Using Plagiarism Detection Software

Plagiarism detection software is designed to detect plagiarism through textual matching, comparing a submitted work against a database of internet and other published sources. There are many, many different types of plagiarism detection software available, each with their own distinct algorithms and access to outside sources for comparison. SafeAssign and Turnitin (and its relatives) are currently the most widely used plagiarism detection tools available.

- One 2008 study (Kakkonen, & Mozgovoy, 2008) finds SafeAssign to be the most effective plagiarism detector; a 2009 study finds Turnitin to be more accurate (Hill and Page, 2009). A later study comparing SafeAssign with Turnitin finds some differences in the originality reports, but no statistically significant difference in overall accuracy (Hunt and Tompkins, 2014).
- Both SafeAssign and Turnitin have failed to detect even blatant cases of plagiarism (Hill and Page, 2009; Hunt & Tompkins, 2014; Walchuk, 2016)
- Both platforms have been found to have sufficiently high false positive rates that determination of plagiarism would require further scrutiny (Gillis et al, 2009; Oghigian, Rayner, & Chujo, 2016; Stapleton, 2010; Walchuk, 2016).
- One study finds that Turnitin detected plagiarism in 100% of papers submitted in a particular test (n=68), but after removing false positives, it was decided that only 20% of those papers had plagiarized portions (Oghigian, Rayner, & Chujo, 2016).
- Gillis et al (2009) found that the liabilities of both platforms outweighed the benefits, pointing out that for both applications most of the detected text was topic terms or phrases, common expressions, jargon, citation errors.

Sources of Error in Plagiarism Detection

False Positives (incorrectly identifies original text as plagiarism)	False Negatives (incorrectly identifies plagiarized text as original)
• Use of jargon, common terms and phrases– (Up to 80% of matched text fits this description)	• Lack of access to sources in private, specialized, or expensive databases • New (unscanned) internet sources • Sources only available by subscription or behind a pay wall
• Quotations, references and properly cited sources – While Turnitin allows for exclusion of these textual elements, it often still identifies them as plagiarized text. – SafeAssign does not allow for exclusions function, but often does not highlight quotes or references	• Older publications that may not be available digitally, or are available through images, not machine readable text • Custom Essay Services • Word substitutions or article re-writers (software available on the internet designed to substitute synonyms)

Because of these false positives and false negatives the results of originality reports need to be interpreted with caution.

Policing? Or Prevention?

Research on student writing has indicated that while common, misuse of sources is often rooted in lack of student skill rather than intent to copy or deceive (Jamieson, 2013; Howard, Serviss, & Rodriguez, 2010). Students lacking comprehension of complex sources, and struggling to synthesize difficult ideas, will often "patch-write", borrowing phrases, vocabulary, and syntax from their sources and generating text that is often considered "too similar" to the original. Identifying "patch-writing" as plagiarism is problematic, however, as students often lack the sophisticated comprehension to simultaneously ground their ideas in extant research and, at the same time, to bring their own voice into their writing. Treating patch-writing as the equivalent to plagiarism may result in penalizing students when instruction would be the more appropriate solution. This is particularly an issue for English language learners who are also struggling with the conventions of writing in an unfamiliar language.

As a consequence, plagiarism detection software may very lead to penalizing students who are investing effort into developing exactly the sorts of skills they need to learn (Gillis et al, 2009). Worse, using plagiarism detection software as an instructional tool may very well train students to focus on micro-level sentence adjusting and word-substitution instead of developing more comprehensive skills in summarizing and synthesizing ideas effectively, and presenting them in a way that appropriately addresses their purpose and audience (Price, 2002; Howard, Serviss, & Rodriguez, 2010) By using plagiarism detection software to instruct students, we might in fact be teaching students how to be better plagiarists rather than supporting the development of improved academic skills (Butler, 2007).

The literature on managing plagiarism recommends that the most effective solution is to focus on prevention, rather than detection (Howard, 2002; Price, 2002; Gillis et al 2009). Recommended best practices are to construct original, well-scaffolded assignments that are difficult to plagiarize, and work with students so that they understand the rhetorical functions of citation, develop their academic voice, and come to value the tenets of academic integrity. The time spent on developing these qualities vastly outweighs the time spent on analyzing results from plagiarism detection software, both for the quality of the specific assignments, as well as for developing overall communication skills that students can apply throughout their education and careers.

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