confident, and 4 as very confident. For the purposes of analysis 1 and 2 were grouped as not confident and 3 and 4 were grouped as confident. Table 3 illustrates the confidence level among students in both the control and test group who answered the scenario-based questions incorrectly.

Table 3. Confidence: Incorrect Submissions

Test Type		Frequency	Percent
Written	Not Confident	17	16.50
	Confident	86	83.50
Total		103	100
Video	Not Confident	16	23.88
	Confident	49	73.13
	Missing	2	2.99
Total		67	100

As seen above, the participants who answered incorrectly had a high level of confidence in their responses. This is noteworthy because it shows that not only did they answer incorrectly, they believed that they responded correctly and with a relatively high level of confidence.

4.2. Preference

The last portion of this study was asking the participants what their opinions were on how they received academic policy information. Table 5 provides insight on the medium preference that the participants had.

Table 4. Preference: Video or Written Policy

Source	Frequency	Percent	Valid Percent
Written	31	25.2	33.0
Video	56	45.5	59.6
I Don't Care	5	4.1	5.3
Both	2	1.6	2.1
Missing	29	23.6	
Total	123		

This segment of the questionnaire allowed students to provide their own input as to how they preferred receiving the information. They were asked what medium they preferred when receiving academic policy information. This is worth mentioning because indiscriminate of the group they belonged to, a majority of the individuals who partook in this study preferred to receive audio-visual information. In the control group a majority (40.5%) of the participants reported that they prefer to receive academic policy through audio-visual mediums. In the test group a majority (59.5%) of the participants also reported that they prefer to receive audio-visual mediums.

6. Discussion

The main concept behind this study was aimed at focusing on an issue that is growing in significance. Throughout the literature review, it is quite evident that this issue is not something that can be resolved immediately. This study was focused on testing whether or not students who are exposed a more stimulating medium of exposure would retain and understand key concepts of academic integrity. As a result it was hypothesized that participants would produce significantly higher results on the questionnaire in comparison to their written policy counterparts.

The results of the factorial ANOVA that were ran on the questions administered elucidated that for this particular sample, when comparing both groups with the exception of one question there was no statistical significance. There may be numerous reasons for these results, for example the sample size was not large enough for there to be conclusive evidence that one method is more effective. Other issues that may explain the lack of significance has been previously outlined in the limitations. The range of significance from question to question was quite sporadic and it did not have a very clear direction. This may lead back to the issue of the small sample size not being able to clearly depict a particular direction in terms of responses.

While the results of the factorial ANOVA were not significant, other sections of the questionnaire were examined. The confidence levels amongst participants were something that proved to be intriguing. Table 3 outlined the confidence of the participants in the scenario-based questions. Participants who answered incorrectly usually (~75%) reported a high level of confidence; this is troubling because cases of academic dishonesty can be quite detrimental to academic and professional careers. This leads to the assumption that if given a specific circumstance that would test the academic integrity of a participant, those who would choose the path of academic misconduct may even feel confident that what they are doing is acceptable. This issue has become somewhat of a "fool's dilemma" where participants are incorrectly answering questions with the belief that they are correct. Penny [13] explored this concept of a fool's dilemma in her book titled *More Money than Brains* and how this idea of the fool's dilemma exists in everyone. This concept posits that it is not uncommon for people who are incorrect in any given situation to strongly believe that they are, in fact, correct [13]. If this aspect is ignored there is potential for this issue to become a greater concern in future years. This idea of the fool's dilemma is commonly referred to as the *Dunning-Kruger Effect*; this cognitive bias posits that individuals who are relatively unskilled have an illusionary dominance where in reality this is not the

case [14-15]. This concept directly relates to the dilemma that is shown in the results of this study where students are reporting a high level of confidence, meanwhile their responses are in fact incorrect.

Although there is research in this field that notes academic misconduct becoming a pressing issue, there is very little field research highlighting what actions can be taken to combat the problem [3]. This study focused on a much more practical approach to combating academic misconduct through an experimental study.

There were a few instances where this study came across conflicting results. When analyzing the data that was obtained through the study, some participants surveys were completed with questions being left blank or being filled in incorrectly. There are multiple reasons which can be attributed to this occurrence. Some of the potential explanations are; did these students truly not understand the question, did they not know how to answer the question, or answer multiple options, hoping one was correct? Also another factor which could be a reason for this is that perhaps these students just not care about the study or academic integrity as a whole? Regardless of the reason, both are causes for concern because if students are not aware of what the policy is, then more work needs to be done to ensure they are thoroughly made knowledgeable of the academic policy which governs their program. For those who just do not care, this only serves to perpetuate the problem. The students who do not concern themselves with the policies are putting themselves at a disadvantage by not using the tools that are laid out for them to be successful.

While this study did not show signs of significance it is still important to note that students were interested in having academic policy information provided to them through audio-visual mediums more so than they preferred it provided through written documents. Students that preferred written documents said that they would prefer them because of convenient access to the documents. The students may have reported this with the presumption that if audio-visual mediums were used, that they would only be able to see the videos once and then no longer have access to them. This, in reality would not be the case; in fact if the audio-visual policy was provided to students it would be made accessible to them 24 hours a day, and could be viewed as frequently as the students required. While this may not change the preference of students who stated that they preferred written documents due to accessibility concerns, it would still at least provide them with the option to use the audio-visual policy means if they desired.

The findings in this study were not found to carry a level of significance concerning which avenue is most effective for providing academic policy

information to post-secondary students in regards to their levels of retention. Although this is true, it is important to note that the students who partook in this study did receive the option to provide their feedback if they had the option to choose whether they preferred written policy or if they would prefer audio-visual documents. The feedback provided indicated that students do prefer audio-visual more so than written documents. While this may not be enough for this medium to completely replace written documents as the primary means of providing academic policy information, it does provide the consideration of potentially using audio-visual policy as a supplementary option for those students who would rather watch videos instead of reading the policy. This will not only provide students with options but it will also accommodate the differing learning styles that each student possesses, and provide them with a means that will allow for a greater level of understanding and ultimately success.

7. Future Recommendations

This study is very unique in that there has not been extensive work compiled in this field at this point, and thus using this study may provide future researchers interested in this field with a stepping stone to understanding the concept of academic integrity. Additionally, findings from this study may help to further explore ways to minimize academic misconduct by post-secondary students. The more research that is conducted in this field, the higher the potential of finding ways to end the debate of a best way to combat academic misconduct. Additionally, this will provide students with a means to understand this vital lifeline to academic success. Another recommendation that should be recognized is that there is an increasingly important need for supervisors to have a greater hand in recognizing and tackling students' perception of academic integrity. It is certainly unreasonable to expect students to internalize what is appropriate from an academic standpoint if they do not have consistent direction from supervisors [16]. The last recommendation is that institutions incorporate some type of required testing on issues of academic misconduct because as reported by Karpicke and Roediger [10] even testing students on academic integrity creates a forum of awareness and consciousness in which issues of academic misconduct can be prevented. Taking this one step further, Davis and Ludvingston [17] found that self-report surveys showed that cheating rates varied between 71% and 79% amongst upper class men in universities. Of those about 99% admitted to cheating in high school. This takes the present study one step further and shows that the issue stems beyond post-secondary student careers. While this study is primarily concerned with ensuring that post-

secondary students receive adequate training on policy, the training ideally needs to be provided sooner. If almost all individuals who are cheating in high school go on to continue that behaviour in post-secondary institutions, then post-secondary institutions would find it beneficial to educate on the importance of academic integrity. It is certainly unreasonable to expect students to be mindful of academic policy if it is not a concern in early years of education.

8. Conclusion

In conclusion, academic integrity is becoming a growing concern in recent years; there has been a drastic increase in academic misconduct cases [1]. As a result, understanding how students learn should be one of priority. This study is the first of its kind in the manner which it approaches studying academic misconduct. It is evident through the research that academic misconduct needs the attention of post-secondary institutions. The goal should be for students to have the proper tools provided to them to teach them what is appropriate online and in the classrooms to avoid facing negative consequences. Awareness needs to be an immediate action as the more academic misconduct is being discussed the more aware students will be of their surroundings both online and in reality. Creating an open forum and testing students on their knowledge is definitely an avenue of action, as this will allow for post-secondary institutions to continually monitor and gauge their students' knowledge and understanding of academic integrity. If there is nothing done to combat the risk of academic misconduct, it is likely that issues much like that of the Dalhousie dentistry school will continue to occur.

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