

Academic Integrity, Information Use and Information Literacy in the Digital Environment: A study from An Ethical use Perspective

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Nowadays, the unethical use of information in the digital environment violates academic integrity. In this situation, information literacy is an essential skill mandatory for tackling challenges. The present study aims to find students' awareness regarding academic integrity, information use, and information literacy in the digital environment from an ethical point of view. By using google form, a questionnaire was distributed randomly to PG students, and collected data were analyzed. Results of the study revealed that 88.24% (60) students are aware when plagiarism happens. Also, most of the PG students know the meaning of censorship (82.72%) and examples of citation style manuals (85.19%). On the other hand, less than half of the respondents were acquainted with the term netiquette (49.38%) and referencing software (27.16%). Further, Hypothesis testing results reveal that there is a significant difference between males and females regarding the statement, "Copying is allowed from open access resources without giving credit or citation or references". Similarly, a substantial difference between the two age groups students was observed regarding two statements, one is the meaning of censorship, and another one is examples of citation style manuals. The researcher suggested that workshops, webinars, and training may be beneficial for students to keep academic integrity intact.

Introduction

In the twenty-first century, information is considered an economic commodity, which is an essential component of the success of a society. Due to the advancement and dependency of Internet-based technology, the use of Information is increasing day by day. Multifaceted benefits of information luring people to spend a good amount of time in a digital environment for creating, consuming, and sharing information. But, these multifaceted benefits of ICT create challenges for people and society when unethical use of it increases in the digital environment. The easy availability of information in the electronic format makes it a conducive environment for pupils to copy and paste the information into their own work to make it as an original paper (Poenaru, 2022). As a result of unethical use of information in the form of copyright infringement and plagiarism creates an environment for breaking down academic integrity. According to (Ismail, n.d.) "Academic integrity means putting those values into practise by being honest in the academic work you do at university, being fair to others, and taking responsibility for learning, and following the conventions of scholarship".

In the modern era, information literacy is crucial because the misuse of information threatens academic integrity. "To be information literate, a person must be able to recognize when information is needed and

have the ability to locate, evaluate, and use effectively the needed information” (Presidential Committee on Information Literacy, 2006). It is assumed that the quality possessed by an information literate person makes it different from an ordinary person. Further, ACRL Standard V of Information Literacy Competency Standards for Higher Education, (2000) mentioned that information literate student understands how to use information ethically and lawfully by considering “economic, legal, and social issues surrounding the use of information.”

The present study is an attempt to survey PG students of Tripura University to know their awareness regarding academic integrity, information use, and information literacy in a digital environment from an ethical point of view based on ACRL standard V. Tripura University is one of the central universities in northeast India, established in 1987 as a state university and became central university in 2007. At present, it has 44 departments that provide different courses under the faculty of science and the faculty of arts and commerce (About TU, n.d.).

2. Review of Literature

Khalil and Seleim (2012) surveyed Egyptian students and found that Students are careful about the ethics of privacy, accuracy, and access to information. On the other hand, respondents are unconcerned about using pirated software, and one of the reasons for using pirated software is the inability to afford expensive software.

Singh and Kumar (2019) studied postgraduate students in the social science stream of some prestigious universities in Delhi. The study results show that most students are capable of citing, and referencing sources, and are familiar with plagiarism. On the basis of information ethics, it has been found that there are considerable disparities between the subjects when it comes to information competency levels (ILC). Also, Economic students occupied a superior level of ILC in comparison to other students.

Ibegbulam and Eze (2015) discovered that students' understanding of plagiarism was extremely limited prior to the workshop on plagiarism, but it considerably improved after the workshop. All of the respondents agree that, among other things, ignorance “of the rules of academic research and writing and, inexperience in the art of research and writing” are the two main causes of plagiarism.

According to Boustany and Mahé (2015), 21.4 percent of doctoral students are unfamiliar with open-access materials. A sizable proportion (23.1 percent) of respondents had received intellectual property and copyright training.

According to Poenaru (2022), easy availability of information on the internet, time shortage, and lack of reading are some reasons for plagiarism. Also, teachers' stringent alertness to plagiarism can be helpful for students in tackling plagiarism.

The strategies employed by college lecturers in the United States to prevent student plagiarism were examined by (Michalak et al., 2018). They found that although most respondents described plagiarism in the

syllabus, they only spent a little time discussing it in class. However, according to faculty opinions, just 26% of them had invited librarians to speak to students about plagiarism in class.

More and Shelar, (2011) discussed different aspects of ethical use of information by stressing plagiarism. They claimed that the information literacy training offered by librarians is beneficial for users in terms of making ethical use of information. This information literacy program may include different topics such as discussing different facets of plagiarism, proper usage of citation by correctly citing sources, practical training on information resources and effective search strategy of information, etc.

To know the awareness of postgraduate residential doctors regarding plagiarism and the role of information literacy programs in combating plagiarism the researchers Khan et al., (2021) surveyed two medical teaching hospitals in the Pakistani city of Peshawar. Results of the study revealed the presence of a significant difference in awareness of plagiarism with age. A large number of the respondents showed unfamiliarity with the role of librarians' information literacy programs to combat plagiarism. Because of this, the researcher suggested that librarians should impart knowledge to their clients on the proper citation-giving technique, usage of anti-plagiarism software, and upgrade respondents' information-seeking skills side by side with proper utilization of ethical and legal use of information.

In order to understand the causes of plagiarism, Šprajc et al.,(2017) studied students at one of Slovenia's universities. The study's findings indicated that ICT and Web services are among the major contributors to plagiarism because of their numerous advantages. Also, there is also a connection between students' motivation and plagiarism, which is influenced by students' academic abilities, teachers' participation in academic activities, and other factors.

Awasthi (2019) reviewed articles published on plagiarism during 2009-2018, where she covered various topics regarding plagiarism, including what plagiarism is, why it occurs, how to prevent it, and the role of anti-plagiarism software for checking plagiarism. She also explains how libraries may help academics avoid plagiarism.

In their research paper, Scheuermann & Taylor, (1997) discussed the meaning of netiquette and gave some tips for online behavior. They claimed that netiquette-abiding users might gain more advantages than non-followed netizens.

In their study, Javaid et al., (2021) showed no differences in first-year and final-year students' knowledge of plagiarism. In order to alter students' perspectives on plagiarism, the study suggested that educational institutions should adopt some specific anti-plagiarism measures.

Bala & Partap, (2018) conducted a study on management faculties and MBA students to determine their perspectives on Open Access Resources (OAR) and found that 82.95% of respondents are familiar with

OAR. Further, the researchers explored the reasons for utilizing OAR, the level of satisfaction with using OAR, and the problems encountered when using OAR.

In contrast to male students, female students highly adhere to netiquette, according to (Khani & Darabi, 2014) research. Additionally, it was discovered that students with greater levels of education adhere to netiquette more consistently than students with lesser levels of education.

3. Objectives of the Study

The objectives of the study are

- ❖ To assess PG students' awareness regarding literacy of ethical use of information.
- ❖ To identify whether there is any significant difference between male and female PG students' attitudes regarding literacy of ethical use of information.
- ❖ To identify whether age affects PG students' attitudes regarding literacy of ethical use of information.
- ❖ To identify whether there is any significant difference between Faculty of Science and Faculty of Arts and Commerce PG students' attitudes regarding literacy of ethical use of information.

4. Research Methodology

4.1 Research Design

The current study used a survey approach to achieve its goals, and a structured questionnaire was chosen as the primary data collection tool. Based on ACRL standard V of Information Literacy Competency Standards for Higher Education (2000), questions were framed. The study included closed-ended questions to keep the questionnaire simple, straightforward, and less time-consuming for responders. In addition, the researcher attempted to construct most of the questions that could be answered either way, such as true or false or yes or no, even though not all of them required a response.

4.2 Sample

The current study sample comprises second and fourth-semester postgraduate students from Tripura University. To distribute the questionnaire, the student's email addresses were gathered by browsing the websites of each department. Also, a structured questionnaire in Google form was randomly distributed through email and WhatsApp to make the data collection process easier. But, due to slow responses from students and to finish the study within a predetermined time limit, the questionnaire was emailed repeatedly. Exam season, projects, and a lack of interest in responding may be contributing factors to the low response rate. The response window was open from July 20, 2022, to August 13, 2022. Finally, data from 81 students (shown in table 1) from 19 University departments were collected for the study.

4.3 Data Analysis Tool

Collected data were imported to Microsoft Excel for coding, and the SPSS version 26 was used for data analysis.

Table 1: Sample Population

Sl. No.	Department	Number	%
1	Library and Information Science	19	23.46
2	Linguistics and Tribal Languages	12	14.81
3	Economics	8	9.88
4	Commerce	7	8.64
5	Sociology	5	6.17
6	History	4	4.94
7	Political science	4	4.94
8	Zoology	4	4.94
9	English	3	3.70
10	Rural Studies	3	3.70
11	English	2	2.47
12	Microbiology	2	2.47
13	Molecular biology and Bioinformatics	2	2.47
14	Chemistry	1	1.23
15	Geography & Disaster Management	1	1.23
16	Human Physiology	1	1.23
17	Information Technology	1	1.23
18	Mathematics	1	1.23
19	Sanskrit	1	1.23

A breakdown by division of the total sample population is shown in Table 1. It is clear from the table that a total 19 different departments filled out the surveys, with the highest response rates coming from Library and Information Science (23.46%) and Linguistics and Tribal Languages (14.81%), respectively. The response rate for the rest of the departments is below 10%. Students in the Chemistry, Geography and Disaster Management, Human Physiology, IT, Mathematics, and Sanskrit departments have the lowest response rate.

Table 2: Demographic variables

Variables	Male	%	Female	%	Total	%
age group 1 (21-25 years)	34	94.44	37	82.22	71	87.65
age group 2 (26-30 years)	2	5.56	8	17.78	10	12.35
Faculty of Arts	23	63.89	29	64.44	52	64.20
Faculty of Science	13	36.11	16	35.56	29	35.80
2nd semester	13	36.11	19	42.22	32	39.51
4th semester	23	63.89	26	57.78	49	60.49
Aware of Open Access resources	23	63.89	25	55.56	48	59.26
Familiar with the term plagiarism	31	86.11	37	82.22	68	83.95

The demographic information in Table 2 includes age, gender, faculty, semester, and knowledge of open access resources. The table clearly shows that 87.65% of male and female students fall into age group 1 (21-25 years). On the other hand, only 12.35% of respondents come under age group 2 (26-30 years). Faculty-wise response rate reveals that the majority of the Male students (63.89%) and Female students (64.44%) comes under the Faculty of Arts. Also, the Faculty of Science has 36.11% male and 35.56% female students. Semester-wise response rate shows that the majority of Male students (63.89%) and Female students (57.78%) are pursuing their 4th semester; on the other hand, 36.11% of Male students and 42.22% of Female students come under 2nd semester. On “awareness of Open Access resources,” nearly 60% of the respondents opined that they are aware of it, whereas 63.89% of the Male students are more aware of it in comparison to 55.56% of female students. It is interesting to note here that 86.11% of Male and 82.22% of females are familiar with the term plagiarism.

Table 3: Frequency of correct answers

Sl. No.	Statements	Frequency of correct answers					
		M	%	F	%	Total	%
1	Copying is allowed from open access resources without giving credit or citation or references	23	63.89	18	40.00	41	50.62
2	Censorship is the action of preventing part or the whole of a book, film, work of art, document, or other kind of communication from being seen or made available to the public, because it is considered to be offensive or harmful	28	77.78	39	86.67	67	82.72
3	Meaning of Netiquette	15	41.67	25	55.56	40	49.38
4	Copyright is not infringed upon in the event when a student takes books out of libraries, prints them out, and then sells the copies for a profit.	19	52.78	23	51.11	42	51.85

5	APA, MLA, Chicago, Harvard, APSA, and IEEE are examples of Citation style manuals that provide guidelines and rules on how to cite resources	31	86.11	38	84.44	69	85.19
6	Which one of the following is not an example of referencing software	6	16.67	16	35.56	22	27.16
7	While writing a dissertation or an article by using someone's creative work without giving proper citation comes under Plagiarism (N=68)	28	77.78	32	71.11	60	88.24
8	Ithenticate, Turnitin, and Urkund are some examples of closed-source anti-plagiarism software (N=68)*	23	63.89	30	66.67	53	77.94
9	Larger the anti-plagiarism database has the benefit of better plagiarism finding capacity (N=68)*	26	72.22	33	73.33	59	86.76
10	One can avoid text plagiarism by using Direct quotations/ Paraphrasing/ Summarizing along with using the proper citation (N=68)	24	66.67	32	71.11	56	82.35

N=68; From table 2 it is found that a total of 68 PG students are aware of plagiarism.

The frequency distribution of the students' correct responses is shown in Table 3. Out of the 10 questions related to the awareness of ethical use of information, for 5 questions, more than 80% of the respondents provided correct answers which shows a high awareness level related to the concepts of censorship, citation style manuals, plagiarism, citing, and paraphrasing. while the question related to reference software was correctly answered by only 27.16%. Regarding netiquette (49.38%) and copyright infringement (51.85%) questions, nearly half of the respondents have given the correct answers. This shows a low level of awareness regarding the concepts of reference software, netiquette, and copyright infringement.

Table 4: Significant difference in gender regarding literacy of ethical use of information

Sl. No.	Statement	t	df	Sig. (2-tailed)
1	Copying is allowed from open access resources without giving credit or citation or references	2.172	79	.033
2	Censorship is the action of preventing part or the whole of a book, film, work of art, document, or other kind of communication from being seen or made available to the public, because it is considered to be offensive or harmful	1.045	79	.299
3	Netiquette	.652	79	.516
4	Copyright is not infringed upon In the event when a student takes books out of libraries, prints them out, and then sells the copies for a profit	.156	74	.876

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5	APA, MLA, Chicago, Harvard, APSA, and IEEE are examples of Citation style manuals that provide guidelines and rules on how to cite resources	207	79	.836
6	referencing software	1.730	79	.087
7	While writing a dissertation or an article by using someone's creative work without giving proper citation comes under Plagiarism	.832	79	.408
8	Ithenticate, Turnitin, and Urkund are some examples of closed-source anti-plagiarism software	.570	79	.570
9	Larger the anti-plagiarism database has the benefit of better plagiarism finding capacity	1.045	79	.299
10	One can avoid text plagiarism by using Direct quotations/ Paraphrasing/ Summarizing along with using the proper citation	1.341	79	.184

Ten statements are provided in Table 4 to demonstrate significant differences between gender regarding literacy of ethical use of information. Only one item, "Copying is allowed from open access resources without giving credit or citation or references" shows a statistically significant difference between male PG student and females PG students, according to the table ($t=2.172$, $df=79$, $p=0.33$). The remaining statements do not show any other clear distinctions between men and women.

Table 5: Significant difference in age-group regarding literacy of ethical use of information

Sl. No.	Statement	t	df	Sig. (2-tailed)
1	Copying is allowed from open access resources without giving credit or citation or references	.041	79	.967
2	Censorship is the action of preventing part or the whole of a book, film, work of art, document, or other kind of communication from being seen or made available to the public, because it is considered to be offensive or harmful	2.057	79	.043
3	Netiquette	1.094	79	.277
4	Copyright is not infringed upon in the event when a student takes books out of libraries, prints them out, and then sells the copies for a profit	.999	74	.321
5	APA, MLA, Chicago, Harvard, APSA, and IEEE are examples of Citation style manuals that provide guidelines and rules on how to cite resources	3.559	79	.001

6	referencing software	.378	79	.706
7	While writing a dissertation or an article by using someone's creative work without giving proper citation comes under Plagiarism	.488	79	.627
8	Ithenticate, Turnitin, and Urkund are some examples of closed-source anti-plagiarism software	.411	79	.682
9	Larger the anti-plagiarism database has the benefit of better plagiarism finding capacity	.240	79	.811
10	One can avoid text plagiarism by using Direct quotations/ Paraphrasing/ Summarizing along with using the proper citation	.741	79	.461

Ten statements are presented in Table 5 to see whether the age of graduate students influences their attitudes toward information literacy and ethical use. From table 5, it's clear that only two of the ten statements support the idea that age affects PG students' views regarding literacy of ethical use of information. The first statement is regarding censorship ($t=2.057$, $df=79$, $p=0.43$), and the second is examples of citation style manuals ($t=3.559$, $df=79$, $p=0.001$).

Table 6: Significant difference in faculties regarding literacy of ethical use of information

Sl. No.	Statement	t	df	Sig. (2-tailed)
1	Copying is allowed from open access resources without giving credit or citation or references	.311	79	.757
2	Censorship is the action of preventing part or the whole of a book, film, work of art, document, or other kind of communication from being seen or made available to the public, because it is considered to be offensive or harmful	1.214	79	.228
3	Netiquette	.018	79	.986
4	Copyright is not infringed upon in the event when a student takes books out of libraries, prints them out, and then sells the copies for a profit	.224	74	.824
5	APA, MLA, Chicago, Harvard, APSA, and IEEE are examples of Citation style manuals that provide guidelines and rules on how to cite resources	.454	79	.651
6	referencing software	.917	79	.362
7	While writing a dissertation or an article by using someone's creative work without giving proper citation comes under Plagiarism	.454	79	.651

8	Ithenticate, Turnitin, and Urkund are some examples of closed-source anti-plagiarism software	.085	79	.932
9	Larger the anti-plagiarism database has the benefit of better plagiarism finding capacity	.614	79	.541
10	One can avoid text plagiarism by using Direct quotations/ Paraphrasing/ Summarizing along with using the proper citation	1.666	79	.100

An independent sample t-test was performed to determine whether there is any discernible difference between the two faculties in terms of literacy of ethical use of information. It is noted in table 6 that there is no difference between the two faculties in terms of literacy of ethical use of information.

5. Major Findings

- i The present study was conducted on Post Graduate students of Tripura University, in which a total of 81 PG students participated, comprising 36 Male and 45 Female students.
- ii It was found from the study that 83.95% (68) of PG students are aware of plagiarism. Out of a total of 68 PG students who are aware of plagiarism, 88.24% (60) of them believe that “While writing a dissertation or an article by using someone’s creative work without giving proper citation comes under Plagiarism”.
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- iii It is found that 7.94% (53) of respondents familiar with close source anti-plagiarism software, and 82.35% (56) are well versed in plagiarism-avoiding tactics.
- iv Further, 59.26% (48) respondents are familiar with open access resources. Most PG students know the meaning of censorship (82.72%) and examples of citation style manuals (85.19%).
- v The study reveals that 49.38% (40) of the respondents are acquainted with the term netiquette, and 27.16% (22) correctly identified the correct answer related to a question of referencing software.
- vi Hypothesis testing results reveal that there is a significant difference between male and female regarding the statement, “Copying is allowed from open access resources without giving credit or citation or references.”
- vii It was found that there is a significant difference between age group 1 and age group 2 regarding the statements dealing with the meaning of censorship and examples of citation manual styles.

6. Conclusions and Suggestions

Unethical use of information in the digital milieu is challenging for higher education as it breaks down academic integrity. As a result, copyright infringement, plagiarism, piracy, privacy violation, and censorship create challenges for higher education and society. In this case, information literacy in a digital environment is mandatory to tackle those challenges because information literate students know how to use information ethically and legally, considering economic, legal, and social problems surrounding information (Information Literacy Competency Standards for Higher Education, 2000). The present study was conducted to understand the Tripura university's PG student's awareness of academic integrity, information use, and information literacy in a digital environment from an ethical point of view. Results of the survey reveal that more than half of the respondents are aware of copyright violations, censorship, citation manual styles, and plagiarism. On the contrary, regarding the term netiquette and referencing software, 49.38% and 27.6% of the respondents, respectively, are aware. Further, it was observed that there is a significant difference between male and female students regarding the statement of crediting or citing previous authors. Similarly, it was found that age influences literacy of ethical use of information (censorship, citation style manuals). Therefore, it is suggested that to increase or keep academic integrity intact, the following initiatives may be taken;

- i. Information literacy programs in the form of workshops, conferences, seminars, and training must be provided regularly.
- ii. Educators, librarians, and policymakers should designate a specific day of the week in the class schedule for the discussion to preserve academic integrity and reduce unethical usage of information.

References

1. American Library Association. Information Literacy Competency Standards for Higher Education. Available at <https://alair.ala.org/handle/11213/7668> (accessed on 29/08/2022).
2. American Library Association. Presidential Committee on Information Literacy: Final Report. Available at <https://www.ala.org/acrl/publications/whitepapers/presidential> (accessed on 29/08/2022).
3. Awasthi, Shipra. (2019). Plagiarism and Academic Misconduct A Systematic Review. *DESIDOC Journal of Library & Information Technology*. 39(2), 94-100.
4. Bala, Renu, and Partap, Bhanu. (2018). Awareness and perception towards open access resources among the students and faculty of management science: A case study of TIMT, Yamuna Nagar, Haryana. *Journal of Information Management*. 5(1), 15-22.

5. Boustany, Joumana and Mahé, Annaïg. (2015). Copyright Literacy of Doctoral Students in France. Kurbanoglu, Serap, Boustany, Joumana, Špiranec, Sonja, Grassian, Esther, Mizrachi, Diane, Roy, Lorie (Eds). *Information Literacy: Moving Toward Sustainability*. (pp. 210-219). Cham: Springer, 2015.
6. Ibegbulam, Ijeoma J. and Eze, Jacintha U.(2015). Knowledge, perception and attitude of Nigerian students to plagiarism: A case study. *IFLA Journal*. 41(2), 120-128.
7. Ismail, Muhammad. Academic integrity. Available at <https://latrobe.libguides.com/academic-integrity/what-is-academic-integrity> (accessed on 27/08/2022).
8. Javaid, Syeda Tuba, Sultan, Sameera, and Ehrich, John Fitzgerald. (2021). Contrasting first and final year undergraduate students' plagiarism perceptions to investigate anti-plagiarism measures. *Journal of Applied Research in Higher Education*. 13(2), 561-576.
9. Khalil, Omar E.M. and Seleim, Ahmed A.S.(2012) Attitudes towards information ethics: a view from Egypt. *Journal of Information, Communication and Ethics in Society*. 10(4), 240-261.
10. Khan, Asad, Richardson, Joanna, and Muhammad, Izhar. (2021). Awareness about plagiarism and the effectiveness of library literacy programme towards its deterrence: a perspective of postgraduate resident doctors. *Global Knowledge, Memory and Communication*. 70(8/9), 731-755.
11. Khani, Reza, and Darabi, Rahil. (2014). Flouting the Netiquette Rules in the Academic Correspondence in Iran. *Procedia - Social and Behavioral Sciences*. 98, 898-907.
12. Michalak, Russell, Rysavy, Monica, Hunt, Kevin, Smith, Bernice, and Worden, Joel. (2018). Faculty Perceptions of Plagiarism: Insight for Librarians' Information Literacy Programs. *College & Research Libraries*. 79(6).747-767.
13. More, Trupti, and Shelar, Vandana. Plagiarism and Copyright Violation: A Need of Information Literacy Framework towards Ethical Use of Information. *Proceedings of the International CALIBER 2011*, Goa University, Goa, 2nd -3rd March 2011. (pp.465-478). Ahmedabad: INFLIBNET Centre.
14. Poenaru, Alexandra-Georgiana. (2022). Students' Attitude Toward the Unethical Use of Information Technology. Liliana Mât,a.(Ed) *Ethical Use of Information Technology in Higher Education*, (pp. 82-97). Singapore: Springer,2022. (217) p.
15. Scheuermann, Larry, and Taylor, Gary. (1997). Netiquette. *Internet Research*. 7(4), 269-273.
16. Singh, Rajesh and Kumar, Shailendra.(2019) Information Literacy Competency Level of Social Science Researchers with Respect to Information Use Ethics A Study. *DESIDOC Journal of Library & Information Technology*. 39(2), 101-108.

17. Šprajc, Polona, Urh, Marko, Jerebic, Janja, Trivan, Dragan, and Jereb, Eva. (2017) Reasons for Plagiarism in Higher Education. *Organizacija*. 50(1), 33-45.
18. Tripura University. About TU. Available at <https://tripurauniv.ac.in/Page/aboutus> (accessed on 29/08/2022).

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