Awareness of Plagiarism Detection Tools among Faculty Members of Engineering Colleges in Bengaluru

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Abstract

The study is conducted to examine the awareness of plagiarism detection tools among faculty members of engineering colleges of Bengaluru. The present study describes various aspects of plagiarism such as awareness of plagiarism, use of plagiarism detection software, use of citation styles, and awareness of punishment for plagiarism. The findings reveal that most of the faculty members are aware of plagiarism and its consequences. Majority of 51 (85%) respondents used 'Periodicals/ Journals', for the purpose of writing research paper/ thesis, followed by 54(90.0%) of respondents use Turnitin software for plagiarism detection, 88(88.3%) of the respondents are conscious about Self-plagiarism. The study recommended that, the college library should motivate faculty members to avoid plagiarism by conducting user awareness programs/training programs, workshops, communication skill development programs etc. It helps faculty members to enhance their awareness on plagiarism and encourage them to maintain academic and research integrity.



Key words : *Academic writing, Plagiarism, Plagiarism detection tools, Citation styles, ICT, Engineering Colleges.*

1. Introduction

Academic institutions are engaged in teaching and formulation of innovative research and development activities. Advent of information and communication technology (Internet) with its quick access to an incessant pool of information has created an ideal climate for plagiarism (Breen and Maassen, 2005). Academic integrity is violated when students/research scholars/ faculty members download, copy, and paste whole or pieces of assignments from the Internet. Plagiarism is not a novel trend in the field of education but it has taken on irrepressible dimensions in the recent past mostly because of the growth of the Internet as a source of information (Nazir and Aslam, 2010) .

Plagiarism in higher education includes not only copied words in writing, but also any unethical practises that reuse prior information, concepts, and processes. Plagiarism has a negative impact on academic institutions' reputations in addition to lowering the quality of research (Michalak, et.al., 2018. Specifically, plagiarism issues in engineering colleges are becoming more significant because of cultural difference of their students and rapid advances of technology used in their classroom (Walker 2010). As a result, academic institutions usually adopt stringent policies to safeguard their own and their students' academic integrity. Software tools known as anti-plagiarism software are created to prevent plagiarism

(Owunwanne, et.al.,2010). Academic institution always implements anti-plagiarism software to find out if research works have been copied by someone else (Bethany, 2016). Anti-plagiarism software (Plagiarism detection) in academic institutions has become a regular feature in recent



years and universities and colleges have also developed their own policy on academic integrity (Singh,2016). Thus, this research intends to investigate the awareness and utilization of anti-plagiarism software among academic staff of engineering colleges of Bengaluru city.

2. Review of Literature

Hasanah and Harpeni (2022) discussed in their study that, about 92.7% of the faculty dedicated to introducing general knowledge of plagiarism, including the terms and forms of plagiarism to students, followed by 63% of the faculty find the students they teach or supervise committing plagiarism in academic writing, 85, 5%, made certain efforts related to the prevention of students' plagiarism. The result shows that the lecturer provided tutoring about plagiarism and its forms to the students they are supervised or taught. Most participants state that they know the term plagiarism and its forms related to faculty awareness.

Assali and Amal (2021) found in their study that 81.7% of them regarded that plagiarism is a crime, followed by 43.8% of the surveyed students indicated that they have committed plagiarism to the lack of knowledge in the assignment, 31.7% committed plagiarism to get a high CGPA, 6% of the sources used by students in their assignments depend on the Internet, while 24% of sources are from books, magazines and previous students' work and 95% of plagiarism practices among students do not get caught regardless of using Turnitin. It was observed that, students have generally good knowledge of plagiarism, but this knowledge should be improved especially in visual design by academics who should provide more information on plagiarism concepts and examples of what constitutes plagiarism.



Adamu and Muhammad (2020) explored the academic staffs' awareness and utilization of anti-plagiarism detection software in academic writing of Yusuf Maitama Sule University. The findings of the study revealed that 132 (86.3%) are aware of the Software, while 58 (38%) of the respondents were highly aware of anti-plagiarism detection software , 38 (24.8%) of the respondents used anti-plagiarism detection software during their thesis/ dissertation work, 80 (52.2%) of the respondents strongly agreed that using anti-plagiarism software tool will improve students' ability to avoid plagiarism and 64 (41%) of the respondents strongly agreed that, using of anti-plagiarism tool will assisted in building a community of academic integrity.

Starovoytova and Namango(2017) in their study adopted an-explanatory-approach of descriptive-survey research-design. 15 senior-academic-members of staff (N=15), from the-SOE, invited to-complete a-questionnaire (developed for the-purpose of the-study). The-choice of senior-academic-staff was based on the-assumption, that all of them, should have-been-publishing, on their-area of expertise, and therefore, are considered, to be knowledgeable-enough on the-subject-matter—plagiarism. Descriptive-statistics was used to-analyze, both; qualitative and quantitative-data. A trial-survey (pre-testing) was conducted, according to ISO 20252:2006 (E). The-Statistical-Package for Social Sciences (SPSS-17, version 22)-computer software-program was used, to-compute the-Cronbach's alpha co-efficient, which demonstrated high-inter-item-consistency, and, therefore, reliability (Cronbach's a=0.817).

Khan (2021) Identified that plagiarism is crucial for avoiding intellectual dishonesty, fostering academic integrity, and ensuring high-quality research. For higher education and research organisations, upholding high standards for academic integrity is a difficult task. The goal of this study is to increase

awareness of plagiarism and evaluate how well the library literacy (IL) programme works to stop it.

3. Objectives of the study

- To study the awareness on plagiarism among faculty members.
- To know the information sources used by the faculty members for writing a research papers/ thesis.
- To identify the level of awareness of faculty members about anti-plagiarism detection software.
- To ascertain the awareness about the consequences of plagiarism among respondents.
- To understand the issues encountered by respondents while writing research paper/thesis.

4. Methodology

Questionnaire has administered for collection of data from selected engineering colleges comes under VTU Bangaluru regional centre. Structured questionnaire was prepared and administered to the faculty members of various disciplines in engineering colleges of Bengaluru. In order to collect the data, 75 questionnaires were distributed among the respondents. Despite best efforts, 60 filled-in questionnaires were collected. The data collected through questionnaires were analysed and tabulated with the help of MS excel.

5. Data Analysis and Interpretation

Table.1 Gender-Wise Distribution of Respondents

Gender	Responses	Percentage
Male	24	39.3%
Female	36	60.7%
Total	60	100.0%



Data in table-1 depicts gender-wise distribution of respondents. Out of 60 respondents, 36 (60.4%) are female and 24 (39.3%) are male respondents. The results of the study revealed that, the numbers of female respondents were more compared to male respondents.

Table.2 Age-wise Distribution of respondents

Age Group	Responses	Percentage
Below 30 years	5	8.4%
31-40 Years	25	41.6%
41-50 Years	23	38.4%
More than 51 Years	7	11.6%
Total	60	100.0%

Further an examination of the influence of age on the awareness of Plagiarism detection tools of the faculty members of Bengaluru city was conducted and the data is presented in the table-2. In this connection, the age group has been categorized in 4 groups and respondents were asked to indicate one of the age groups.

Data in the table indicates that, 25 (41.6%) of the respondents fall into the age group of 31-40 years, whereas 23(38.4%) respondents belong to the age group of 41-50 years, 7 (11.6%) respondents belong to the age group of more than 51 Years and 5(8.4%) respondents belong to the age group of below 30 years.

Table.3 Institution-wise distribution of the respondents

Colleges	Responses	Percentage
BMS College of Engineering, Bengaluru	8	13.3%
BMSIT&M	11	18.4%

MVIT	10	16.6%
Nitte Meenakski Institute of technology	16	26.5%
PES University	5	8.4%
SVCE	10	16.6%
Total	60	100.0%

Table-3 shows that the total data was categorised on the basis of Engineering

Colleges in Bengaluru city. Out of the 60 respondents, 16 (26.5 %) of the respondents are from Nitte Meenakski Institute of technology college, followed by 11(18.4%) are from BMSIT&M college, 10(16.6%) are from MVIT and SVCE Engineering College.

Table-4: Department-wise distribution of the respondents

Department	Responses	Percentage
MBA	9	15.0
Computer Science & Engg.	33	55.0
Civil Engg.	3	5.0%
Information Sci. & Engg	2	3.3
MCA	1	1.7
Electronics & Comm. Engg.	8	13.3%
Basic Science & humanities	4	6.7
Total	60	100.0%

The department-wise distribution of respondents as shown in the above table-4 reveals that 33 (55.0%) of the respondents are from the Computer Science & Engg. department, whereas 9(15.0%) are from the MBA department, 8(13.3%) are from the Electronics & Comm. Engg. Department and 4(6.7%) are from the department of Basic Science & humanities.



Table-5: Distribution of Place of Access to Information.

To study the respondents' preference for places of accessing the information about Plagiarism among faculty members, a question was asked and the responses are presented in Table-5.

Place of Access	Responses	Percentage
Institution Library	41	68.4
Cyber Cafe or Computer Centre	9	15.0
At your own Department	10	16.6
Total	60	100.0%

The table-5 displays that the users were asked about access to information. The findings showed that, 41(68.4%) users acknowledge access to information about Plagiarism in their Institution Library, followed by 10(16.6%) of the respondents accessed at Cyber Cafe or Computer Centre and remaining 9(15.0%) of the respondents prefer their own Department. It is observed that, most of the users access internet in their Institution Library.

Table-6: Information sources used to write research paper/thesis.

Information sources	Responses	Percentage
Periodicals/ Journals	51	85.0
Text Books	50	83.3
Electronic resources (e-books, e-journals, e-thesis, etc)	48	80.0
Thesis / Dissertations	18	30.0
Newspapers	7	11.6
Conference / Seminar Proceedings	15	25.0
Technical articles	1	1.6

The above table describes that, majority 51 (85%) of respondents used 'Periodicals/ Journals', for the purpose of writing research paper/thesis, while 50 (83.3%) of respondents refer Text Books, 48 (80.0%) respondents use Electronic resources (e-books, e-journals, e-thesis, etc), 18 (30.0%) respondents use Thesis and Dissertations, 15(25.0%) of them use Conference / Seminar Proceedings and 7(11.6%) respondents use Newspapers. The results of the study showed that Periodicals are the main source, which are considered as Primary sources in their research activities.

Table-7: Distribution of respondents by use of citation styles

Citation Styles	Responses	Percentage
American Psychological Association-APA	51	85.0
Chicago Reference style	2	3.3
Modern Language Association-MLA	7	11.7
Total	60	100.0%

Widely used citation styles only included in the study. Table-7 depicts that, majority 51 (85.0%) of respondents are using APA citation style, followed by 7 (11.7%) are using MLA citation style and remaining 2 (3.3%) are using Chicago citation style.

Table-8: Awareness of Plagiarism

Awareness	Opinion	Responses	Percentage
Awareness of Plagiarism	Yes	58	96.7
	No	2	3.3
	Total	60	100.0
Anti-Plagiarism Software	Yes	55	91.7
	No	5	8.3
	Total	60	100.0



It is observed from the table-8, majority 58(96.7%) of respondents were aware about Plagiarism and remaining only 2(3.3%) were not aware about Plagiarism. The study also reveals that, majority 55(91.7%) of respondents were aware about Anti-Plagiarism Software and remaining only 5(8.3%) were not aware about it. It implies awareness of anti-plagiarism software among respondents is good enough to avoid plagiarism in their publications and research works.

Table-9: Preference of sources used for awareness of plagiarism

Preference of sources	Responses	Percentage
Department Guidelines	21	35.0
Library	42	70.0
Friends	6	10.0
Websites	8	13.3

The table-9 shows the preference of sources used for awareness of plagiarism. The responses describe that there are differences among the respondents on the preference of several methods of search for awareness of plagiarism. The table depicts that majority 42(70.0%) of respondents use the method of personnel communication with library staff/colleagues, followed by 21(35.0%) of them use Department Guidelines, 6(13.3%) of respondents use the method of Websites and 6(10.0%) of respondents were aware of Plagiarism through Friends.

Table-10: Knowledge on types of Plagiarism.

Types of Plagiarism	Responses	Percentage
Self-Plagiarism	53	(88.3%)
Direct plagiarism	11	(18.3%)
Paraphrasing Plagiarism	12	(20.0%)
Complete plagiarism	10	(16.4%)
Unintentional plagiarism	8	(13.3%)



Table-10 shows the faculty members knowledge on various types of plagiarism. It is found that majority 88(88.3%) of the respondents are conscious about Self-plagiarism, while 12(20.0%) of the respondents are aware about Paraphrasing Plagiarism, 11(18.3%) respondents aware of Direct plagiarism, 10(16.4%) respondents have knowledge on Complete Plagiarism and 8(13.3%) respondents aware of Unintentional plagiarism.

Table-11: Use of type of plagiarism detection software

Software	Responses	Percentage
Turnitin	54	90.0
Plagiarism Checker	10	16.6
Paper Rater	3	5.0%
Lanquill	3	5.0%
Urkund	2	3.3

Plagiarism detection software assists the researchers to recognize any kind of plagiarism issue in their research paper. Plagiarism detection tools are many such as Urkund, Turnitin, and Plagscan, etc. The table-11 shows that awareness on type of plagiarism detection software among faculty members, majority 54(90.0%) of respondents use Turnitin software for plagiarism detection, followed by 10(16.6%) tend to use Plagiarism Checker software and 2(3.3%) of them tend to use Urkund software.

Table-12: Awareness on consequences of plagiarism

Consequences	Responses	Percentage
Destroyed reputation as a student	43	71.6
Rejection of assignment	46	76.6
Reduced qualification	10	16.6
No mark for a work no opportunity to resubmit	11	18.4
Plagiarism can result in legal action; fines and penalties etc.	9	15.0
Loss of degree	6	10.0



The table-12 indicates the awareness of respondents on the consequence of plagiarism. Table depicts that all respondents are aware of the punishments for plagiarism, out of 60(100.0%) respondents, majority 46 (76.6%) of the respondents states that rejection of assignment, followed by 43(71.6%) of them feel it can result in destroyed reputation as a student, 10(16.6%) respondents stated no mark for a work no opportunity to resubmit and 9(15.0%) respondents stated it can result in legal action; fines and penalties etc.

Table-13: Factors influencing while writing/ presenting the thesis leading to plagiarism

Problems	Strongly Agree	Agree	Agree Somewhat	Disagree	Strongly Disagree
Lack of language skill	3(5.0%)	31(51.6%)	19(31.7%)	7(11.6%)	00(00.0%)
Lack of motivation	4(6.7%)	28(46.7%)	15(25.0%)	9(15.0%)	00(00.0%)
Lack of interest onstudy	3(5.0%)	29(48.4%)	18(30.0%)	3(5.0%)	3(5.0%)
Lack of time	9(15.0%)	28(46.7%)	17(28.3%)	4(6.7%)	00(00.0%)
Due to laziness	3(5.0%)	30(50.0%)	14(23.3%)	10(16.6)	00(00.0%)
Lack of writing skills	3(5.0%)	31(51.6%)	15(25.0%)	5(8.3%)	6(10.0%)

Table-13 illustrates that the factors influencing while writing thesis or research paper leading to plagiarism. Most 31 (51.6%) of the respondents have agree thatlack of language skills and lack of writing skills are the major problem while writing thesis or research paper, followed by 30(50.0%) of the respondents agree that due to laziness, 29 (48.4%) of them stated lack of interest on study and 29 (48.4%) respondents agreed that lack of motivation and lack of time is the major reason for plagiarism.



6. Major findings of the Study

- Out of 60 respondents, 36 (60.4%) are female and 24 (39.3%) are male. The results of the study revealed that, the number of femalerespondents was more compared to male respondents.
- About 25 (41.6%) of the respondents fall into the age group of 31-40 years, whereas 23(38.4%) respondents belong to the age group of 41-50 years, 7 (11.6%) respondents belong to the age group of more than 51 Years and 5(8.4%) respondents belong to the age group of below 30 years.
- Among 16 (26.5 %) of the respondents are from Nitte Meenakski Institute of technology college, followed by 11(18.4%) are from BMSIT&M college, 10(16.6%) are from MVIT and SVCE Engineering College.
- A large number 33 (55.0%) of the respondents are from the Computer Science & Engg. department, whereas 9(15.0%) are from the MBA department, 8(13.3%) are from the Electronics & Comm. Engg. department and 4(6.7%) are from the department of Basic Science & humanities.
- Most 41(68.4%) users acknowledge access to information about plagiarism in their Institution Library, followed by 10(16.6%) of the respondents accessed at cyber cafe or computer centre and remaining 9(15.0%) of the respondents prefer their own department. It is observed that, most of the users access internet in their Institution Library.
- Majority 51 (85%) respondents used 'Periodicals/ Journals', for the purpose of writing research paper/thesis, Hence, The results of the study showed that periodicals are the main sources, which are considered as Primary sources in their research activities.



- Majority 51 (85.0%) of respondents are using APA citation style, followed by 7 (11.7%) are using MLA citation style and remaining 2 (3.3%) are using Chicago citation style.
- Majority 58(96.7%) of respondents were aware about plagiarism and remaining only 2(3.3%) were not aware about plagiarism.
- Majority 42(70.0%) of respondents use the method of personnel communication with library staff/colleagues, followed by 21(35.0%) of them use Department Guidelines, 6(13.3%) of respondents use the method of Websites and 6(10.0%) of respondents were aware of Plagiarism through Friends.
- Majority 88(88.3%) of the respondents are conscious about Self-plagiarism, while 12(20.0%) of the respondents are aware about Paraphrasing Plagiarism, 11(18.3%) respondents aware of Direct plagiarism, 10(16.4%) respondents have knowledge on Complete Plagiarism and 8(13.3%) respondents aware of Unintentional plagiarism.
- Majority 54(90.0%) of respondents use Turnitin software for plagiarism detection, followed by 10(16.6%) tend to use Plagiarism Checker software and 2(3.3%) of them tend to use Urkund software.
- Majority 46 (76.6%) of the respondent's states that Rejection of assignment, followed by 43(71.6%) of them feel it can result in Destroyed reputation as a student,10(16.6%) respondents stated No mark for a work no opportunity to resubmit and 9(15.0%) respondents stated it can result in legal action; fines and penalties etc.
- Most 31 (51.6%) of the respondents have agree that Lack of language skills and Lack of writing skills are the major problem

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while writing thesis or research paper, followed by 30(50.0%) of the respondents agree that Due to laziness, 29 (48.4%) of them stated Lack of interest on study and 29 (48.4%) respondents agreed that Lack of motivation and Lack of time is the major reason for plagiarism.

7. Recommendations and Conclusion

Plagiarism undermines intellectual integrity, research ethics, and the quality of research. To sustain academic integrity in higher education organizations such as colleges, universities, it is indispensable to keep away from plagiarism among academic community. These days' plagiarism is rising because of lack of knowledge and understanding of concept. The results of the study indicate that, most of the respondents are aware about plagiarism. Based on the response of the study, the following suggestions are given for making faculty members aware of plagiarism. The college library should motivate faculty members to avoid plagiarism by conducting user awareness programs/training programs, workshops, communication skill development programs etc. It helps faculty members to enhance their awareness on plagiarism and encourage them to maintain academic and research integrity. University/college should purchase anti-plagiarism software to increase originality of the research.



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