Library Instruction Sessions on Awareness of Plagiarism Among University Students: A Case Study

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Abstract

This study investigates the effectiveness of library user education programmes in enhancing students' awareness and understanding of seven types of plagiarism. The focus was on three distinct groups of students: undergraduates at two different levels (level I and level III) and postgraduates. The methodology employed a structured questionnaire to collect data via a survey approach before and after the library instruction sessions. To facilitate data collection, an online survey was created using Google Forms, streamlining the process of reaching out to participants.

Results demonstrate that the library user education programs significantly contributed to the enhancement of students' comprehension of plagiarism. Notably, Word-for-Word and Mosaic plagiarism were well comprehended across all student groups, indicating the effectiveness of the educational interventions for these types.

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While the majority of plagiarism types indicate considerable improvement following the instructional sessions, the study highlights the importance of tailored approaches for addressing challenging areas. Educators are encouraged to prioritize comprehensive and targeted strategies to maximize the outcomes of plagiarism and referencing in education.

**Keywords:** *User education, Plagiarism, Referencing*
Introduction

As literature explains, plagiarism occurs when people reproduce someone else's work without acknowledging the original author and the source. The Concise Oxford Dictionary claims that the Latin word "plagiarise" which means "kidnapper" is the origin of the term "plagiarism." Further, it explains plagiarism as "the action or practice of taking someone else's work, ideas, etc., and passing it off as one's own: literary theft" (Oxford University Press, 2020).

The problem of plagiarism, which is generally understood as any kind of academic fabrication, has a significant negative impact on academia. Using someone else's work without their consent or substituting words or ideas from their work without citing the original author are two examples of academic plagiarism. According to the literature, plagiarism is widespread among students, researchers, and academic staff in many academic institutions worldwide.

Today, many academic institutions have highlighted plagiarism as one of the severe challenges that must be addressed. Plagiarism was documented in Western nations as early as the 1600s, according to Hansan (2003, cited in Ali et al., 2012). Previously, plagiarism was mostly limited to printed resources in libraries or other people's assignments. As a result of the difficulty in locating relevant information from countless printed resources in libraries, mechanical copying was a time-consuming process.

Information is constantly being added to meet these intricate information requirements because there is such a high demand for it in today's information-driven society. People's methods for gathering information have
changed significantly as a result of the enormous advancement of technology. Due to the rapid advancement of digital communication technologies, many conventional methods of information gathering have been hampered.

As a result, the Internet has emerged as the most widely used resource for meeting the various informational needs of members of all social strata, including academics, researchers, students, etc. Many people can take advantage of a variety of educational opportunities available on the Internet. Students now have quick and convenient ways to gather information, thanks to the information technology industry's rapid and ongoing change. Students no longer need to learn how to conduct traditional research because they can instantly and with little to no effort "Google" the information or resources they need. On the other hand, a lot of academic institutions have developed ways to give their students access through online databases to a variety of electronic journals, newspapers, magazines, and other e-documents.

It is not a problem to use the Internet to find research information. The students are expected to use these electronic documents honestly and ethically. Many students, however, have been known to just copy and paste content from these sources into their papers and pass it off as their work without crediting the original author or source (Chao et al., 2009). Growing instances of plagiarism are directly related to the advancement of information technology. Because of how simple it is to access the Internet, plagiarism has become a significant issue, as Pondayi and Rodreck (2012) noted.

User Education Programmes at University of Moratuwa

The Library University of Moratuwa currently offers several user education programmes that consider the patrons' current information needs
and make use of the most cutting-edge technologies. The key lessons that contribute to lowering the prevalence of plagiarism among students are those on plagiarism and referencing.

At the 458th Senate meeting held on 22nd August 2017, it was decided to implement plagiarism checking compulsory for the theses and dissertations of all PG degrees including those of taught courses and for the final year research project according to the request made by the Quality Assurance Division of University of Moratuwa. A common procedure for all the departments of UOM was approved at the 476th Senate for checking the plagiarism of all PG theses and dissertations and introduced with effect from 1st February 2019.

Therefore, to produce high-quality research outputs, participants in the "Introduction to Plagiarism" session should gain a thorough understanding of plagiarism and techniques for avoiding it. As the university requires checking all the research publications for plagiarism using the anti-plagiarism programme ‘Turnitin’, this session is essential for all undergraduate and postgraduate students before they submit their research publications and other assignments. The "Referencing for Research" session enables the students to understand these referencing styles clearly through real-world examples because the university has adopted the APA and IEEE referencing styles. The purpose of these hands-on lessons was to allow students to recognize and evaluate various kinds of quotations, paraphrases, and citations to determine whether or not they had plagiarized in some of their writing.

Plagiarism and referencing awareness programmes were conducted mainly targeting three specific groups: undergraduate students of level-I, undergraduate students of level-III and postgraduate students. The primary
goal of the plagiarism and referencing awareness programs for level-I undergraduate students was to educate participants on the fundamentals of referencing and plagiarism. It is critical to teach the fundamentals of research writing to freshmen when they begin their academic careers at the university. Generally, at the University of Moratuwa, most of the undergraduate students begin preparing for their final year research and report writing at level III. At this point, these students must have extensive awareness of plagiarism and referencing in order to prepare a high-quality final-year research report. As thesis preparation is a mandatory requirement for postgraduate students, they must also be well-versed in plagiarism and referencing in order to produce a high-quality thesis.

Objectives of the Study

The effect of library training sessions on enhancing students' understanding and awareness of plagiarism has not been extensively studied at the University of Moratuwa, despite the recognized problems with plagiarism. Therefore, this study aims to investigate the impact of library training sessions on students' understanding of plagiarism. The research provided here attempts to address the lack of plagiarism awareness by evaluating it, measuring the efficiency of library education sessions, and identifying potential weaknesses in existing programs. Results of the study offer research-based proof and specific suggestions for educators to create focused approaches for preventing plagiarism and promoting academic integrity.

This study aims to ascertain how undergraduate and postgraduate students at the University of Moratuwa understand different types of
plagiarism and the influence the library instruction sessions have had on their knowledge of plagiarism.

- To find out the awareness of students towards plagiarism.
- To explore the understanding of the students on various forms of plagiarism

**Literature Review**

Prior research on student plagiarism was done in English-speaking nations. In 1964, a sizable study was conducted, in which 5000 students from various American universities took part. According to the study, 75% of students used plagiarism in their papers at least once (Bowers, 1964, as cited in Tsertsvadze & Khurtsia, 2020). Numerous other studies in the area of plagiarism used this study as their foundation.

Plagiarism, in its broadest sense, is the non-credited use of the thoughts and opinions of one author by another. There are four different types of student plagiarism: stealing information from multiple sources, buying a ready-made paper from the proper service provider, completely appropriate use of another person's work, copying portions of other works into one's work and paraphrasing without citing the relevant source (Tsertsvadze & Khurtsia, 2020).

According to Tackett et al., (2010), the number of instances of plagiarism decreased by 77% at the Midwestern AACSB-accredited College of Business after commercial plagiarism detection software was combined with academic sanctions. Additionally, they have emphasized the causes of students' unethical writing during their studies. They claim that when students
are under time pressure or are dealing with personal issues, they have the propensity to steal information from the Internet and incorporate it into their writing without giving proper credit. Unintentional plagiarism is facilitated by ignorance of citation guidelines, as stated by Tsertsvadze and Khurtsia (2020). According to them, getting a better grade, a boring course, peer or parent pressure and disobedience or disrespect toward the administration are the motivating factors for intentional plagiarism.

Implementing a detecting mechanism has not eliminated plagiarism, as noted by Batane (2010). He contends that it is critical to pinpoint the true causes of student plagiarism and that students need to be reminded of the importance of academic integrity as well as how to alter their attitudes toward learning. This was further supported by Biggam and McCann's (2010) research at a Scottish university's business school. They claimed that even though plagiarism-detection tools like Turnitin were able to lower the students' similarity scores, the caliber of their writing had not increased.

An individual who possesses inadequate knowledge of plagiarism may continue to plagiarize unintentionally. But according to Ajiboye et al. (2020), ignorance is the main reason for the plagiarism of students and researchers. Further, they have highlighted that poor knowledge of citation and referencing styles has led to an increase in plagiarism. Time constraints are another factor that causes plagiarism issues among students. Many students and researchers may be persuaded into plagiarism by presenting others' work due to the short deadlines for submissions. The other factors cited by Ajiboye et al. (2020) include a lack of strict penalties for violators and the absence of a reliable system to detect plagiarism. A person with insufficient knowledge of plagiarism may still commit unintentional plagiarism.
Similar research by Kodikara and Kumara (2015) revealed a significant degree of plagiarism among University of Moratuwa research students. Considering that most of the students were very young (between the ages of 21 and 30), e-books and journals were the most widely used information sources for their research projects. Researchers identified eight factors that contribute to plagiarism. One of the main conclusions of the study was that there was a lack of understanding of plagiarism, as well as a lack of necessary skills, institutional issues, easy access to network resources, pressure from time restrictions, individual attitudes and lack of resources.

The research by Amin and Mohammadkarimi (2019) highlighted Turnitin as a useful tool for preventing plagiarism. However, they have emphasized the significance of better educating of students about plagiarism and the capabilities of Turnitin software before the students' submissions. Burke (2004) explained how librarians might reduce student plagiarism by creating motivated activities rather than relying solely on detection. According to her, librarians ought to focus on educating students about plagiarism cases and the best ways to avoid them. Therefore, instruction sessions in libraries on citation and plagiarism are essential for preventing student plagiarism. As a librarian at the Long Island University C.W. Post Campus, Madray (2007) described various types of activities she carried out to prevent plagiarism. She has created special seminars for the faculty on how to avoid plagiarism and spot it when it occurs, which helps the professors evaluate the work of their students. The students were given various opportunities to participate in workshops on referencing and plagiarism. For particular student groups, special sessions were scheduled in the faculty classrooms. Additionally, plagiarism was covered in the library instruction programme, and the fundamentals of plagiarism were covered during the freshman orientation. At
the awareness programmes, the university's policies on plagiarism and its consequences were also highlighted.

According to Mansoor et al. (2022), there are a number of reasons, such as ignorance, peer pressure, the influence of technology, and cultural variations, that contribute to academic misconduct by students. They have noted that one of the main causes of the rise in plagiarism cases among students is their lack of knowledge—or ignorance—about research ethics. Stress among researchers that results in intentional plagiarism is largely caused by laziness or poor time management, as well as pressure from competitive academic environments. Researchers have also looked into how educational cultures affect how seriously Asian and Western students take plagiarism. According to the researchers, students were more inclined to copy from the Internet than from printed materials because of the ease and speed with which they could obtain knowledge using the cut and paste method.

**Research Design**

After considering seven (07) plagiarism behaviours among students at one department of the Faculty of Business Studies of a New Zealand university, Walker (1998) attempted to create a guideline to represent the various types of plagiarism. The Sharm paraphrasing, Illicit paraphrasing, Verbatim copying, Recycling, Ghost writing, Purloining and other plagiarism were the seven types of plagiarism behaviours identified by Walker (1998) in his study. This manual was provided as a tool for the university academic staff members to recognize the various forms of plagiarism encountered by the students.
Further, Turnitin, one of today's premier organizations, has developed plagiarism detection software that compares the similarities between student work and its extensive database of other online sources, including publications and other works by students. A global survey with 900 secondary and higher education instructors was conducted by Turnitin in 2012, which led to the introduction of a plagiarism spectrum with ten (10) different types of plagiarism behaviours (Turnitin, 2012). After taking into account both conventional forms of plagiarism and emerging trends, Plagiarism Spectrum 2.0 is a more developed version of the types of plagiarism presented by Turnitin in 2020, with twelve (12) plagiarism behaviours (Turnitin, 2021).

After comparing the results of the studies conducted by Turnitin (2021), Curtis et al. (2013), Turnitin (2012) and Walker (1998), authors complied seven most prevalent types of plagiarism to serve as the foundation for the instrument used to measure the student's comprehension of plagiarism at the University of Moratuwa. Those seven types of plagiarism used in the current study are shown in Table 1. Previous studies have referred to the same type of plagiarism under various names. The terms used to define the seven types of plagiarism in this study were taken from Turnitin (2021) and Turnitin (2012) because they were the most recent versions.

Table 1
Types of Plagiarism

<table>
<thead>
<tr>
<th>Types</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word-for-Word Plagiarism</td>
<td>Copying and pasting entire content without proper acknowledgement of the source</td>
</tr>
<tr>
<td>Paraphrase Plagiarism</td>
<td>Rephrasing an original idea without proper acknowledgement of the source</td>
</tr>
</tbody>
</table>
Self-Plagiarism
Using one's own previously published or submitted work without giving credit

Mosaic Plagiarism
Combining sentences or passages from various sources without using quotation marks or citation

Re-tweet Plagiarism
Directly copy text from a source and make small changes without proper acknowledgement of the source

Hybrid Plagiarism
A combination of perfectly cited sources and copied passages with no quotation marks or proper citations

Aggregator Plagiarism
Includes proper citations to the sources and the quotation marks where needed but the paper contains almost no original work of the writer

Methodology

In this study, a structured questionnaire was employed to collect data using the survey approach. The questionnaire was created to gather demographic data, evaluate the students' awareness of plagiarism and assess their knowledge and understanding of the different types of plagiarism.

There were 21 multiple-choice questions on the survey instrument. Questions 1 to 6 were used to gather demographic data. With questions 7, 8 and 9, awareness of plagiarism was evaluated. It was determined whether respondents understood the seven types of plagiarism listed in Table 1 through questions 10 to 21. Google Forms was used to create an online survey because sending emails to participants was much simpler. For the right responses to the questionnaire, a total of 25 marks were awarded. At the time they submitted the online survey, participants could see the grades they had received.
This study included all students who attended awareness sessions on both plagiarism and referencing from July 30, 2021, to March 31, 2022. A pre-test and post-test survey was administered to the University of Moratuwa undergraduate and postgraduate students who took part in plagiarism and referencing awareness programmes throughout the period under study. Both tests had the same questions, options and sequence. The purpose of the pre-test was to determine whether students had a fundamental understanding of plagiarism. The goal of the post-test was to evaluate the effectiveness of the sessions on referencing and plagiarism. Before starting the lesson on plagiarism awareness, the students were given a questionnaire to complete (pre-test). After the lesson on referencing, the students were given the same questionnaire to complete (post-test). The results of both tests were recorded.

Multivariate, nonparametric and parametric statistical methods were used to analyze the data using the statistical programme SPSS 21. The analyzed data were represented using tables, line graphs, pie charts and bar graphs.
**Results**

**Demographic Details**

The pre-test questionnaire was completed by 970 students, while the post-test questionnaire was completed by 413 students. As a result, 289 students who responded to both surveys were included in the study.

**Table 2**

*Distribution of the Participants by the Faculty*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Faculty</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Architecture</td>
<td>Business</td>
<td>Engineering</td>
<td>Information Technology</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>45 (26.0%)</td>
<td>11 (6.4%)</td>
<td>92 (53.2%)</td>
<td>25 (14.5%)</td>
<td>173 (100.0%)</td>
</tr>
<tr>
<td>Male</td>
<td>13 (11.2%)</td>
<td>10 (8.6%)</td>
<td>77 (66.4%)</td>
<td>16 (13.8%)</td>
<td>116 (100.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>58 (20.1%)</td>
<td>21 (7.3%)</td>
<td>169 (58.5%)</td>
<td>41 (14.2%)</td>
<td>289 (100%)</td>
</tr>
</tbody>
</table>

The study included 78 (27.0%) postgraduate students and 211 (73.0%) undergraduate students. In terms of gender, there were 116 male students (40.1%) and 173 female students (59.9%). Table 2 displays the distribution of the participants by faculties. As there are more engineering students at the University of Moratuwa than in any other faculty, it is evident that the majority of students in the study population (58.5%) are engineering students.

For responding to the 15 questions in the questionnaire on plagiarism, a total of 25 points were awarded. Figure 1 displays the distribution of the two test results. It reveals that the mean post-test score (13.49) of the study is higher than the mean pre-test score (8.29). This unequivocally proves that after the library sessions, students' awareness of plagiarism has improved. A paired
sample t-test (t=-18.164, df = 288, sig. (2-tailed) =0.000) further confirmed that there was a statistically significant difference between the two tests.

**Figure 1**

*Boxplot of the Pre-test and Post-test Marks*

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**Awareness of Plagiarism**

To ascertain the student's level of awareness of plagiarism, three questions were included in the survey. The first question was, “Have you ever heard the word plagiarism?” Although the majority of participants were familiar with the term "plagiarism" before the library session, 2.4% of students had never heard it before.

In the pre-test, 74.7% of students correctly responded to the question, "What is plagiarism?" After the library session, 85.5% of the students answered the same question correctly. The results of the paired sample t-test (t = -4.006, df = 288, p = 0.000) revealed that students' understanding of plagiarism has improved as a result of attending the library session.

Furthermore, 78.9% of students on the pre-test and 92.7% of students on the post-test correctly responded to the third question about the
consequences of plagiarism. It indicates that following the library sessions, students had a clearer awareness of the consequences of taking someone else's work. A paired sample t-test ($t = -5.135$, $df = 288$, $p = 0.000$) confirmed its significance.

Table 3 displays the mean value of pre-test and post-test results of the study for awareness of the consequences by the participants. After participating in the library's plagiarism and referencing sessions, both undergraduate and postgraduate students demonstrated a clear awareness of the implications of plagiarism. Furthermore, the Paired Samples T-Test results revealed a significant difference between pre-test and post-test for undergraduate students' awareness of the consequences of plagiarism.

**Table 3**

**Student Awareness of the Consequences of Plagiarism**

<table>
<thead>
<tr>
<th>Consequences of Plagiarism</th>
<th>Mean</th>
<th>n</th>
<th>Paired Samples Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level-I</td>
<td>0.76</td>
<td>206</td>
<td>-4.869</td>
</tr>
<tr>
<td>Level-III</td>
<td>0.77</td>
<td>122</td>
<td>-3.259</td>
</tr>
<tr>
<td>Postgraduate Students</td>
<td>0.87</td>
<td>78</td>
<td>-1.755</td>
</tr>
</tbody>
</table>

**Understanding of Plagiarism Types**

Table 4 and Table 5 compare the study results of undergraduate and postgraduate students for the seven types of plagiarism administered before and after the library sessions. According to the study findings, the library sessions have improved both undergraduate and postgraduate students' understanding of all types of plagiarism.
Undergraduate students' understanding of seven different types of plagiarism before and after participating in library sessions, has been compiled in Table 4. For simpler comparison of the seven categories, one mark was granted for an accurate response. According to the findings, undergraduate students have displayed an improved understanding of the seven types of plagiarism after attending the library sessions.

Post-test results have indicated that undergraduate students had a better grasp of Self-plagiarism (0.92) with the highest mean value than other types. On the other hand, they have indicated the lowest mean value of understanding for Aggregator plagiarism. Furthermore, the Paired Samples T-Test demonstrated that undergraduate students' understanding of Self-plagiarism, Re-tweet plagiarism, Word-for-word plagiarism, Mosaic plagiarism and Aggregator plagiarism has improved significantly (Table 4). Even though undergraduates' knowledge of the seven types of plagiarism improved following the library instruction sessions, there was no significant difference in their grasp of Paraphrase plagiarism and Hybrid plagiarism.

**Table 4**

*Undergraduate Students' Understanding of Various Types of Plagiarism*

<table>
<thead>
<tr>
<th>Types of plagiarism</th>
<th>Mean</th>
<th>n</th>
<th>Paired Samples Test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>t</td>
<td>df</td>
</tr>
<tr>
<td>Self-Plagiarism</td>
<td>0.65</td>
<td>0.93</td>
<td>-8.076</td>
<td>205</td>
</tr>
<tr>
<td>Level-I</td>
<td>0.61</td>
<td>0.95</td>
<td>-6.615</td>
<td>83</td>
</tr>
<tr>
<td>Level-III</td>
<td>0.68</td>
<td>0.93</td>
<td>-5.231</td>
<td>121</td>
</tr>
<tr>
<td>Re-Tweet Plagiarism</td>
<td>0.7559</td>
<td>0.9005</td>
<td>-5.666</td>
<td>205</td>
</tr>
<tr>
<td>Level-I</td>
<td>0.7629</td>
<td>0.9226</td>
<td>-4.031</td>
<td>83</td>
</tr>
<tr>
<td>Level-III</td>
<td>0.7459</td>
<td>0.8893</td>
<td>-4.197</td>
<td>121</td>
</tr>
</tbody>
</table>
As indicated in Table 5, postgraduate students' understanding of all seven types of plagiarism has improved after participating in the library sessions. Furthermore, postgraduate students' knowledge on Word-for-Word Plagiarism and Mosaic Plagiarism differs significantly. Postgraduate students, like undergraduate students, had the lowest mean value for understanding of Aggregator plagiarism (0.37).

Table 5

Postgraduate Students' Understanding of Various Types of Plagiarism

<table>
<thead>
<tr>
<th>Types of plagiarism</th>
<th>Mean Pre-test</th>
<th>Mean Post-test</th>
<th>n</th>
<th>Paired Samples Test</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Plagiarism</td>
<td>0.88</td>
<td>0.94</td>
<td>78</td>
<td>-1.070</td>
<td>77</td>
<td>0.288</td>
<td></td>
</tr>
</tbody>
</table>

As indicated in Table 5, postgraduate students' understanding of all seven types of plagiarism has improved after participating in the library sessions. Furthermore, postgraduate students' knowledge on Word-for-Word Plagiarism and Mosaic Plagiarism differs significantly. Postgraduate students, like undergraduate students, had the lowest mean value for understanding of Aggregator plagiarism (0.37).
The results of a one-way ANOVA comparing three student groups (level-I undergraduates, level-III undergraduates and postgraduates) by type of plagiarism are shown in Table 6 along with the mean values of the post-test and pre-test result difference. According to the results, students’ understanding on seven types of plagiarism has improved following the plagiarism and referencing workshops.

### Table 6

*Means of the post-test and pre-test result difference and one-way ANOVA results comparing UG Level I, UG Level III and postgraduate students.*

<table>
<thead>
<tr>
<th>Type of plagiarism</th>
<th>UG Level-I</th>
<th>UG Level-III</th>
<th>Postgraduate</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>N</td>
<td>M</td>
<td>N</td>
<td>M</td>
<td>N</td>
</tr>
<tr>
<td>Consequences</td>
<td>0.1800</td>
<td>100</td>
<td>0.1406</td>
<td>128</td>
<td>0.0656</td>
<td>61</td>
</tr>
<tr>
<td>Word-for-Word Plagiarism</td>
<td>0.0930</td>
<td>86</td>
<td>0.2117</td>
<td>111</td>
<td>0.1875</td>
<td>56</td>
</tr>
<tr>
<td>Re-Tweet Plagiarism</td>
<td>0.1500</td>
<td>100</td>
<td>0.1406</td>
<td>128</td>
<td>0.0164</td>
<td>61</td>
</tr>
<tr>
<td>Paraphrasing</td>
<td>0.1000</td>
<td>20</td>
<td>0.1250</td>
<td>122</td>
<td>0.0170</td>
<td>12</td>
</tr>
<tr>
<td>Mosaic Plagiarism</td>
<td>0.0645</td>
<td>62</td>
<td>0.1867</td>
<td>83</td>
<td>0.1974</td>
<td>38</td>
</tr>
<tr>
<td>Hybrid</td>
<td>0.1250</td>
<td>28</td>
<td>0.0172</td>
<td>29</td>
<td>0.0417</td>
<td>24</td>
</tr>
<tr>
<td>Aggregator Plagiarism</td>
<td>0.1900</td>
<td>100</td>
<td>0.2188</td>
<td>128</td>
<td>0.1967</td>
<td>61</td>
</tr>
</tbody>
</table>
There are significant improvements in Word-for-word plagiarism and Mosaic plagiarism among the three groups of students. However, improvement in Word-for-Word and Mosaic plagiarism is substantially smaller among undergraduate level-I students than in the other two student groups.

**Discussion**

The results of the present study suggest that library user education programmes on plagiarism and referencing have increased the students’ awareness and the understanding of plagiarism. Clearly, some forms of plagiarism (Word-for-Word plagiarism and Mosaic plagiarism) were well understood by all three students’ groups. Examining the results for understanding of plagiarism, there was a statistically significant impact of the library user education programmes on plagiarism and referencing among both undergraduates and postgraduates.

According to study results, there were four plagiarism types (Word-for-Word, Mosaic, Re-Tweet and Aggregator) which has shown a statistically significant impact by the library user education programmes on undergraduate students. Both level-I and level-III undergraduates have well understood these four forms of plagiarism after completing the library instruction sessions. Same as the undergraduate students, after attending the library sessions, postgraduate students' awareness and understanding of all seven types of plagiarism has increased. This was further proved for Word-for-Word Plagiarism and Mosaic Plagiarism with statistically significant differences.

Despite overall improvements in awareness and understanding, a challenge was observed in relation to the Aggregator plagiarism type. Both undergraduates and postgraduates indicated the lowest mean scores for Aggregator plagiarism in post-test results. This suggests a need for more
focused teaching methods and dedicated time allocation for plagiarism and referencing sessions to effectively address this specific type of plagiarism.

**Conclusion and Recommendations**

The results of the study indicate that library user education programmes on plagiarism and referencing are effective in increasing both students’ awareness and understanding of plagiarism. It is recommended that the wider and regular use of library instruction sessions on plagiarism for teaching academic integrity be in conjunction with more effective strategies.

**References**


