

# An Evaluation Of The Effectiveness Of Turnitin.Com As A Tool For Reducing Plagiarism In Graduate Student Term Papers

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## ABSTRACT

*Plagiarism is a continual problem in academia. Plagiarism-detection tools like Turnitin have been used for nearly ten years to help university faculty and administration combat this form of cheating (turnitin.com). This paper evaluates the difference in plagiarism levels in graduate-student term papers when students are not provided access to Turnitin to evaluate their own work versus the level of plagiarism in student term papers when students have access to Turnitin to check their work as they are generating their papers. Descriptive statistics and a T-test comparison of the two groups are provided along with a brief literature review of plagiarism and academic integrity violations.*

## INTRODUCTION

Plagiarism is defined as “the use of someone else’s words or ideas without an appropriate acknowledgement” (JU Catalog, 2006). “To steal and pass off (the ideas or words of another) as one’s own: use (another’s production) without crediting the source” and “to commit literary theft: present as new and original an idea or product derived from an existing source” (Merriam-Webster Online Dictionary, 2005). Plagiarism and other forms of student academic integrity violations have always been a dilemma for university faculty and administrators. According to several studies violations reached epidemic proportions during the 1990s.

The American Council on Higher Education reports increasing levels of cheating and expects this to continue for the foreseeable future (Nowell, 1997). Other 1990s’ studies confirm these trend expectations. Studies state that approximately 75 percent of university students have violated academic integrity rules during their educational careers, many of them doing so consistently (Koch, 2000).

When caught, plagiarizing students often claim that “everyone else is doing plagiarizing, if I don’t I’ll get a worse grade” or “I didn’t know it was cheating”. Other students believe that if information is freely available on the web that using it without proper paraphrasing or citation does not constitute plagiarism (based on author’s notes from conversations with students). These statements indicate that many students do not understand what constitutes what constitutes plagiarism. They do not understand university rules prohibiting plagiarism or believe it is acceptable because their professors, university administrators, and fellow students act like plagiarism is not a significant issue. “Based on preliminary analysis of the pre-test data, the students surveyed lack an understanding of the seriousness of many academic integrity violations, and present no clear understanding of what constitutes an academic violation” (Baker & Berry 2008). Students do not believe that copy-and-paste plagiarism, when using computer technologies, is as serious an issue as copying from literature without citing, when computer technologies are not used. An evaluation of student attitudes towards cheating revealed that 73% of students consider academic integrity violations such as fabricating a reference list, failing to list all sources in a reference list, falsifying lab results or research data, or misquoting a source intentionally to be not serious (Baker and Berry 2008).

Turnitin is a plagiarism detection website provided as a subscription service to academic institutions worldwide. Plagiarism-detection tools like Turnitin have been used for nearly ten years to help university faculty and administration combat this problem. Turnitin's comprehensive plagiarism prevention system allows checking of students' work quickly and effectively. Results are presented in a color-coded report that indicates each instance of plagiarism and its original source. Results are generated through comprehensive searches of billions of internet pages, millions of previously submitted student papers in the Turnitin database, and commercially available databases of journal articles and publications (<http://www.turnitin.com/static/plagiarism.html>).

Plagiarism is theft of intellectual property and it is an academic integrity offense as significant as cheating on an exam or test. Intellectual theft is a less tangible but just as real form of cheating as other forms of academic dishonesty. This leads us to the purpose of this study.

## **PURPOSE OF STUDY**

The purpose of this study is to compare the level of plagiarism in student term papers when students not provided access to Turnitin with the level of plagiarism in student term papers when students are allowed to use Turnitin to evaluate their own work as it is being generated.

## **HYPOTHESES**

The following null hypothesis and corresponding alternative hypothesis are forwarded for this study:

- Null Hypothesis: There is no difference in the mean percent plagiarized between the Turnitin group and the no-Turnitin group. The two samples come from populations with the same mean.
- Alternative Hypothesis: There is a difference in the mean percent plagiarized between the two groups. The two samples come from populations with different means.

## **METHODOLOGY**

Graduate students in a management course of a small southern university are required to write individual term papers as a part of the course requirements. During the fall term of 2007 two classes of this course were taught by the same professor, one on campus and the other at a remote location. Both classes were provided identical instructions for the term paper assignment along with a discussion of the university's academic integrity policy. This information was provided in the course syllabus and discussed in both classes during the syllabus review and assignment review (see appendix for information provided). The students were required to select a term-paper topic from a list of topics provided by the professor. Only one student in each class was allowed to write on any individual topic. Because of the different locations, there was no reported communication between the students in the different classes when queried by the professor at the end of the term. The students in the class at the remote location were provided access to Turnitin to check their papers for plagiarism throughout the term. The students in the on-campus class were not provided access to Turnitin at any time. All other assignments, lectures, in-class activities, exams and due dates were the same for both classes.

The population consisted of twenty-seven students in the off-campus class with access to Turnitin and twenty-six students in the on-campus class who had no Turnitin access. The papers from both classes were submitted to Turnitin by the professor at the end of the term. In all submissions, quotations and bibliographic references were excluded resulting in a net plagiarism percent being reported for each student's paper. These net plagiarism percentages were then evaluated and compared for each group. The results are discussed in the following section.

## **DISCUSSION OF RESULTS**

Data on the percent plagiarized was collected for two groups. The first group had access to the Turnitin program, while the second did not. The descriptive statistics for these two samples follow in Table 1.

**Table 1: Descriptive Statistics for Turnitin and no Turnitin Samples**

Group	Sample Size	Mean	Standard Deviation
Turnitin	27	3.56%	2.93%
no Turnitin	26	6.27%	4.29%

In order to determine if access to the Turnitin program has an impact on plagiarism, the following statistical analysis was performed using the based on the null and alternative hypotheses.

The way the hypotheses are stated implies a two-tail test, and the five percent level of significance was used. Levene's test for the equality of two variances indicated that the assumption that both samples come from populations with the same variance is not satisfied. Consequently, the equal variances version of the two sample t-test is not appropriate and the two sample variances were not pooled. The results of the unequal variance two sample t-test can be found in Table 2.

**Table2: Results of Two-Sample T-Test - Equal Variances Not Assumed**

Computed t	df	Critical t	P-value
-2.68	43	± 2.02	0.010

The 95% confidence interval for the difference between the two means (Turnitin minus no Turnitin) is shown in Table 3. This confidence interval does not contain the value zero. Furthermore, both the lower and upper confidence limits are negative. Based on these results, we conclude the Turnitin group mean percent plagiarized is significantly less than that of the no Turnitin group.

**Table 3: Confidence Interval for the Difference in Mean Percent Plagiarized**

Difference	Lower Confidence Limit	Upper Confidence Limit
-2.71%	-4.76%	-0.67%

## CONCLUSION AND RECOMMENDATIONS

The analysis of the sample data allows us to conclude that the difference in the mean percent plagiarized between the two groups is unlikely to be caused by randomness or chance. It appears that students having access to the Turnitin program is effective in reducing plagiarism. Based on these results, the authors recommend that students be provided access to Turnitin throughout the term-paper writing process. It must be noted that the authors recognize that the results of this study are based on a single comparison with a limited population of graduate students during one semester. Whether these results are extensible to a larger population or to students who are not graduate management information students cannot be determined by this study. Consequently, additional studies based on other populations and/or increased population sizes are recommended and will be undertaken by the authors.

## REFERENCES

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## **APPENDIX**

Academic integrity section of MGT 581 course syllabus (2007):

Academic dishonesty will not be tolerated. Academic dishonesty includes but is not necessarily limited to the following:

1. Copying another student's work during an exam
2. Using unauthorized materials during an exam; e.g., cheat sheets, open books, unauthorized access of computer files (software, Websites, etc.) or email communications.
3. Copying another student's homework assignments or class assignments.
4. Failing to give proper credit to another individual's ideas and/or published work.
5. Aiding, assisting, or encouraging another student to engage in any of the above.

Evidence of violation of any academic dishonesty policy during this course will subject students to (1) immediate dismissal from the course with a grade of "F" and (2) implementation of JU academic integrity procedures as described in the following paragraph from the 2004 JU Student Handbook: JU students are expected to adhere to the highest standard of academic honesty. Plagiarism, which is defined as the use of someone else's words or ideas without an appropriate acknowledgment, and other acts of dishonesty in taking examinations or in the performance of academic assignments are regarded by the faculty as major offenses which merit stern disciplinary action. All incidents of academic dishonesty are reported by the faculty member first to the chair of the division or equivalent academic unit in which the alleged infraction occurred. If satisfactory resolution is not attained, the matter will be referred to the dean of the appropriate college. Should either the student or the faculty member be dissatisfied with the dean's decision, the matter may be appealed to the Faculty Grievance Committee. Incidents of academic dishonesty and the resolution shall be reported to the Vice President for Academic Affairs for record-keeping purposes.

Term paper instructions regarding plagiarism and citations of MGT 581 course syllabus (2007):

Citations are required for all quotes, numbers, and facts. Unless a statement is an original (not paraphrased) concept, the information came from someone else. Credit must be given to the original author using in-text citations as stipulated in the APA manual. Please note: Improperly cited information constitutes plagiarism. You must cite all information used from other sources regardless of whether it is a direct quote or not. This includes but is not limited to quotes, numbers, dates, facts, business examples, personal interviews. When in doubt, put in a citation. Papers with significantly insufficient citations will be graded ZERO with no rewrites. All term papers will be submitted to turnitin.com to verify originality. Turnitin.com has a database of millions of papers, articles, books, etc that your term papers will be checked against. Turnitin.com reports the percentage of plagiarism contained in a paper (excluding direct quotations), the original sources, and the specific text copied. See the term paper grade rubric (below) for the affect of plagiarism on the term paper and course grade.