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An Evaluation of an Extended Intervention to Reduce Plagiarism in Bachelor of Nursing Students

ABSTRACT

Pre- and postintervention surveys of first-year nursing students were undertaken to establish the students' knowledge of plagiarism following implementation of an online library-based Academic Integrity Module and the use of plagiarism detection software. Knowledge and understanding of plagiarism improved, but students' ability to paraphrase remained poor. Students entering postsecondary educational institutions require ongoing support and learning opportunities to improve their skills in paraphrasing and referencing to avoid plagiarism.

Academic integrity and learning how to write and reference are important in postsecondary learning environments (McCabe, 2009). Nurses are required to be honest, able to deal with ethical and moral issues, and adhere to the profession's code of ethics and professional conduct; however, the prevalence of academic dishonesty among nursing students is well documented and has been linked to clinical dishonesty (Lynch et al., 2017; McCabe, 2009; Oran, Can, Şenol, & Hadımlı, 2016). Despite this concern, academic dishonesty continues to increase with the introduction of online resources and ease of access to digital devices (Azulay Chertok, Barnes, & Gilleland, 2014). This article reports and evaluates an extension of an intervention to reduce plagiarism among undergraduate nursing students.

BACKGROUND

Plagiarism is widely acknowledged in postsecondary education, and nurse education is also implicated (Lynch et al., 2017; Oran et al., 2016; Smith, 2016). Yet, despite this problem, there is limited research evaluating strategies to reduce plagiarism (Bristol, 2011; Kashian, Cruz, Jang, & Silk, 2015; Lynch et al., 2017). After reviewing 43 articles, Stonecypher and Willson (2014) outlined specific strategies to assist in combating plagiarism, including discussion with students about related policies and professional honor codes, consistently reinforcing these policies and codes, and clearly outlining the consequences for academic misconduct. Teaching of correct citation and referencing techniques throughout the curriculum and allowing for staged submissions for assignments are highly recommended (Stonecypher & Willson, 2014).

Lynch et al. (2017) argue that lack of knowledge (inadvertent plagiarism) contributes to the prevalence of plagiarism, and consequently, it is important for educators to provide students with sufficient knowledge and understanding of what constitutes plagiarism for them to have confidence in writing and referencing correctly. Plagiarism detection software can be used to achieve this aim. Plagiarism detection software is used to encourage academic honesty; it can also promote students' ability to paraphrase through text-matching functionality (Iparadigms, 2013). However, such software does not assist in developing knowledge of what constitutes plagiarism or how to reference correctly. Educational interventions are required to address this issue (Smedley, Crawford, & Cloete, 2015).

This article evaluates an intervention, modified from a previous study implemented in first-semester nursing students in Australia. Smedley et al. (2015) implemented an educational strategy aimed to improve students' understanding of plagiarism and their ability to paraphrase, cite sources, and reference correctly. Evaluation of this intervention found that there were general improvements in knowledge and understanding of the various aspects of plagiarism, paraphrasing, and referencing, but areas for development remained (Smedley et al., 2015). In the current study, the intervention was extended by adding paraphrasing

practice through a library-based Academic Integrity Module (AIM) and the use of the text-matching function of plagiarism detection software (Turnitin) to assist with self-evaluation of paraphrasing ability.

All students completed the structured online learning module during their first semester of enrolment in a program. AIM was used to assist students in developing good writing and referencing skills required in postsecondary education. The focus was on promoting understanding of plagiarism, how to reference correctly, and how to make use of Turnitin, which generated a similarity report that could be used by students to identify poor paraphrasing. Directional activities were used to assist students' application of knowledge in these areas; for example, short interactive assessment tasks using examples of written literature are presented. Students were asked to respond to questions relating to correct paraphrasing techniques and correct referencing processes. Opportunities for students to practice paraphrasing and interpreting information were included, and learning was reinforced through short online multiple-choice quizzes at the end of each module. Opportunity also existed to improve skills through voluntarily repeating tasks. The module took approximately four hours to complete.

METHOD

Ethics approval was gained from the Human Research Ethics Committee of the participating institution before undertaking this research. Participation was voluntary, and written consent was obtained. The preintervention survey was distributed to all first-semester baccalaureate nursing students in March 2015 ($N = 150$) to establish the students' perception of their knowledge of plagiarism. All students completed the first survey prior to completion of the educational intervention. The postintervention survey was distributed five months later with a final sample of 70 students completing both surveys.

The tool for this study differed from that used by Smedley et al. (2015) in that participants' responses from the surveys were matched pre- and postintervention using a 5-point Likert scale response (strongly agree to strongly disagree). Questions 1 to 13 in the preintervention survey were consistent with those of the postintervention survey. In the preintervention survey, Questions 14 to 16 asked the participant's gender, age, and previous experience with plagiarism and referencing in an educational setting. In the postintervention survey, Questions 14 to 16 asked participants to identify their perception of whether Turnitin had helped them better avoid plagiarism, whether sufficient guidance was provided during the first semester in the course, and whether the AIM module had assisted academic writing, referencing, and avoidance of plagiarism. Questions 1 to 13 were explored using paired *t*-tests. The effect size was reported using a comparable Cohen's *d*. Relationships between age and previous experience with plagiarism were analysed using independent *t* tests and analyses of variance. The questions dealing with students' rating their experience of the AIM module and online plagiarism detection software (Turnitin) were analyzed using descriptive statistics.

RESULTS AND DISCUSSION

Useable data were collected from 70 matched pairs for a 46 percent response rate. The majority of respondents were female ($n = 53$, 76 percent). The sample was predominantly younger than 20 years of age ($n = 33$, 47 percent). The remaining sample was 20 to 23 years old ($n = 20$, 29 percent) and 24 years and older ($n = 17$, 24 percent). Students were asked to identify their highest level of educational experience in relation to plagiarism. The majority of students ($n = 41$, 58.5 percent) had completed their secondary education at high school, whereas 31 percent ($n = 22$) had educational experience in postsecondary educational institutions (technical colleges or university).

Only seven students (10 percent) identified that they had no previous experience with referencing or plagiarism. Data analysis indicated that there were significant differences (at the .05 level) between pre and post responses for Questions 1, 4, 6, 7, 9, 11, and 12 as a result of the plagiarism and referencing education intervention. Students perceived they had considerable knowledge of what constitutes plagiarism (Question 1) when they commenced Semester 1. However, by the end of the semester, and after the educational intervention was completed, students were less confident about their knowledge. The effect size of this reduction in the postintervention mean was in the medium range ($d = 0.622$). This could possibly be attributed to the fact that, before the intervention, they perceived themselves as being knowledgeable, but only after the intervention were they truly aware of their deficiency in knowledge and ability. (The survey is available as supplemental digital material at <http://links.lww.com/NEP/A133>.)

Responses to Questions 4, 6, 9, and 11 assessed the students' knowledge of referencing in general (e.g., correctly acknowledging authors' work but failing to use quotation marks, not citing references in text, failing to correctly reference with repeated use of authors' work, and no inclusion of references). The analysis of these questions indicates significant improvement in knowledge resulting from this educational intervention. The effect size relating to the difference between the pre- and postintervention survey for these questions falls within a medium to medium-high range (Question 4, $d = 0.351$; Question 6, $d = 0.878$; Question 9, $d = 0.607$; Question 11, $d = 0.506$). Students did demonstrate an overall improvement in understanding the need for correct referencing, which is reflected in other studies (Azulay Chertok et al., 2014; Pence, 2012).

Despite these improvements, there was a decrease in students' knowledge and understanding related to the inclusion of an author's last name, date of publication, and page number as being important to avoid plagiarism when quoting from a source (Question 7). This question exhibited a medium effect size ($d = 0.341$). Second, responses indicated that the students' rating of their understanding of paraphrasing (Question 12) decreased after the intervention, with the decrease being of medium effect size ($d = 0.510$). Students who attempt to substitute words in paragraphs rather than rewrite paragraphs in their own words demonstrate poor understanding of paraphrasing. These negative results are concerning and suggest a need for an increased focus on teaching these aspects of referencing and paraphrasing. Differences in responses between the pre- and postintervention survey were not significantly correlated to age or previous experience with plagiarism.

Students' perceptions of the benefit of guidance, completion of the AIM module, and use of Turnitin were assessed through descriptive analysis of postintervention survey questions. The results showed that all respondents agreed or strongly agreed that the interventions received during the semester had added to their knowledge and understanding of plagiarism. The students perceived that an online intervention such as AIM and making use of the text-matching ability of plagiarism detection software assisted them in developing paraphrasing skills. Multiple learning activities in small groups with supervised practice and guidance helped students develop referencing and paraphrasing skills. This study is limited by the fact that the institution and the number of students sampled were small. This would affect the generalizability of the outcomes.

CONCLUSION

Encouraging students to become more aware of plagiarism and teaching them to reference correctly are important for good academic writing. This study has shown that students entering postsecondary institutions require learning opportunities to improve their skills in paraphrasing and referencing to avoid plagiarism. This article provides evidence of the benefits of an online learning module combined with the use of plagiarism detection

software. It also highlights that technical aspects of in-text referencing and paraphrasing skills need ongoing support to promote better outcomes for students in the areas of academic writing, referencing, and avoidance of plagiarism.

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