USING ELECTRONIC PLAGIARISM TOOLS TO TEACH UNIVERSITY STUDENTS TO AVOID PLAGIARISM

Christopher Rieber

Abstract: This paper explores the efficacy of using electronic plagiarism programs as a pedagogical tool to teach students how not to plagiarize at university. Faculty at the Stockholm School of Economics in Riga have launched a program that uses Turnitin Originality Check as a teaching tool to show students what plagiarism is and how it is detected. Students are allowed limited access to Originality Check to pre-check their work when they work in teams. Preliminary results show that students who have been exposed to the treatment may have a better understanding of plagiarism and how to avoid it. The paper describes both how Originality Check is deployed in teaching as well as under what conditions students are allowed access to the system.

Key words: Electronic Plagiarism Checking; Turnitin; Pedagogy; Student Training

1 Introduction

Electronic plagiarism detection services have made finding instances of language plagiarism easier for universities (Stowers and Hummel, 2005). While many higher education institutions deploy such software to check students work for language plagiarism, relatively few have taken the additional step of using the software to teach students about plagiarism and how to avoid it. The Stockholm School of Economics in Riga [SSE Riga] has launched a program that uses Turnitin Originality Check software as part of its introductory program to studying at the university level. In addition, students are allowed to use Originality Check to check drafts of papers they write in groups. This paper describes SSE Riga’s plagiarism prevention program in detail with a focus on how we deploy Originality Check to teach students what plagiarism is and how to avoid it. Some preliminary results of the program are also offered.

SSE Riga is a small, private university in Riga, Latvia that offers a three-year bachelor’s degree in economics and business as well as a two-year EMBA program. This paper focuses exclusively on the undergraduate population. Students from the Baltic States comprise roughly 80% of the population, with Latvia representing between 60–65% of the student body. Approximately 20% of the student population comes from such non-EU nations as Georgia, Ukraine, Belarus, Moldova, and Russia (SSE Riga, 2017). All courses are held in English and all written assignments are written in English as well. While not all courses include a significant written component, many courses require writing reports or research papers. Every student or pair of students must write a bachelor’s thesis in order to graduate.

SSE Riga defines language plagiarism as “copying words or ideas from someone else without giving credit; changing words but copying the sentence structure of a source without giving credit; not citing quotes, paraphrased ideas, summaries, photographs, images, maps or websites used for research”. In practice, students are expected to paraphrase responsibly wherever possible with an in-text reference, and use quotation marks and an in-text reference (including page numbers, when available) when quoting...
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a source directly. Responsible paraphrasing is generally defined as leaving fewer than four words of the original sentence. This definition was agreed on by members of the SSE Riga English Department and the administration. Mandatory English language courses teach students to paraphrase to SSE Riga standards. Particular attention is paid to synonym replacement in the original text and the copying of artful language that students writing in a second language would find difficult to use on their own. Small matches are also considered plagiarism if the language is unique. Lists, formulas, and common definitions from the particular course are not considered plagiarism. SSE Riga differentiates between cases of language plagiarism and cases of sloppy referencing. Students are taught to paraphrase to SSE Riga standards as a part of the mandatory English curriculum. Penalties for language plagiarism range from being put on a watch-list for a light, first offense to being expelled from the university.

SSE Riga faculty demonstrate Turnitin Originality Check as a part of the study skills curriculum that each incoming student receives upon matriculation. The Study Skills course attempts to acculturate students to university life by introducing them to standards and skills that differ from those used in secondary school. In addition to learning about plagiarism, students are introduced to reading academic articles, notetaking, and presentation skills. The module that includes the discussion on plagiarism also introduces the concept of authoritative academic resources and teaches the students how to properly reference those sources. Students receive the message that using such sources as Wikipedia is not appropriate for university-level work, so they need to learn to identify authoritative information for their research and then reference it properly.

The plagiarism presentation leverages the power of Originality Check both to demonstrate which practices violate SSE Riga plagiarism standards and also how easy it is to spot infractions. Many students are under the mistaken impression that plagiarism can be hidden from plagiarism checking software and the demonstration of how SSE Riga uses originality check disabuses them of that notion. The presentation also provides examples directly from Originality Check where the students are called upon to make judgements about whether samples of text meet the SSE Riga definition of plagiarism.

The presentation also teaches students how to operate the software and interpret Originality Check reports. Students must discern between acceptable text in their paper that would be highlighted by the software and instances of plagiarism. Reference lists, lists of organizations, and properly formed and referenced quotes are all examples of text that will be highlighted by Originality Check that students can safely ignore. Teaching students how to read the plagiarism reports accurately is crucial, given the students’ propensity for believing that everything Originality Check highlights is an instance of plagiarism. Students are also advised concerning under what circumstances they will gain access to the software.

2 Literature Review

One of the biggest challenges for SSE Riga faculty is teaching about plagiarism in an international environment where students may have different definitions of what
amounts to plagiarism. In addition, students may have been exposed to different education systems that may or may not have emphasized the importance of intellectual property. Amsberry (2009) cites the relative paucity of articles addressing the connection between plagiarism and what she terms “international” students. Some of the possible reasons she enumerates for plagiarism among international students include students subscribing to a culturally-driven belief that texts are held in common (Amsberry, 2009; Mundava and Chaudhrui, 2007). Students from certain cultures may copy other’s work to show respect for the original author (Hayes and Introna, 2005). More recent studies such as the one performed by Datig and Russell (2015) cast doubt on the assertion that international students do not understand Western intellectual property standards. The literature suggests a shifting landscape for understanding the impact of culture on plagiarism. While earlier studies suggest a large role for culture in students’ understanding of plagiarism, later studies allow that international students may be catching up and catching on to the rules of Western academic practice.

In addition to cultural differences, language proficiency has also been cited as an influence on plagiarism among international students. Howard’s (1995) term “patchwriting” captures the idea that ESL students are not confident in their ability to properly paraphrase and therefore attempt to preserve the structure of the original text, substituting only synonyms in strategic instances. Hayes and Introna (2005) as well as Sunderland-Smith (2005) also point out that copying text can be viewed as an important component of language learning.

No matter what causes students to plagiarize, universities are compelled to do their best to detect plagiarism and address instances of plagiarism as they occur. It is an open question as to whether students’ awareness of electronic plagiarism detection systems alters their behavior. Two studies carried out at California State University, Northridge (Youmans, 2011) challenge the assumption that students will plagiarize less if they are aware that their work will be checked using Turnitin or a similar tool. Warn (2015), predicts that plagiarism checking software actually increases instances of bad paraphrasing or “patchwriting”. Other researchers have maintained that there should be a positive correlation between students’ awareness of plagiarism checking software and lower incidences of intentional plagiarism (Kraemer, 2008, Heckler, Rice, and Bryan, 2013). Youmans asserts that plagiarism checking software has limited use as a deterrent to plagiarism, and should be deployed exclusively as a detection device (2011, p. 760). The program at SSE Riga challenges that claim, using Turnitin software in a dual role as both a teaching tool and a means of detecting plagiarism. This study is a first step toward measuring the efficacy of that idea.

Other studies have described using Turnitin as a part of a larger pedagogical effort to combat plagiarism. Kraemer (2008) describes showing students a plagiarism detecting tool (including how it was programmed) in the context of an engineering curriculum. Whittle and Murdoch-Eaton (2008) briefly describe allowing first-year medical students to access Turnitin to pre-check an assignment, but do not go on to describe how the students were taught to use the system. Vivian Rolfe (2011) compared two groups of undergraduate students, one of which was given a tutorial on academic writing and referencing only, the other of which received enhanced training that included how to read Turnitin Originality Reports. Rolfe compared the instances of
plagiarism between the two groups and found no significant difference. The students in Rolfe’s study, however, reported a positive experience while using the software. Judy Cohen (2010) surveyed students and faculty after the students had been given training using Originality Check. Faculty reported that the program did reduce instances of plagiarism, while the students reported that over 80% of them felt confident they were proficient in using Originality Check (p.7). While Rolfe and Cohen both cite a training program for students using Originality Check, the content of the training programs is not discussed. The SSE Riga program specifically uses output from Originality Check to show students examples that violate the school’s standards, as well as to help them avoid false positives. It is also worth noting that previous studies have focused on how individual students understand and use Originality Check, while SSE Riga restricts usage of the system to group projects.

3 Material and Methods

3.1 Description of the program:

SSE Riga faculty introduce new students to the concept of plagiarism and how to avoid it during a week-long course that prepares students for academic life at university. The module that includes information on plagiarism runs for 90 minutes and also introduces students to searching for authoritative resources in library databases and referencing those sources according to APA style. Students are asked to focus their attention on when it is necessary to reference. They are taught to differentiate between content and language plagiarism. Styles of in-text referencing, including the use of signal phrases and how such phrases alter the form of the in-text reference are also discussed. Strong emphasis is placed on paraphrasing and the need to paraphrase responsibly. Students are also shown how to properly write references and format a reference list at the end of their papers. Throughout, the focus remains on academic honesty and using references, including using reference lists in others’ work as a guide to finding articles to read for their own research.

In the second half of the module, the discussion shifts to plagiarism and plagiarism detection. The discussion has three functions: first, it establishes the penalties for language plagiarism at SSE Riga. Second, students learn how to use Originality Check and under what circumstances they are allowed access to the system, and third, how to effectively read and interpret Originality Reports. In addition the English language faculty teach students how to properly paraphrase. Lecture slides and presentations concerning paraphrasing and plagiarism are maintained on the English Department’s Moodle page.

The penalties for language plagiarism at SSE Riga range from being placed on a watch list for a light first infraction to expulsion from the university. Students who are caught with any level of plagiarism must meet with faculty to discuss their work. Students are shown the Originality Report of their paper and are allowed to ask questions. There is an appeals process if students believe they have been treated unfairly.

SSE Riga students may access Turnitin Originality Check when they work on written assignments in groups of more than two. We reason that individual and pair work
SECTION I Using Electronic Plagiarism Tools to Teach... should not qualify for pre-checking given that the curriculum of the Study Skills Program as well as the mandatory English language courses adequately defines language plagiarism and demonstrates how to avoid it. Each student who successfully completes these courses should have the tools to write and reference responsibly, making plagiarism solely an issue of academic honesty. Group work, however, introduces the possibility that a bad actor might plagiarize while the rest of the group is unaware. SSE Riga plagiarism standards are stringent enough that it would be unreasonable to expect honest group members to detect small instances of plagiarism without the aid of an electronic tool. If plagiarism is detected in a group assignment where students had access to Originality Check, all group members are sanctioned equally.

Students are trained to use the system according to SSE Riga parameters. As of this writing, Turnitin Originality Check does not function efficiently in a group-work environment, so the process is complex. For group-work assignments where students are allowed to check their own papers, each group receives a unique username and password that is good for that course only. Students are also given a specific time window during which they may use the system. Generally, students are given two days before an assignment is due to perform a plagiarism check. Each group is allowed only one check of each assignment. The reasoning here is to prevent students from incrementally improving paraphrasing using multiple passes in the system. Students are not allowed to ask faculty to interpret Originality Reports on their behalf. However, staff are available to manage technical problems with Turnitin should they arise.

In order for student use of Originality Check to be effective, students must understand how to properly interpret Originality Reports. Students often have negative reactions to seeing output from Turnitin and assume the worst (Chew, Ding, and Rowell, 2015). Teaching how to read Originality Reports also provides an opportunity to demonstrate SSE Riga’s plagiarism standards in the format in which plagiarism checking actually happens. Much of the controversy surrounding allowing students access to plagiarism software revolves around students’ ability to correctly interpret such results. SSE Riga takes the view that not only can students understand and use the reports when properly trained, but the reports themselves are a pedagogical tool that aid students’ understanding of how to avoid plagiarism.

Students make several mistaken assumptions when reading plagiarism reports. The first is to mistake the total percentage of content that matches other sources in the utility’s database with the level of plagiarism in the paper. SSE Riga’s training instructs students to disregard this number unless it extremely high (90%), which would indicate a duplicate paper in the database. Students also tend to believe that anything that Originality Check highlights is an instance of plagiarism (Betts, Bostock, Elder, and Truman, 2012). Students in the Study Skills program are trained to ignore common “false positives”, which include: reference lists, lists of organization names, common definitions from their course material, formulas, commonly used prepositional phrases, and scattered common word groups with no intrinsic meaning in the paper. The students are given several examples of output from Originality Check and are asked to decide whether or not the examples constitute plagiarism and why. The examples are varied to demonstrate several types of plagiarism, including copy-paste and poor paraphrasing, as well as several false positives.
After checking eligible assignments for plagiarism, students upload their work to the SSE Riga Moodle platform. From there, the assignments are checked using Turnitin by SSE Riga faculty. Plagiarism checking is centralized at SSE Riga, with staff dedicated to checking all of the papers to ensure consistency. When there is a question about whether or not a particular instance amounts to plagiarism, the English language faculty is consulted and a decision is reached among faculty members. Individual students or student groups who have plagiarized are invited to a meeting with faculty and/or the Rector to discuss infractions and sanctions.

3.2 The Survey

The first survey instrument was administered to incoming first-year students before they had been through any training to avoid plagiarism. We used the first survey as an attempt to establish incoming students’ awareness of intellectual property issues in general and of plagiarism in particular. The first survey instrument was administered to 112 incoming students. The questions often refer to their secondary school experiences. The second survey was administered during the first mandatory course of the second year of study to the same group of students, in an attempt to measure whether students’ attitudes toward plagiarism had changed. The second survey was administered to 94 second-year students. Many of the questions on the second survey refer directly to how plagiarism is dealt with at SSE Riga and one refers to having access to the Turnitin system specifically. The survey is meant to measure the confidence students gain by being trained to use Turnitin. Owing to the large number of factors that might influence a student’s decision to actually plagiarise and the absense of a control group, no attempt was made to correlate the number of plagiarism cases with the presence or absence of the plagiarism training.

3.3 The Interviews

Approximately 20% of the first year class of students \( n = 24 \) who were administered the first survey instrument also participated in informal semi-structured interviews about their views on plagiarism. Interviews were conducted as a part of the academic advising program at SSE Riga, which pairs each first-year student with a faculty adviser. Students were asked about their understanding of the importance of avoiding plagiarism. Students were also asked if they understood both SSE Riga standards for plagiarism and penalties for violating those standards. The purpose of the interviews was to gain a deeper understanding of what the students had understood from the Study Skills curriculum.

4 Results

4.1 Results of the Surveys

The survey of first year students who had not yet been through the Turnitin training shows that while students entered university with a vague conceptual understanding of plagiarism, they were not sure about the limits of how much text could be used without
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Not an
Minor Medium Major Not sure No response

How big of an issue is using somebody’s ideas without acknowledging the author? 
(circle) 
Number of Students

How acceptable would be copying a couple of sentences from some source without citing the author?

How acceptable would be copying a few paragraphs from some source without citing the author?

How acceptable would be citing the author, paraphrasing the author’s exact words, but not changing sentence structure?

Figure 1

Figure 2

attribution or of proper practices for referencing borrowed text. The distribution of the answer to “How big of an issue is using somebody’s ideas without acknowledging the author?” shows that over 50% of students surveyed viewed plagiarism as a “major problem” writ large, (see fig. 1), but when asked to delineate what level of borrowing constituted an act of plagiarism, students were less sure (fig. 2).
Approximately 50% of students answered that directly quoting from an author without using quotation marks (but with an in-text citation) constituted plagiarism (fig. 3).

Over 90% of the second-year students surveyed answered positively to the question whether or not their referencing had improved since they began SSE Riga. While approximately 60% of the respondents claimed that they altered their behavior owing to a heightened sense of moral integrity and a greater understanding of the rules, a significant number reported that they changed their behavior because of SSE Riga’s sanctions against plagiarism.

When asked specifically whether using Turnitin influenced their behavior, responses were mixed. While the most frequently chosen response indicated that Turnitin did not have an effect, the combined positive responses outweighed negative or “no effect” responses (fig. 4).

When 2nd year students were asked whether plagiarism was a major issue, fewer responded that the issue was serious than they had the previous year (fig. 5).

However, when asked whether a couple of copied sentences constituted an act of plagiarism, approximately 13% more answered yes (fig. 6).

4.2 Interview Results

Twenty four 1st year students were interviewed about their experiences with Turnitin as a part of the academic advising process. The interviews took place several weeks after the Turnitin training had taken place. When asked if they understood what constituted plagiarism in the context of SSE Riga, 17 out of 24 responded that they believed they understood under what circumstances proper referencing and quotation marks were necessary. For the students who claimed to be comfortable with the standards, the interview script pressed them to provide examples. Five students responded with
Students were asked how confident they were about avoiding plagiarism in their work. In spite of the fact that the majority claimed to have understood SSE Riga standards, 19 out of 24 hesitated when asked directly if they could apply those standards correctly. When asked why they felt that way, students pointed to the newness of concrete examples (some referred to versions of an assignment they had handy), while four others spoke more generally about the referencing process. Eight students demurred or did not respond when asked for specific examples.
the APA referencing system. Lack of experience with the process was also a frequent response. Only 5 respondents were fully confident of being able to avoid plagiarism after the treatment.

Students were asked if they had any questions regarding Turnitin, referencing, or standards and penalties for plagiarism at SSE Riga. Two students asked about Turnitin’s ability to translate text from another language. One student asked how often the sanctions for plagiarism were actually applied. Twenty one students did not have questions.

5 Discussion

The survey results presented several ambiguities, particularly when comparing the answers of the students in their second year with those they gave as they entered SSE Riga. While it is encouraging to notice that a larger percentage of respondents answered that small amounts of plagiarized text were problematic, fewer students in their second year responded that plagiarism was important in general. When asked specifically about the effect of the Turnitin training, students’ answers were equivocal at best. The most popular answer was that the training had no effect. This finding appears to support Rolfe’s (2011) contention that Turnitin training does not have a significant effect on their propensity to plagiarise. A significant minority, however, reported that having access to Turnitin for group work allowed them to trust their team more. More data is necessary to determine both the effectiveness of the program and whether the ambiguities of the students’ responses are truly representative or an artifact of small sample size.

The results of the informal interview process suggest that students’ exposure to the treatment heightened their awareness of plagiarism standards. In addition, students
indicated that they felt more empowered to proof their own writing for infractions. Finally, students appeared to be less afraid of the checking process and more confident about their ability to write properly once they understood how it worked.

Students responded particularly well during the training to the use of actual examples from the Originality Check system that illustrated what types of cases constituted plagiarism and which ones did not. The examples of Originality Reports were particularly effective in demonstrating how easy it is to spot patchworking, particularly when the students were shown the original text with the original wording included. The students’ responses appear to confirm Cohen’s finding (2010) that students gained confidence as a result of learning how to use the plagiarism checking software. Students were able to point out such strategies as deliberate misspellings and grammatical errors, awkward synonym replacement, and simple additions to text when prompted by the instructor.

Using examples of output from Originality Check also demystified the checking process. In the informal interviews students indicated that they were unaware of how plagiarism was checked until the system was demonstrated. Many expressed surprise that the system was able to pick up small matches and spelling alterations. Displaying the system’s features also demonstrated that plagiarized text appeared in multiple sources in the Turnitin database. Demonstrating this feature allowed the instructor to emphasize the point that it is unnecessary to show that a student copy/pasted text from any particular website, but rather that the text is available in general.

One of the biggest barriers to allowing students access to the Originality Check system is training the students to ignore output from the system that is not plagiarism. The preliminary interviews demonstrated that students in the program succeeded in identifying false positives and had a general sense of what output from the system could be ignored. These instances included well-formed quotations within quotation marks and accompanied by an in-text reference, lists, and scattered, highlighted words within a paragraph that had no meaningful content. Students persist in asking whether the aggregate percentage displayed by Originality Check is a problem, however, indicating that they do not yet adequately understand that the total amount of text found has no bearing on whether or not specific instances in the text amount to plagiarism.

While students were generally successful identifying false positives generated by the Originality Check system, some conflated plagiarism problems with poor referencing. When shown an example of language plagiarism during the training, some students responded that “there should have been a reference,” although the language in the selection came in its entirety from another source. Such errors may indicate conceptual confusion between what constitutes content plagiarism on the one hand and language plagiarism on the other. If students believe that referencing a source obviates the need to properly paraphrase or use quotation marks around text from another source, then further emphasis on the distinction between the two types of plagiarism is indicated.

While the preliminary results are promising, they must be seen in a wider context of changes to the academic program at SSE Riga. The addition of plagiarism training did not occur in a vacuum. Stricter penalties for plagiarism accompanied the training program. It is certainly possible that students’ motivation for avoiding plagiarism is a response to clearly spelled out penalties for infractions. In fact, the plagiarism training
course makes a point of spelling out these penalties and some of the questions that
students ask as a part of the course and in subsequent interviews are specifically about
how penalties will be applied.

Further research should be aimed at better understanding the specific effect of
plagiarism prevention training using such resources as Turnitin Originality Check.
One method of doing so would involve a longitudinal study of a single cohort as they
progress through a university’s curriculum in order to measure the extent to which
students’ use of the system improves both their understanding of what plagiarism is
and their ability to spot problems and fix them. A longitudinal study would address
more than just the efficacy of the training provided upon matriculation.

A second angle would be to better understand students’ conceptions of plagiarism as
they enter the program, before they have been exposed to any treatment. While many
students were able to loosely define plagiarism when asked to do so during the training,
others were unaware that plagiarism was problematic or that it would be checked at an
academic institution. Still others confused content and language plagiarism, believing
that language plagiarism would be justified as long as a citation accompanied the text.
Students also interpreted proper paraphrasing very broadly. Taking a more detailed
baseline of students’ understanding of plagiarism and their attitude toward it, perhaps
as early as the admissions process, would be a useful tool for establishing how much
training is needed in proper referencing, plagiarism prevention, and English language
paraphrasing skills.

It would be interesting to compare the efficacy of competing plagiarism checking
platforms as pedagogical tools, both from the students’ standpoint and the instruc-
tors’. While Turnitin Originality Check offers a powerful suite of tools for detecting
plagiarism, it requires significant investment both to train students to properly use the
system and to interpret the results. Competitors may offer systems that are visually less
ambiguous and that organize information in ways that students find less alarming and
easier to read. In addition, Turnitin currently lacks efficient means to accommodate
group projects, which creates significant administrative overhead to make plagiarism
self-checking in groups possible.

Using electronic tools to demonstrate plagiarism checking should be seen as part of
a larger suite of strategies deployed to aid plagiarism prevention, along with language
instruction, information search, and proper referencing. Our preliminary research
demonstrates a possible amelioration of students’ attitudes toward plagiarizing and
their ability to spot plagiarism using Turnitin Originality Check. By tracking cohorts
throughout their careers at SSE Riga we hope to gain a clearer picture of how allowing
access to plagiarism checking tools affects students attitudes toward academic writ-
ing.

Literature

The Reference Librarian, 51(1), 31-44.
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