# Students' views on plagiarism and plagiarism detection systems

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## Summary

### Introduction

Technological change along with the accessibility of different online sources has brought about a situation where plagiarism has turned into one of the most common forms of academic dishonesty (Chen & Chou, 2017). The concept of plagiarism is complex and there isn't a good definition that covers all the different forms of plagiarism (Kayaoğlu et al., 2016). The most widely used definition describes plagiarism as using other author(s)'s work as one's own without a reference to the author(s) (Bokosmaty et al., 2017; Chen & Chou, 2017; Gullifer & Tyson, 2014; Moss et al., 2018). Furthermore, the meaning of plagiarism can be interpreted differently depending on the individual or the context where it occurs (Adam et al., 2017). Due to the lack of a comprehensive definition and the availability of unambiguous examples of plagiarisms there is still confusion among the students on what exactly plagiarism is. Confusion about plagiarism and how to avoid it among students along with the lack of academic writing skills have been referred to as reasons why plagiarism still occurs in student's work (Chankova, 2017; Chen & Chou, 2017; Sarwar et al., 2016). Many authors distinguish plagiarism on the basis of whether it is intentional or not. For example, the reasons mentioned before point to unintentional plagiarism (Kayaoğlu et al., 2016). Intentional plagiarism appears when students are aware of the fact that they are conducting plagiarism. Lack of time, lack of time management skills, workload (Chankova, 2017; Kayaoğlu et al., 2016; Sarwar et al., 2016), laziness (Chen & Chou, 2017), a negative attitude to homework (Chankova, 2017), lack of interest in the subject (Chen & Chou, 2017), low probability of getting caught (Bokosmaty et al., 2017; Ewing et al., 2017; Kayaoğlu et al., 2016) and no fear of penalties (Chankova, 2017) are all

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reasons for intentional plagiarism. Students' academic behaviour is also influenced by the faculties' attitudes to plagiarism (Marshall & Garry, 2005). The confusion of faculty members about plagiarism and what it entails (Espinoza & Nájera, 2015) and their inability to implement penalties (Pickard, 2006) send mixed signals to students. Studies have also shown that students recognise plagiarism as unethical but are not able to describe how to make a proper citation (Adam et al., 2017) or recognise different forms of plagiarism (Marshall & Garry, 2005; Bokosmaty et al., 2017). Furthermore, students see some plagiarism as inevitable, as there is only a limited amount of ways how to present the same theme (Bokosmaty et al., 2017), so the prospect of perceived inevitability of making oneself guilty of some form of plagiarism scares them.

To solve the problem of plagiarism, cooperation between the faculty and the university is very important (Ewing et al., 2017). Unfortunately, common regulations on how to, on the one hand, prevent and, on the other hand, how to react to plagiarism is lacking in many universities and the faculty is left to deal with such situations on their own (Bokosmaty et al., 2017). Another way to decrease plagiarism is to use plagiarism detection systems which allow both the students as well as the faculty to check their texts (Walker, 2010). Most of the systems compare texts against those existing in various databases and websites (Seifried et al., 2015). Critics of the systems fear that plagiarism detection systems will only be used to check and punish rather than teach (Bruton & Childers, 2016; Löfström & Kupila, 2013). Löfström et al. (2017) found that using plagiarism detection systems make students more aware of their writing, and effective use of these systems involves familiarisation with the system and guidance from teachers and supervisors.

The focus of this article is to find out university students' views on plagiarism and plagiarism detection systems in a context where there has been increased national and institutional emphasis on anti-plagiarism strategies, and to offer suggestions on how universities and faculties can take charge of the situation that is considered by many with experience as unsustainable. The following four key research questions were formulated:

1.  What are university students' views on plagiarism and the reasons for plagiarism?
2.  What are university students' views on plagiarism detection systems?
3.  What are the possible solutions to combat plagiarism according to university students themselves?
4.  Do university students' views on plagiarism, plagiarism detection and ways to combat plagiarism differ depending on academic discipline?

## Study design and selection of the subject

The data was collected from bachelor's and master's students at Estonian universities. A survey-type questionnaire on student conceptions of plagiarism and plagiarism detection (Löfström & Kupila, 2013) was adapted for the Estonian context and sent to students through faculty internal e-mail systems. The participation in the research was voluntary, and no identifying data were collected. Thus, the respondents remained anonymous. A total of 380 responses were received: 243 (64%) from bachelor's students and 137 (36%) from master's students. 102 (27%) participants studied at the faculty of arts and humanities, 91 (24%) at the faculty of science and technology, 50 (13%) at the faculty of medicine and 137 (36%) at the faculty of social sciences. 26% ($n$=99) of the participants were men and 74% ($n$=281) women.

The data analyses included a factor analysis with the Varimax rotation, the Mann-Whitney U-test, the Kruskal-Wallis one-way ANOVA test, and the analysis of internal consistency between factors using the Cronbach's alpha ($\alpha \geq 0.70$) (Costello & Osborne, 2005). The results were statistically significant when $p<0.05$. The responses to the open-ended questions were analysed through a thematic analysis in which we identified the categories of themes (the consequences of plagiarism, plagiarism detection systems as helpful tools, recommendations for improving the plagiarism detection systems) and divided the sub themes on the basis of contextual similarities under wider themes.

## Results

The findings of the article corresponded to the previous findings (Chen & Chou, 2017; Löfström & Kupila, 2013; Pickard, 2006). Students see plagiarism as a problem but have difficulties identifying its extent. Furthermore, the reasons for plagiarism were consistent with Löfström et al. (2017), namely intentional plagiarism, unintentional plagiarism and plagiarism as a way of coping with studies. Both bachelor's (71%) and master's students' (71.2%) suggested that unintentional plagiarism is the most important reason for plagiarism. In different academic disciplines the results differed between the faculty of science and technology and other faculties. The students of science and technology assessed unintentional plagiarism reasons as less prevalent than students of other disciplines. Similarly, men assessed unintentional plagiarism as less prevalent than women. In addition, different forms of plagiarism were analysed, and it came out that the majority of students (99.5%) rated using other student's work as their own as the most severe form of cheating. Many students, more so in medicine, and science and technology, were confused about different forms of plagiarism, and struggled to identify what constitutes plagiarism and what

does not. Slightly over half of the students in the fields of science and technology did not identify problems with using other's work verbatim with citation but without quotation marks. Most students in medicine answered that they didn't know whether the scenarios provided in the survey constituted plagiarism or not. Furthermore, only 36.3% of the students assessed their knowledge about the consequences of plagiarism as "good" or "very good." Analysis of the open-ended questions showed that the students brought up exmatriculation as a consequence, but many also pointed out the reality of no consequences at all. As for the plagiarism detection systems: master's students used them more (28.5%) than bachelor's students (14.4%), however, very few have used them at all. Analysis of the open-ended questions showed that the students have many fears concerning plagiarism detection systems, such as false identification of plagiarism in the system and being wrongly punished. However. many students acknowledged the potential of plagiarism detection systems as an educational tool used by university teachers.

Results indicated that there is still a lot of confusion about plagiarism among university students and there are rather large differences in attitudes and knowledge to plagiarism and the use of plagiarism detection systems among students from different academic disciplines. The study highlights the importance of integrating the use of plagiarism detection systems with the pedagogical approaches to support students' learning.