# **Avoiding Plagiarism in Higher Education**

# Students should study and practice plagiarism policies!

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## **ABSTRACT**

Plagiarism is an essential topic in academia and can affect peoples lives even beyond that. To be able to avoid committing plagiarism by accident, students need to be properly educated about the topic. This paper takes a qualitative approach to gain insights about which knowledge and skills students are lacking with respect to plagiarism. The findings from this case study may inspire future research about specific educational measures.

#### 1. INTRODUCTION

All university students face questions regarding plagiarism at some point. As their degree and maybe even their future academic career depends on it, being able to avoid plagiarism is essential for all students. However, plagiarism still occurs - for different reasons.

This paper takes a look at two specific reasons, the lack of knowledge about plagiarism and the ability to follow the plagiarism policies in practice. Particularly, a case study in form of a survey with master's students from different academic and cultural backgrounds was conducted. The participants were asked about their confidence to avoid plagiarism in their master's thesis and were asked to pose any questions that they had regarding plagiarism.

The goal of this survey was to get an overview of the knowledge and skills regarding plagiarism that students need. Due to the nature of the sample however, the results are not representative. Hence, this paper can be considered a case study rather than an empiric study.

#### 2. THEORETICAL OVERVIEW

What is the definition of plagiarism? There are various definitions of plagiarism. Many universities inform their students about plagiarism online, using definitions that highlight different aspects of plagiarism. What all definitions have in common is that they contain the main issue of using another author's work without making clear that it is from this author.

The Oxford University defines plagiarism as follows:

"Plagiarism is presenting someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgement. All published and unpublished material, whether in manuscript, printed or electronic form, is covered under this definition. Plagiarism may be intentional or reckless, or unintentional." [9]

The Linköping University, educating its students about plagiarism online as well, defines it as follows:

"To plagiarize means using somebody else's work and presenting it as your own without referring to the source. It may be a text, idea, theory, image, chart, figure, music, computer program or a product. Even reformulation, paraphrasing, text to your own words, without referencing the source is plagiarism. Plagiarism may also violate Copyright laws." [8]

How common is plagiarism among students? Ercegovac et al. argue in their review about academic dishonesty that plagiarism is a common issue, especially copying information from the web [5]. For instance, the review refers to a study by Braumoeller et al. who conducted a study with political science students. This study found that one out of eight papers written by the students was problematic due to plagiarism [2].

Which forms of plagiarism exist? Braumoeller et al. differentiate between casual plagiarism and blatant plagiarism, saying that the majority of plagiarism cases detected in the students' papers is casual plagiarism. The authors define a case of casual plagiarism as a paper that a) has a text passage that is very similar to the source material, b) has a reference to the author of the source material somewhere in the paper but c) not in a way that makes clear that the text passage is originally from this author. In contrast to that, they define a case of blatant plagiarism as a paper that a) contains at least one text passage that is an exact copy from the source material but b) does not make clear where this text passage is from.

Why do students plagiarise? Comas-Forgas et al. argue that some main reasons for plagiarism among students are related to the students themselves such as bad time management and difficulties with the course work, and to the availability of information online for potential copying [3]. Doró asked

students what they think are the reasons of other students to conduct plagiarism [4]. The main reasons mentioned by the students were the intention to save time but also the "lack of information on plagiarism and lack of citing and paraphrasing skills" [4] which is referred to as unintentional plagiarism.

What is lacking: theory or practice? According to Ercegovac et al. "[it] is simply not enough to define plagiarism, distribute neatly prepared citation templates for different formats, and say that plagiarism is wrong, punishable, easily detectable" [5]. Doró points out that especially students who conduct unintentional plagiarism do so not because of a lack of knowledge but rather because of lack of practice [4]. Of course, theory and practice are not standalone concepts as practice does not make sense without theory. However, previous research mentioned above indicates that it is especially practice that seems to be lacking.

Which difficulties do students have with following plagiarism policies? A case study with international students in Sweden highlights that "international [master's] students still need basic education on how to cite and reference properly in order to avoid plagiarism. They especially need more opportunities to practice paraphrasing" [7]. Other research even implies that, reversely, practicing paraphrasing also helps students to get a better understanding of plagiarism than just plain memorization [1].

How can institutions educate and support students? Several studies have shown that a university course, in which plagiarism is a core theme, can improve students' understanding of plagiarism and their ability to avoid it [1, 6, 7]. E.g. Estow et al. found in a study with students in the USA that "giving students hands-on experience and repeated exposure to the topic of plagiarism improves their ability to identify faulty paraphrasing, enhances their own paraphrasing" [6]. It may even be a good approach to give grades for the course [1].

# 3. METHODOLOGY

The case study was conducted with first semester students (n=19), all from the same statistics master's program in Sweden. The majority of the students were international students from East and South Asia, the Middle East, Africa, Europe and South America. There were eleven students with an engineering background and eight students with a statistics or mathematics background. The participants were asked the following three questions:

- 1. How confident are you that you are able to avoid any plagiarism in your master's thesis?
- 2. Which questions [min. 1 question] need to be answered to make you feel more confident about avoiding plagiarism in your master's thesis?
- 3. Which activities [min. 3 activities] would help you feel more confident about avoiding plagiarism in your master's thesis?

Answers to all questions were required to complete the survey but in the text-based questions (question 2 and 3), the participants were able to write "NA" or "None".

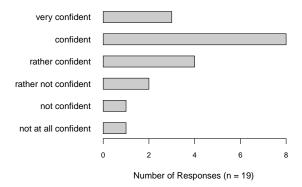
The survey results were analyzed mostly qualitatively (except the results for the first question). The data was not analyzed by region and academic background to ensure anonymity. Furthermore, no statistical tests were conducted because of the small sample size.

The answers for the second and third question were processed as follows: 1) Missing answers and answers that did not relate to the question were removed. 2) Grammar and spelling were corrected to improve readability. 3) Answers that contained semantically independent pieces of information were split up (e.g. into two answers). 4) The resulting answers were grouped by topic.

# 4. RESULTS

The results for the first question "How confident are you that you are able to avoid any plagiarism in your master's thesis?" are displayed visually below. After coding the answers numerically (from "very confident" = 6 to "not at all confident" = 1), the median level of confidence was "confident" = 1) and the mean was "rather confident" = 10.

Figure 1: Confidence about Avoiding Plagiarism in Thesis



The results for the second and third survey question can be found in detail in the appendix. There are two missing answers for each of the two questions as the students had written "NA" or "None".

Overall, the participants' questions regarding plagiarism (second survey question) were related to the following three topics (numbers in parentheses indicate the number of occurences): the definition of plagiarism (3), the automatic checks that universities do to identify plagiarism (4), and the correct way of citing and referencing a source (5). Furthermore, four questions regarding special cases (e.g. referencing references and referencing theorems and axioms) were asked.

Activities that the participants considered helpful to become more confident about their abilities to avoid plagiarism were related to the following six topics: seeing examples of plagiarism (6), having a mentor e.g. a supervisor or an experienced peer (9), getting feedback from others (5), using and understanding the automatic checking system (7), independent studying of plagiarism (9) and seminars (3).

# 5. CONCLUSIONS

1. Most students feel confident about their ability to avoid plagiarism but they still need some more knowledge and/or practice regarding plagiarism.

First of all, one can conclude that most students who participated in the (not representative) survey felt confident about their abilities to avoid plagiarism in their master's thesis. However, 21 percent of the participants felt rather not confident, not confident or not at all confident. This seems to be a considerable amount when keeping in mind that none of the students should commit plagiarism in their master's thesis.

Noticeably, even though the majority of the students felt confident regarding plagiarism, all students (except two who did not answer the survey questsions) still asked reasonable questions regarding plagiarism (question 2) or named activities that would help them become even more confident (question 3). This may imply that the students who do feel confident about their ability to avoid plagiarism in their thesis might also need some more knowledge and/or practice regarding plagiarism before they actually start writing their thesis.

2. The students have questions regarding various aspects of plagiarism. Most of the questions relate to citing/referencing, automatic checking systems, and plagiarism in general.

The variety of the students' questions is rather broad as some questions relate to the basic concept of plagiarim whereas others cover advanced topics like referencing a paper that has been referenced by a source that the student wants to use in his or her thesis. Specifically, the participants would like to get more information regarding citations and a better understanding of how the automatic checks conducted by universities work.

3. The students would like to fill their knowledge and skill gaps with help of examples, mentors, feedback, independent studying and seminars.

Apparently, for some students, plagiarism is still a little abstract as they are asking for concrete examples. Furthermore, the fact that nine students asked for some kind of mentorship might indicate that these students anticipate that more questions will occur when they actually work on their thesis and need to avoid plagiarism "in practice". Getting feedback from other people as well as from plagiarism checking systems seems to be important for many participants. Interestingly, nine students mentioned activities that can be done independently. This could indicate confidence about their ability to fill knowledge gaps themselves. However, three students also asked for a seminar or lectures.

Overall, the participants' answers illustrate that the students indeed need more knowledge and practical skills. Better education about plagiarism in general, automatic plagiarism checks, referencing and citing would help them feel more confident not to accidentally commit plagiarism. The students would like to acquire this knowledge and these skills with help of mentors, feedback, concrete examples, independent studying and seminars.

#### 6. APPENDIX

Which questions [min. 1 question] need to be answered to make you feel more confident about avoiding plagiarism in your master's thesis?

Plagiarism Definition

- 1. "What's plagiarism?"
- 2. "Can we use someone's ideas in our own way?"
- 3. "At which level is paraphrasing tolerated?"

#### Automatic Checks

- 1. "How to self-check our content for plagiarism? What kind of tools are available?"
- 2. "What is the thereshold for terming a sentence to be plagiarized ([e.g.] 60%)?"
- 3. "[What] is the minimum percentage in order to be accused [of] plagiarism?"
- 4. "Have I added [all] the necessary quotes? Has the school system given me a green in the pre-rest before the final submission?"

#### References/Citations

- 1. "In which form should be cited?"
- 2. "How best to cite someone's work"
- 3. "How can I make sure this is [a] reference, not plagiarism?"
- 4. "How exactly we can use a paper to write our paper. [...] And what [...] details should we add if we are taking a sentance from [a] reference [paper]."
- 5. "How do I avoid plagiarism when copying and changing (at the same time) a part of some [original] work."

# $Special\ Cases$

- 1. "If I want to use of some [theorems], axioms [etc.], should I mention [...] any refrences?"
- 2. "If I use [...] a sentence which has been referred to another paper, should I refer to [...] both [papers] or [is] the main reference [...] enough?"
- 3. "What happens when you develop an idea that other people had before but you couldn't (for any reason) see?"
- 4. "What if I (unintentionally) cite something from a language [I] don't [understand], what happens then? Is that plagiarism?"

# Which activities [min. 3 activities] would help you feel more confident about avoiding plagiarism in your master's thesis?

#### Examples

- 1. "See citation examples"
- 2. "See examples of plagiarism"
- 3. "See some examples"
- 4. "Looking through some hard to spot examples"
- 5. "To have and use a condensated cheat sheet about the most common and not so common mistakes with graphs and examples."
- 6. "Talking to someone who conducted plagiarism before"

## Montorship

- 1. "Asking someone who knows what [plagiarism] is"
- 2. "Talking to someone who [has] already [written] a master's thesis [successfully]"
- 3. "Regularly meeting and talking with the instructor about the paper progress"
- 4. "Double check with supervisor if something is unclear"
- 5. "Periodic meetings with the advisor"
- 6. "Talking to my teacher"
- 7. "Talking to someone"
- 8. "Grouping students with experience in writing thesis with those who have no experience at all"
- 9. "Closed group interaction between professor and student so that students are not scared of professors"

# Feedback

- 1. "Getting masters thesis reviewed by [peers]"
- 2. "Periodic revisions of the thesis"
- 3. "Having someone who's familiar with the sources read it through"
- 4. "Having more than two total checks before the final submission"
- 5. "Formative Feedback based on [summative] assessment"

#### Automatic Checks

- 1. "Using plagiarism check."
- "Guidance in order to avoid [evaluation system warnings]"
- 3. "Discovering how the anti-plagiatism softwares work"
- 4. "Using of tools that can find plagiarism"
- 5. "Being given the opportunity to access the schools plagiarism system to better improve my thesis"
- 6. "If there was a proxy urkund to run with"
- 7. "Double check [URKUND's] rules"

#### Independent

- "Reading a paper and summarizing/paraphrasing on my own, [learning] best practices regarding citations and references"
- 2. "Check again and again [and] read more papers"
- "Reading rules and regulations associated to plagiarism"
- 4. "Double check that sources are cited properly"
- 5. "Reading about plagiarism"
- 6. "Referring to the refrences as far as I can. Try not to copy the sentences."
- 7. "Adding more graphics / charts to convey the message instead of text"
- 8. "[...] I need to learn the concept with [its] details so [that] I won't accidentally be a part of that."
- 9. [improving] technical writing skills

#### Seminars

- 1. "More [...] seminars or practical [sessions] to be familiar with how to write a thesis"
- 2. "Seminars on to what extent is considered plagiarism"
- "Have a lecture with an expert of the field. Go deep into the difference between paraphrasing and plagiarism"

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