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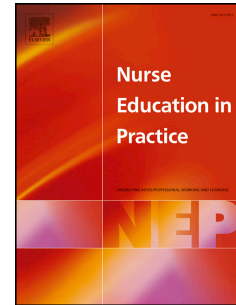
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## **AN INTERVENTION AIMED AT REDUCING PLAGIARISM IN UNDERGRADUATE NURSING STUDENTS**

### **ABSTRACT**

Plagiarism is a current and developing problem in the tertiary education sector where students access information and reproduce it as their own. It is identified as occurring in many tertiary level degrees including nursing and allied health profession degrees. Nursing specifically, is a profession where standards and ethics are required and honesty is paramount. The aim of this study was to evaluate the change in nursing student's knowledge and understanding of plagiarism before and after an educational intervention in their first semester of the Bachelor of nursing degree at a private college of higher education in Sydney, Australia. This study concluded that an educational intervention can increase knowledge and awareness of plagiarism among nursing students.

Key words: Plagiarism, nurse education, academic dishonesty

### **INTRODUCTION**

Plagiarism is an area of concern in higher education that has resulted in the development of carefully articulated policies in attempts to minimise its occurrence. Academic dishonesty is an increasing global concern spanning many disciplines and levels of tertiary education (Johanson, 2010; Kenny, 2007; Walker, 2014). The literature identifies that plagiarism is becoming more evident as technology enables easy access to online resources. The introduction of the internet, digital devices, as well as online learning and testing appears to have influenced the incidence of cheating among tertiary students (Harper, 2006; McCabe, 2009). McCabe (2005) reported from results of a longitudinal study of 50,000 undergraduates that up to 70% of students admitted to cheating in some way and that the incidence of academic misconduct was increasing.

There have been a number of studies examining reasons for, prevalence and types of plagiarism across various disciplines and countries indicating the widespread nature of the problem (Youmans, 2011; Chertok et al., 2014; Walker, 2010; Sarlauskiene & Stabingis, 2014; Ibrahım et al., 2013; Farnese et al., 2011; Şendağ et al., 2013). However, according to Walker (2010), a major issue is a lack of accurate measures of actual prevalence of plagiarism among students, as most surveys rely on self-reporting of their own or their peers' plagiarising behaviour thus requiring honest reports of dishonesty. Furthermore, there is also a lack of standardisation and a blurring of what is considered 'cheating'. The development of search engines and anti-plagiarism software such as Turnitin, have enabled lecturers to identify possible sources of plagiarism, however in some cases plagiarism will go undetected regardless of hours of detective work (iparadigms, 2013; Walker, 2010; Patterson et al., 2003).

In Australian tertiary education some institutions have adopted the use of an electronic intervention to detect and minimise student plagiarism. Plagiarism detection software such as Turnitin, does not actually identify plagiarism, but matches the content of an assignment uploaded electronically with material previously uploaded or otherwise accessible on the Internet (Walker, 2010). This process is useful for the student as it enables them to address poor paraphrasing techniques, allowing self-correction before uploading a formal submission (iparadigms, 2013). Whilst this type of intervention has the benefit of detecting similarities with other papers for the student and the lecturer, it would appear that an educational process of teaching about academic integrity is still important in any undergraduate course.

A number of strategies to foster academic integrity and reduce the incidence of plagiarism have been identified in the literature (Bristol, 2011; Scanlan, 2006; Tippitt et al., 2009; Johanson, 2010; Pence, 2012), however little has been written evaluating intervention strategies that have been implemented. This paper reports on of a study undertaken in 2013 that evaluates the change in nursing student's knowledge and understanding of plagiarism

before and after an educational intervention within a private College of Higher Education in Sydney, Australia.

### **BACKGROUND**

Although it might be anticipated that nursing students, who are expected to exhibit a high level of ethical practice on a professional level would exhibit more academic honesty as compared to non-nursing students, they were statistically indistinguishable from other disciplines (McCabe, 2009; Arhin & Jones, 2009). Furthermore, the trend of plagiarism among nursing students appears to be increasing (Kiehl, 2006; Logue, 2004; Pence, 2012; Chertok, et al., 2014). The nursing profession's standards of practice, codes of ethics and conduct all require graduate nurses to be honest in the provision of care, correct documentation and record keeping. In addition, nurses are expected to be able to deal with ethical and moral issues or dilemmas that they may be faced with in their practice. It is concerning that those nurses who plagiarise intentionally, may lack the attributes of integrity, honesty and trustworthiness required by the nursing profession (Coffey and Anyinam, 2012; Kenny, 2007; McCabe, 2009; Pence, 2012).

McCabe (2009) found that over half of undergraduate nursing student participants self-reported cheating in some form or another during the course of their studies. A small number of studies have been conducted in recent years investigating nursing student's understanding of what constitutes plagiarism. According to Patterson et al. (2003) plagiarism is construed differently by faculty and students. Students did not link engagement in plagiarism to integrity and honesty in relation to their academic or career ethics, but rather, as an academic peculiarity. The fear of retribution was identified as not enough to restrain them from plagiarising. Woith et al. (2012) found that nursing students could define and recognise broad characteristics of someone with academic integrity, for example, trustworthiness; however there appears to be confusion regarding the understanding of what constitutes various forms of cheating. Arhus and Jones (2009) found that 35% of nursing students did not believe that fabricating results for a laboratory exercise displayed lack of

academic integrity, and 66% of nursing students did not believe that handing down coursework and laboratory reports for use by students in lower classes were forms of cheating.

Park et al. (2013) studied academic cheating among Korean nursing students and found that 44.8% perceived there to be no problem with copying work from a source without citing the author in the paper. In addition, 59.7% perceived there to be no problem collaborating on an assignment which required individual work, and 41.9% considered fabricating or falsifying a bibliography. These results are also reflected by undergraduates in other disciplines. According to Youman (2011) and Sarlauskiene and Stabingis (2014), students are often unclear about how to properly prepare written work, do not fully understand that copying words even when the author is cited is plagiarism, and have their own understanding of what constitutes plagiarism. These results demonstrate the importance of educating students about academic integrity and how to avoid plagiarism, particularly in preparing to practice in a profession such as nursing where a lack of ethics and honesty could impact on patient safety and patient care outcomes (Woith et al, 2012).

There are also concerns among other disciplines such as business, education and psychology that those who plagiarise will carry unethical and dishonest behaviour into the workforce (Iberahim et al., 2013; Youmans, 2011; Farnese et al., 2011; Arhin & Jones, 2009). Harper's (2006) review of the literature found correlations between academic misconduct and dishonesty in the workplace. This is particularly disturbing as nursing requires graduate practitioners to be prepared to deal with ethical and moral issues and dilemmas, adhere to professional codes of ethical and professional conduct, and protect the public from unsafe practice. McCrink (2010) investigated nursing students in two associate degree programs ( $n=193$ ) in the United States, to examine whether engagement in academic misconduct could be linked to ethical standards of the nursing profession, in particular, the ethic of caring. In contrast to commonly documented concerns, these results indicated that the frequency of

student engagement in various forms of academic misconduct held no predictive value to the ethics displayed in caring within the nursing profession.

A limited number of studies have evaluated plagiarism awareness interventions for nursing students. Pence (2012) surveyed a group of allied health students that included pre-nursing and undergraduate nursing students (n=43, response rate 95%) undertaking an online course to assess their awareness and understanding of plagiarism. Pence (2012) concluded that the interventions and provision of writing resources were effective in increasing awareness and recognition of different forms of plagiarism among most participants; however, some students remained unsure about what constituted plagiarism. A three year pilot project implementing a holistic approach to encourage academic honesty in a Canadian nursing program reported positive results in terms of increased quality of work submitted by students (Coffey and Anyinam, 2012).

Chertok et al. (2014) conducted a quasi-experimental study on 355 health science students which included nursing students. A control group received a review of the course syllabus while the intervention group received both the course review and an educational intervention. The educational intervention included information about academic integrity and plagiarism, and provided examples of what would be considered academically dishonest behaviour. The study results indicated enhanced knowledge and attitude towards academic integrity in the intervention group. Nursing academics are best positioned to provide teaching and learning opportunities to enhance and develop student nurses knowledge and awareness of plagiarism. Furthermore nurse educators have a responsibility to promote and maintain ethical standards in the classroom (both in person and online), nursing laboratories and clinical settings where unethical conduct may result in compromised patient safety. Anderson (2009) argues that nurse educators promote academic integrity by modelling ethical behaviour in their day to day practice, for example, by being careful to acknowledge sources used for preparing lecture material and other written work. This paper adds to the literature by evaluating an educational intervention provided to nursing students.

**RESEARCH DESIGN: METHODOLOGY AND SAMPLE****Aim of this study**

The primary aim of this study was to identify whether an educational intervention improved the student's understanding and awareness of plagiarism. This quantitative study was commenced with first year nurses (n=150) on commencement of their first semester of a three year Bachelor of Nursing (BNurs) course through a private College of Higher Education in Sydney, Australia in 2013.

Ethics approval was granted by the Human Research Ethics Committee (HREC) of the researching institution, and approval was given to use the survey instrument by the author of the instrument (Pence, 2012). Participation was voluntary and the potential for lecturer coercion was limited by administrative staff being involved in distributing and collecting the surveys. Participants were assured that their anonymity would be protected and that they could choose to no longer participate with no consequence to them or their academic results.

**Data Collection instrument**

The instrument used in this study was adapted with permission from Pence (2012), and was an 18 item survey designed to assess the awareness and understanding of students towards plagiarism. This approach was chosen as a useful way to evaluate whether the inclusion of a targeted educational intervention improved the participant's knowledge and understanding of plagiarism. Surveys were seen as the best option to use in this study as students were spread across two campuses. In addition, many students chose to leave the college on vacation as soon as the semester was completed. On reflection, a focus group may have elicited more detailed information on what was, and was not, useful with regards to the educational intervention implemented. According to Pence (2012), the survey was designed, based on literature which described plagiarism and utilised a Delphi process to validate the survey for appropriateness and readability. A brief comparison of results from



this study will be compared to Pence (2012) due to the similar data collection instrument used. There were some minor adaptations made (additional questions) to the survey to enable a pre-post intervention test approach to be utilised (see table 1).

**(Insert Table 1 here)**

The first 3 survey questions covered the student's knowledge and understanding of plagiarism, their ability to identify various forms of plagiarism and the student's confidence in avoiding plagiarism. The next 10 survey questions were designed as scenarios of plagiarism, 8 of which were what would be considered as plagiarism and another 2 scenarios that would be considered not to be plagiarism (Pence, 2012). Participants were requested to respond to these questions on a 5 point Likert scale of *definitely plagiarism*, *probably plagiarism*, *not sure if it is plagiarism*, *probably not plagiarism*, or *definitely not plagiarism*. In this current study, to enable a better understanding of whether this specifically designed set of educational interventions assisted students in academic writing, it was decided to administer the adapted survey before and after the educational intervention to establish if a change in knowledge and awareness of plagiarism occurred in the student cohort.

Beginning undergraduate students were invited to participate in this study which consisted of completing two surveys during the semester. The first survey was completed at the commencement of the first semester to assess the student's knowledge of what constitutes plagiarism as well as their initial knowledge of methods to detect and avoid plagiarism. After the initial survey was completed, an educational intervention was delivered during the first semester as part of the BNurs course. The follow-up survey was completed at the end of the first semester to assess any change in the student's knowledge of what constitutes plagiarism and their ability to detect and avoid plagiarism. This follow-up survey included an additional question to ascertain what resource was used most during the semester to assist them with writing and referencing academic work.

The data was analysed using the Statistical Package for Social Science (SPSS) version 21. The Mann-Whitney test was used to test the hypothesis there was no difference in the responses to the survey questions before and after the educational intervention. In this study significance was identified at  $<0.05$ .

### **Selection and recruitment of participants**

Although the study was voluntary, the HREC committee requested students be asked to complete a consent form after being informed about the study. This was necessary as the institution has a small cohort of nursing students and the students would be taught by the lecturers involved in the research study. Participant information about the research, consent form and the surveys were distributed to all beginning undergraduate students during the first week of semester. Students were requested to return the surveys to the reception office where they were placed in secure boxes for collection by the researchers.

The pre-intervention survey was distributed to 150 first year beginning nursing students in the BNurs programme. Most participants ( $n=118$ ) completed the survey, a response rate of 78.6% of the total surveys distributed. The post intervention survey was collected at the end of the first semester of the BNurs programme ( $n=70$ ), a response rate of 46.6% of the distributed number. The age range and gender of participants was also collected.

### **Educational intervention**

The educational intervention for students in their first semester of the nursing degree included exposing students to a number of teaching and learning sessions on academic writing, understanding plagiarism and correct referencing. The sessions were held in small groups in the library environment where access to computers for students was provided, and taught by academic and library staff. The small group learning was aimed at developing the student's understanding of plagiarism and their ability to detect and avoid plagiarism. Students were encouraged to locate information both in paper form and from online sources

(journal, websites and databases). They were also required to correctly complete a range of exercises that included correct paraphrasing, in-text referencing and correct compilation of a reference list. Students were also required to complete an online tutorial about understanding plagiarism followed by a quiz.

## **RESULTS**

The results from this study provide the demographics of the participants of the study, the analysis of the survey results and item analysis, and scale generation and analysis.

The age range and gender of participants was collected and is identified in Table 2.

**Insert Table 2 here.**

These results indicated that the total number of responses from the pre-intervention survey (118) were much higher than those from the post intervention survey (70). The spread of age was similar in the 20-24 years and over 24 years age ranges. A decrease in the under 20 year age range responses was noted when comparing the pre and post intervention survey responses. The spread of gender identified was similar in both pre and post intervention responses.

### **Survey instrument analysis and individual item analysis**

The mean (M) scores and standard deviations (SD) were calculated and tested to establish if a significant difference existed in the scores between the pre and post education intervention for each question on the survey (Table 3).

**Insert Table 3 here.**

Analysis of the pre and post intervention data indicated that there was a significant difference in responses for questions 1, 6, 12 and 13. Questions 6, 12 and 13 primarily related to the participants' understanding of paraphrasing. Question 1 was related to the student's perception of their overall knowledge and understanding of plagiarism. It is interesting to note that in question 1 the student's perception of their knowledge decreased

which is somewhat counter intuitive. Data for the remaining questions indicated an overall trend that knowledge and understanding of plagiarism had improved.

When analysing responses from female participants, significant differences were identified in questions 1, 6 and 12 pre and post intervention. Improvement occurred in question 13 however the results were not significantly different. For the male participants, overall changes for pre and post intervention of all items indicated that no significant change occurred, however the sample consisted of only 42 males which is a limitation of this study. Question 13 was noted to be close to the significant level which in turn, could have influenced the significant change identified when analysing the overall group.

### **Scale generation and analysis**

Factor analysis of the survey questions only generated one coherent scale. This scale consisted of a combination of:

Question 1 - Knowledge and understanding of plagiarism;

Question 2 - Knowledge and understanding of the different forms of plagiarism;

Question 3 - Ability to avoid plagiarism in writing an assignment.

This scale assesses the student's perception of their knowledge and understanding of plagiarism, rather than focusing on specific types of plagiarism, and was therefore given the title of 'student perception of knowledge of plagiarism'. The internal reliability, using Cronbach Alpha for this scale was 0.772, indicating acceptable scale reliability.

Comparison of the 'student knowledge perception' scale pre and post the educational intervention identified a significant difference at the 0.05 level. Further analysis where the sample was divided into three age groups, namely less than 20 years, 20-24 years and greater than 24 years, indicated that it was only the 20-24 aged year group that displayed significant difference (at the 0.05 level) between the pre and post educational intervention responses. This is displayed in Figure 1.

**(Insert Figure 1 here.)**

Figure 1: Box plot of student perception change in overall mean score pre-post intervention with three age groups.

What is noted from Figure 1 is that within two of the three age groups, the 95% confidence intervals in the post intervention group narrowed, compared to the pre-intervention group, indicating more precision in the effect size.

## **DISCUSSION**

From the results, students indicated a general improvement in their knowledge and understanding of the respective aspects of plagiarism. This could be contributed to the educational intervention, and therefore the teaching intervention was perceived to have improved the student's knowledge and understanding of plagiarism across the semester.

It was interesting to note that while all students perceived their knowledge of plagiarism to be good in the initial survey, a significant reduction in perceived knowledge was identified by the 20-24 year age group. This suggests that while they may have felt confident in the initial part of the semester as their exposure to learning increased, they became more perceptive of their lack of knowledge in the area. The under 20 year age group displayed similar perceptions, but to a lesser degree, resulting in a tighter range of perceived knowledge and a lower mean. The overall result in the over 24 year age group indicated initial lower levels of perceived knowledge and understanding than the other two groups. The post survey indicated no change in knowledge this age group, which may indicate a continued lack of confidence with paraphrasing and referencing.

When analysis was undertaken to identify any differences between age group responses, students aged 20-24 years consistently showed high levels of improvement in questions 6 and 12. The groups from the less than 20 years and greater than 24 years identified no change in question 6; however when compared to the 20-24 year age group, changes were evident in question 12. The less than 20 years age group also showed improvement in question 13. The content of questions 6, 12 and 13 related to the

participants' understanding of paraphrasing. The study indicated therefore, that there was a significant improvement after the educational intervention in all age groups relating to their understanding of paraphrasing with greater improvement in the group under 24 years age group. This compares to the study by Pence (2012) where participants' had difficulty in recognising the proper use of ideas from an author.

Most responses obtained in this study were similar to those produced by Pence (2012); however, 98.5% of students in this study compared to 78.1% (Pence, 2012) believed that copying was definitely or probably plagiarism. In addition, only 70% of participants from this study correctly identified that only citing parts of a paper would be definitely or probably considered plagiarism, whereas 91.9% of participants in Pence's (2012) study identified this correctly. Although not tested, potential reasons for these differences could be influences such as cultural context of learning, previous schooling and learning experiences, technology and computer use previous exposure to plagiarism and academic writing or individual social influences.

There were no significant differences in the responses between males and females, however the male sample size in this study was relatively small (n=42). Similarly, Jiang et al. (2013) cited a significant number of studies that found the relationship between student's biological sex and academic integrity is still largely undetermined.

A Mann-Whitney test was used to test the hypothesis of each question. There was no difference in the responses to the subscale 'student perception of plagiarism' (questions 1, 2 and 3) before and after the intervention. For the whole group, four items showed significant difference between pre and post intervention, rejecting the hypothesis for the items (question 1, 6, 12 and 13).

Student's perception of their knowledge and understanding of plagiarism in the less than 24 year age group indicated that they had perceived a greater need for knowledge and understanding of plagiarism as their awareness of plagiarism grew. This group initially

perceived they knew more than they did (in the first survey) and realised (in the second survey) that they might not know as much as they thought they did. This recognized lack of knowledge and understanding, and the identified need for learning, will hopefully assist them in seeking out the required information when engaging in tasks requiring paraphrasing and referencing. Participants in the greater than 24 year age group displayed no change in their perceived levels of knowledge and understanding of plagiarism. They were possibly more realistic initially in their estimation of knowledge and understanding of plagiarism, and the intervention did not seem to change their perceptions, perhaps indicating a continued lack of knowledge or confidence with paraphrasing and referencing.

The researchers noted that in the semester following the educational intervention, there was an improvement in paraphrasing and assignment referencing. Although only anecdotal in nature, most students submitting essay assignments in semester two paraphrased and referenced correctly in-text. Errors related to in-text referencing were more often related to APA formatting issues (commas and page numbering), rather than neglecting to insert references for citations. Most students compiled their reference list of books and journal articles correctly with only minor formatting issues, however many students did not manage to correctly identify the formatting required for 'a previously published selection in an edited collection', and also incorrectly referenced web based materials. These findings have implications for some changes in the educational intervention in the future and follow-up research in this area could provide a broader understanding of student's abilities. It is clear that educational intervention can improve a student's knowledge and understanding of plagiarism.

The challenge is for nurse academics to develop targeted educational strategies that will assist with the development of student skills in improving their own knowledge and understanding of plagiarism. The correct processes will then hopefully be repeated by the student whenever assignments or projects are completed. Encouraging academic honesty in an environment where plagiarism is common amongst students and must be addressed

will require ongoing commitment on behalf of academic staff, a difficult task where there are competing demands on time. Consistency in highlighting the importance of avoiding plagiarism will contribute towards expected ethical behaviour in the nursing profession.

Reliance on plagiarism detection software such as Turnitin can assist academics to detect plagiarism with increasing student numbers, however understanding the software and how it works is a very important skill for academics to embrace. Use of plagiarism detection software, such as Turnitin, while identifying poor paraphrasing techniques does not directly assist in developing student's knowledge of what constitutes plagiarism, or their ability to correctly reference. The need for academics to teach students what constitutes plagiarism, how to detect it and how to avoid it will remain and the results of this study demonstrate the need for educational interventions that inform students how to maintain academic integrity to supplement the educational role of plagiarism detection software can play.

#### **LIMITATIONS, RECOMMENDATIONS AND FURTHER STUDY**

This study was undertaken in a private College with under 1500 undergraduate students. The nursing faculty had approximately 350 students enrolled over the three years of a Bachelor of Nursing course thus one limitation is the limited numbers especially in relation to the response rate of the second survey and the unequal gender distribution in the study. A method of coded sampling was not used. Coded sampling could have improved the feedback, enabling an individual's change to be identified. The results from this study highlight the importance of providing educational resources in conjunction with teaching and learning strategies to assist students in developing their knowledge and awareness of plagiarism. If academic dishonesty is not addressed, honest students are disadvantaged, students will feel pressure to cheat in order to compete with other students, and the risk of plagiarising behaviours becoming more accepted as part of student culture may also increase, which in turn, may ultimately threaten society's trust in the nursing profession. Further research should be undertaken to evaluate students' perception of their knowledge,



detection and avoidance of plagiarism after a period of time. In addition, further examination into the reasons as to why students plagiarise would be useful to inform alternative approaches to teaching and learning to assist in curbing this behaviour.

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**REFERENCES**

- Anderson, I., 2009. Avoiding plagiarism in academic writing. *Nursing Standard* 23 (18), 35-37.
- Arhin, A.O., Jones, K. A., 2009. A multidiscipline exploration of college students' perceptions of academic dishonesty: Are nursing students different from other college students? *Nurse Education Today* 29, 710-714.
- Bristol, T.J., 2011. Plagiarism prevention with technology. *Teaching and Learning in Nursing* 6,146-149.
- Chertok, I. R. A., Barnes, E. Gilleland, D., 2014. Academic integrity in the online learning environment for health sciences students. *Nurse Education Today* 34, 1324-1329.
- Coffey, S., Anyinam, C., 2012. Trialing a contextual approach to academic honesty. *Nurse Educator* 37 (2), 62-66.
- Farnese, M. L., Tramontano, C., Fida, R., Paciello, M., 2011. Cheating behaviours in academic context: Does academic moral disengagement matter? *Social and Behavioural Sciences* 29, 356-365.
- Harper, M.G., 2006. High tech cheating. *Nurse Education in Practice* 6, 364-371.
- Iberahim, H., Hussein, N., Samat, N., Noordin, F., Daud, N., 2013. Academic dishonesty: Why business students participate in these practices? *Social and Behavioural Sciences* 90, 152-156.
- Iparadigms., 2013. Turnitin. Retrieved from [http://turnitin.com/en\\_us/home](http://turnitin.com/en_us/home)
- Johanson, L., 2010. Encouraging academic honesty: A nursing imperative. *Journal of Christian Nursing* 27 (3), 267-271.

- Kenny, D., 2006. Student plagiarism and professional practice. *Nurse Education Today* 27, 14-18.
- Kiehl, E., 2006. Using an ethical decision-making model to determine consequences for student plagiarism. *Journal of Nursing Education* 45 (6), 199-203.
- Kisamore, J.L., Stone, T.H., Jawahar, I.M., 2007. Academic integrity: The relationship between the individual and situational factors on misconduct contemplations. *Journal of Business Ethics* 75 (4), 381-394. DOI:10.1007/s10551-006-9260-9
- Logue, R., 2004. Plagiarism: The internet makes it easy. *Nursing Standard* 18 (51), 40-43.
- McCabe, D. L., 2005. CAI research. Retrieved 25 September, 2014 from <[http://www.academicintegrity.org/cai\\_research.asp](http://www.academicintegrity.org/cai_research.asp)>
- McCabe, D.L., 2009. Academic dishonesty in nursing schools: An empirical investigation. *Journal of Nursing Education* 48 (11), 614-623.
- McCrink, A., 2010. Academic misconduct in nursing students: Behaviours, attitudes, rationalizations, and cultural identity. *Journal of Nursing Education* 49 (11), 653-659.
- Park, E-J., Park, S., Jang, I-S., 2013. Academic cheating among nursing students. *Nurse Education Today* 33, 346-352.
- Paterson, B., Taylor, L., Usick, B., 2003. The construction of plagiarism in a school of nursing. *Learning in Health and Social Care* 2 (3), 147-158.
- Pence, P.L., 2012. Plagiarism: Using a collaborative approach in an online allied health professions course. *Nurse Educator* 37 (1), 12-16.
- Rabi, S.M., Patton, L.R., Fjortoft, N., Zgarrick, D.P., 2006. Characteristics, prevalence, attitudes and perceptions of academic dishonesty among pharmacy students. *American Journal of Pharmaceutical Education* 70 (4), 1-8.

- Sarlauskiene, L., Stabingis, L., 2014. Understanding of plagiarism by the students in HEIs of Lithuania. *Social and Behavioural Sciences* 110, 638-646.
- Şendağ, S., Duran, M., Fraser, M.R., 2012. Surveying the extent of involvement in online academic dishonesty (e-dishonesty) related practices among university students and the rationale students provide: One university's experience. *Computers in Human Behaviour* 28, 849-860.
- Scanlan, C.L., 2006. Strategies to promote a climate of academic integrity and minimize student cheating and plagiarism. *Journal of Allied Health* 35 (3), 179-185.
- Tippitt, M.P., Ard, N., Kline, J.R., Tilghman, J., Chamberlain, B., & Meagher, P.G., 2009. Creating environments that foster academic integrity. *Nursing Education Perspectives* 30 (4), 239-244.
- Youmans, R. J., 2011. Does the adoption of plagiarism-detection software in higher education reduce plagiarism? *Studies in Higher Education* 36 (7), 749-761.
- Walker, J., 2010. Measuring plagiarism: Researching what students do, not what they say they do. *Studies in Higher Education* 35 (1), 41-59.
- Woith, W., Jenkins, S. D., Kerber, C., 2012. Perceptions of academic integrity among nursing students. *Nursing Forum* 47 (4), 253-259.

Table 1: Pre-post intervention survey questions.

Survey questions:	
Question 1a Pre intervention	I am aware of what plagiarism is.
Question 1b Post intervention	My knowledge & understanding of plagiarism has increased this semester.
Question 2a Pre intervention	I am aware of the different forms of plagiarism
Question 2b Post intervention	My knowledge and understanding of the different forms of plagiarism has increased since the beginning of semester
Question 3a Pre intervention	I am confident that I am able to avoid plagiarism in writing an assignment.
Question 3b Post intervention	I am now more confident that I am able to avoid plagiarism in writing an assignment
Question 4.	The student used direct words from an author's work within the text of an assignment. Because the student included a citation, quotation marks were not included.
Question 5.	The student copied information from a friend's work to complete a writing assignment.
Question 6.	The student changed some words & sentences from another source, replaced them with similar words & phrases but does not cite in text of assignment.
Question 7.	The student included author's last name, date of publication and page number with abbreviation p. as the citation when the student quotes or paraphrases from a source.
Question 8.	The student searches the Internet and finds a table appropriate to include in a writing assignment. The student copies and pastes the table into the assignment, lists a name for the table as the complete information within the text.
Question 9.	The student includes quotations and citations in the first section of a writing assignment. Because the student included these in the first section, quotations and citations are not included in other sections when information is used from those sources.
Question 10.	The student follows the same sequence of an author's ideas found in a journal when the student completes a writing assignment.
Question 11.	The student plans to go back and cite the sources used in a writing assignment. The student later forgets to add the citations and then hands in the assignment.
Question 12.	The student maintains the ideas of the original author when paraphrasing the material in the student's own words. The student follows the paraphrased material with an in-text citation.
Question 13.	A student used information received through personal communication to complete a writing assignment. Because the information was in an email, an in-text citation was not included.
Question 14.	Please identify the most common resource used for referencing.
Question 15	(additional question)

Post intervention	Please identify which resource was most commonly used during the semester to assist with writing and referencing academic work.
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Table 2: Demographics of study participants

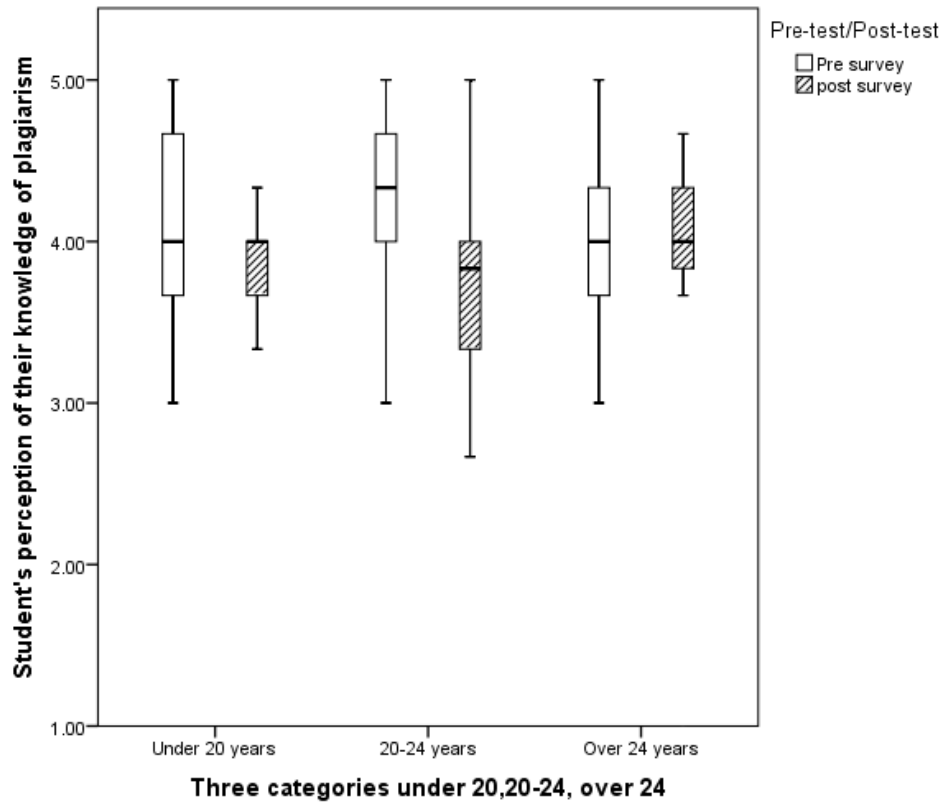
Participants		Pre intervention survey	Post intervention survey
Age Range	< 20 years	51 (43.2%)	20 (28.5%)
	20-24 years	38 (32.2%)	30 (42.8%)
	> 24 years	29 (24.5%)	20 (28.5%)
	Total	118 (100%)	70 (100%)
Gender	Males 42 (21.2%)	Males = 28 (23.7%)	Males = 14 (20%)
	Females 146 (77.6%)	Females = 90 (76.3%)	Females = 56(80%)

Table 3: All item means and standard deviation pre and post intervention.

Significance\* is identified at 0.05 and placed in **BOLD**

Survey Questions	Pre intervention		post intervention		Significance
	M	SD	M	SD	
<b>1. Awareness of plagiarism.</b>	<b>4.42</b>	<b>.53</b>	<b>3.84</b>	<b>.86</b>	<b>0.000 *</b>
2. Awareness of the different forms of plagiarism.	3.80	.87	3.73	.85	0.357
3. Confidence to avoid plagiarism	4.01	.80	3.76	.88	0.053
4. Quotation marks not used when directly quoting from an author's work.	3.94	1.01	4.07	1.01	0.626
5. Copied from a friend's work in an assignment	4.73	.74	4.90	.35	0.133
<b>6. Minimal paraphrasing, no citation in text.</b>	<b>4.03</b>	<b>1.01</b>	<b>4.44</b>	<b>.69</b>	<b>0.012 *</b>
7. Correct reference in-text and citation.	1.92	1.00	1.97	1.08	0.888
8. Copied, pasted table, lists table name as citation.	3.21	1.34	3.37	1.25	0.355
9. Quotes and cites correctly in only part of the paper.	3.92	.93	4.03	1.04	0.917
10. Followed same sequence of an author's ideas	3.69	1.02	3.70	.86	0.614
11. Forgets to add the citations	4.50	.81	4.63	.75	0.586
<b>12. Maintained ideas of author when paraphrasing, cited</b>	<b>2.35</b>	<b>1.02</b>	<b>1.81</b>	<b>1.07</b>	<b>0.009 *</b>
<b>13. No citation when using personal communication by email</b>	<b>3.62</b>	<b>1.00</b>	<b>3.94</b>	<b>.88</b>	<b>0.009 *</b>





**Research highlights**

- Review of the literature confirms that nursing students plagiarise as often as students in other disciplines.
- An educational intervention aimed at reducing the incidence of plagiarism is evaluated.
- Results show that educating students about academic honesty can reduce the incidence of plagiarism.