Awareness and Use of Anti-Plagiarism Methods by Faculty Members and Research Scholars of Select Central Universities of Uttar Pradesh, India

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Higher Educational Institutions (HEIs) are known for research and innovation in their respective domain. The quality of research work generated by its researchers and faculty members brings fame and laurels to the parent institutions as well as to the nation which will subsequently serve humanity. In the contemporary academic environment, the unethical practice followed in research has been discussed enormously, posing a serious concern globally. Plagiarism is one such practice that has been reported and discussed in the recent past. As per the academic and scholarly literature on plagiarism, the primary reason for plagiarism proliferation is the unawareness, misconception, and attitude of the research scholars and faculty members toward it. The present study is an attempt to measure awareness of plagiarism in academics, methods, tools and techniques adopted to counter plagiarism among faculty members and research scholars of three central universities in Uttar Pradesh viz. Aligarh Muslim University (AMU), Banaras Hindu University (BHU), Babasaheb Bhimrao Ambedkar University, Lucknow (BBAU). The study followed the survey method using a structured questionnaire for data collection using a random sampling method. The study aims to identify and analyze the different aspect under awareness including the requirement of anti-plagiarism software before submitting a research paper or thesis for submission, the source of plagiarism awareness, the difference between similarity and plagiarism. The study reveals and reports the methods, tools and techniques used to avoid plagiarism like paraphrasing, similarity detection tools, reference

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managers, using quotations wherever required, attending awareness programs, etc. The study finds that despite awareness of plagiarism there is a need to conduct more awareness and training programs.

Keywords: *Plagiarism, Academic Dishonesty, Awareness, Anti-Plagiarism Methods, Plagiarism Detection Tools, AMU, BBAU, BHU*

1   INTRODUCTION

Plagiarism has instilled itself deep into the academic and research spheres. The growing number of instances of plagiarism has compelled the regulatory bodies and parent institutions to form policies, ordinances, and regulations to control its spread. In general, the lack of proper and adequate attribution to the original creator of the written work and creative idea is plagiarism. According to Merriam-Webster Online Dictionary, plagiarism means "to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source"[1].

The definition says that the plagiarist not only copies the work of others but tries to present that work as his/her own original creation. Cambridge Online Dictionary defines plagiarism as, "the process or practice of using another person's ideas or work and pretending that it is your own"[2]. There are many more definitions given by different people and organizations on plagiarism. Still, the common part is missing due to attribution and acknowledgment to the original author or creator. Plagiarism is more than copying text from one or many sources. There are tools that can skip the similarity detection like paraphrasing tools and artificial intelligence-enabled tools and services. Still, the attribution and acknowledgment are due to the original author. Moreover, the ideas, style and expression of those ideas, translation from other languages without permission, and word-swapping are associated with plagiarism, if not attributed properly. There are various forms and types of plagiarism. Turnitin.com has identified "student collusion, word-for-word plagiarism, self-plagiarism, mosaic plagiarism, software-based text modification, contract cheating, inadvertent plagiarism, paraphrase plagiarism, computer code plagiarism, source-based plagiarism, manual text modification and data plagiarism" as various types of plagiarism[3]. As per mentioned by Grammarly.com, the common types of plagiarism are "Complete plagiarism, direct plagiarism, paraphrasing plagiarism, self-plagiarism, patchwork plagiarism, source-based plagiarism, and accidental plagiarism."[4].

The instances of plagiarism have grown immensely in India in the recent past. Several plagiarism cases have also allegedly accused high-profile personalities in India. In 2014, Jamia Millia Islamia's 61 project works were run through the plagiarism detection software and it was found that 59 projects had plagiarized content that was lifted from various sources. Moreover, both

faculty members and research scholars had allegedly produced plagiarized works[5]. In another incident, former Vice Chancellor of the University of Delhi Prof. Deepak Pental was allegedlyaccused of plagiarism, cheating,and forgery by another professor of the University of Delhi. Prof. Deepak Pental even spent a few hours in jail and was later released by the order of the High Court[6].

The growing instances of plagiarism in academics had compelled academic regulatory authorities like University Grants Commission (UGC) to come out with the "Promotion of academic integrity and Prevention of Plagiarism in higher education institutions" Regulation, 2018[7].The UGC regulation made provisions to measure the occurrence of plagiarism through different levels and accordingly set punitive actions for both faculty members and research scholars. This guideline proved a landmark step and provided the basis to draw and formulate policies, rules, and policies regarding academic integrity and plagiarism. Throughout the present study, the acronym of three universities will be used as AMU for Aligarh Muslim University, BBAU for Babasaheb Bhimrao Ambedkar University and BHU for Banaras Hindu University.

2   REASONS FOR PLAGIARISM:

There are numerous studies highlighting the prominent reasons behind the act of plagiarism. The common reasons are unawareness to plagiarism, lack of writing skills, language barrier, ignorance of reference management and citation skills, attitude and behavior towards plagiarism, unavailability of research support, absence of regulations and punitive actions, laziness, paucity of time, peer pressure, lack of incentive and motivation to carry out original research, lack of new ideas, easy availability of online scholarly contents, etc,[8]. The issue of plagiarism has been reported where English is not the first language of researchers. They find it easy to just copy and paste to avoid grammatical errors and face humiliation from peers. Creative and research writing requires determination and builds over time. Researchers generally escape this route and follow the unethical route of copying and pasting from the already published work. Reference and citation management is a tedious and time taking task. Not giving, partially giving and improper citations may lead to plagiarism. However, there are online tools available to manage the references and citations like Mendeley, Endnote, Zotero, etc.

Attitude towards plagiarism is another reason for plagiarism. There are studies where researchers have reported that whatever is freely available online can be used by anyone, anywhere without due attribution because there is no mention of the original creator. In universities and research institutions, the lack of awareness is a crucial reason for plagiarism. Faculty members and scholars need to be trained to follow ethical practices and avoid plagiarism. Indeed, higher educational institutions have framed their policy on academic

integrity and plagiarism but without much visibility. A good number of researchers are still unaware of the possible punitive actions if found accused of plagiarism. Another prominent reason for plagiarism is the easy availability and use of online scholarly content without due attribution to the original creator.

3   OBJECTIVES OF THE STUDY

The study has the following objectives:
  i. To explore the level of awareness about plagiarism among the faculty members and research scholars;
 ii. To investigate users' awareness about checking research work through anti-plagiarism software before submission;
 iii. To examine the awareness of users to differentiate between similarity and plagiarism;
 iv. To study the knowledge of users regarding permitted exclusion from research work;
  v. To analyse the user's perception on thorough review of literature as means to avoid plagiarism;
 vi. To measure responses on presenting own ideas and thoughts in research;
 vii. To investigate users' perception about e. paraphrasing tools, reference manager, quotation, citing, seeking guidance from experts/peers,
 viii. To analyse the need of training and awareness program on plagiarism

4   SCOPE AND LIMITATION OF THE STUDY

The scope of the study has been limited to the select Central Universities in Uttar Pradesh. The selected three universities were accredited with A or above accreditation grade on or before 2019. The limitation of the study has been Aligarh Muslim University (AMU), Banaras Hindu University (BHU) and Babasaheb Bhimrao Ambedkar University, Lucknow (BBAU). The study was further restricted to the research scholars which comprises PhD scholars and faculty members that comprise Assistant Professor, Associate Professors and Professors in the universities under study. The data has been collected between the period March 2022 to April 2023.

5   METHODOLOGY OF THE STUDY

The faculty members and PhD scholars of Central Universities of North India have been chosen as the sample size for the study. The random sampling survey method is applied to carry out the present study. The data is collected through the distribution of print questionnaires, Google Forms, interviews, and personal interaction. The data has been extracted, compiled, and analyzed

by using MS Excel or SPSS package. The questionnaire was designed under various sections viz. demographic information, awareness of plagiarism, and methods, tools and techniques to avoid plagiarism. The questionnaire is comprised of both open and close ending questions and further a five-point Likert scale (strongly agree to strongly disagree) with the requisite statements.

6   REVIEW OF LITERATURE

The study with the help of literature review provides an insightinto how much work has already been done on the related fields. There are certain areas that are still untapped in previous studies and researcher tries to bridge the gap through this study.

Alua[9]The study highlights the importance of academic integrity and ethical practices in the research process at higher educational institutions. It further explains that plagiarism adversely affects the generation of new knowledge and the act of creative and scholarly writing among scholars. The study finds out how libraries and librarians can play a pivotal role in curbing plagiarism through instructions provided through information literacy programs. The study used the survey method and recorded 175 responses from scholars regarding awareness and attitude toward plagiarism. The awareness programs and seminars on academic integrity and anti-plagiarism has put positive impacts on scholars to avoid plagiarism. However, many students found difficulty in understanding the similarity report generated by the software and were unclear on their institutional policy. The study further recommends that the library should organize more programs on academic writing and interpretation of similarity reports generated by the plagiarism detection software and increase the visibility of institutional policy on plagiarism.

Hussein[10] Plagiarism has been prevailing in academics all over the world. The severity of this offense has bound regulatory bodies and institutions of higher learning to frame guidelines, policies, and frameworks to control this menace. The study has revealed that postgraduate students are falling into the trap of plagiarism by copying content from textbooks and internet sources. The study further exhibits that the extent to which these students are aware of plagiarism to improve their academic writing and scientific research skills. These students tend to be moderately aware of various aspects of plagiarism but have a fair knowledge of its consequences. The results find variants on the basis of age, gender course specialization, and involvement in scientific writing courses. Subsequently, the study suggests increasing awareness among postgraduate students to improve their understanding of scientific plagiarism and its implications.

Jambi[11]Stated in their research that the advent of information technology and augmented usage of electronic resources have contributed to rising cases

of plagiarism. Although there are numerous tools to detect similarities but preparators find novel ways to escape undetected. The study evaluates the various anti-plagiarism tools using the fuzzy multi- criteria decision-making (MCDM) methods. They further suggested ways to develop more efficient plagiarism detection tools with robust mechanism to meet the future requirement.

Alvi[12]have proposed paraphrase kinds as the paraphrasing mechanisms underlying plagiarism. Plagiarists often use synonym replacement, rearranging of words, and insertion/deletion as paraphrasing techniques. Yet, the majority of plagiarism detection methods generate similarity reports that include a similarity score and portions of text that match their likely sources. In this study, we offer methods for identifying two significant types of paraphrasing namely synonym substitution and word reordering in paraphrased, plagiarised sentence pairs. We present a three-stage method that uses context matching and pre-trained word embeddings to identify synonym replacement and word reordering. Our suggested method demonstrates that the Smith Waterman Algorithm for Plagiarism Detection andpre-trained word embeddings provide the highest F1 scores. This research can be utilised to supplement similarity reports generated by existing plagiarism detection systems by identifying paraphrase kinds for plagiarism detection.

Sharaf [13]conducted a study to know the awareness, perception and attitude of research scholars toward plagiarism. They further highlighted the status of awareness about citation and citation styles, plagiarism detection tools, and the level of satisfaction while using plagiarism detection tools. Most of the students opined rightly on the identification of plagiarism. The study further revealed that lacking research skills has been found the major reason for plagiarism among research scholars. It has also been reported that about 74% of scholars are aware of plagiarism detection tools and 62% of scholars are also familiar with the utilization of these tools with satisfaction.

Savitha[14]conducted a survey-based study to identify the level of awareness towards plagiarism among research scholars of Dharwad University. The results revealed that the majority of the scholars were aware of the term plagiarism and its presence in academics, types of various types of plagiarism and plagiarism detection tools. The study found that the research guide is the main source of awareness towards plagiarism with 76 (33%) respondents followed by 57 (24.8%) respondents mentioning workshops/seminars and conferences as the main source of awareness. Further majority of the respondents 99 (43%) replied that they are aware of unintentional plagiarism the most among other types of plagiarism. Further, they studied that lack of time was the prime factor for involvement in plagiarism activities by the research scholars followed by lack of writing skills. The finding reflects that there is a dearth of awareness programs in their institutions regarding plagiarism and other unethical practices**.**

Foltynek et al.[15]The study evaluated that similarity detection tools are a breakthrough in stemming plagiarism in academia. These tools greatly help detect similarities that may further lead to plagiarism. The results further highlight that these tools are good enough to detect similarity but the role of human intervention is inevitable to reach the conclusion that whether a work is just similarity or amounts to plagiarism. The paper describes 15 web-based text-matching tools that can trace similarities from 8 different languages. The evaluation has been done on the single and multiple source documents. The results found varied using the same documents on different detection tools.

Pandey et al.[16]mentioned citation and citation styles as major cause of plagiarism. The study revealed that how not giving, partially giving and writing giving citations could land a researcher in the trap of plagiarism. The target audience for the study was early-stage researchers who are engaged in writing research articles, dissertations and theses. The study facilitated a solution to researchers for better understanding and application of different referencing styles for research work.

7   DATA ANALYSIS AND INTERPRETATION

7.1 DEMOGRAPHIC INFORMATION

7.1.1 USER CATEGORY

Table 1 showcases the user categoriesincluding Faculty members and PhD scholars. It further exhibits that in total 340 users have participated in both categories. Out of these,278 (83%) arePh.D. scholars and 58 (17.1%) are faculty members from all three universities under study. It has further been identified from the research scholar's category that a maximum number of 99 (83.2%) are from Banaras Hindu University and the least number 91 (83.5%) are from Aligarh Muslim University respectively.

Table 1: User Category (N=340)

| | | | User Category | | Total |
			Faculty	Ph.D. Scholar	
Name of the University	AMU	**Frequency**	18	91	109
		Percent	16.50%	83.50%	100.00%
	BBAU	**Frequency**	20	92	112
		Percent	17.90%	82.20%	100.00%
	BHU	**Frequency**	20	99	119
		Percent	16.80%	83.20%	100.00%
Total		**Frequency**	58	278	340
		Percent	17%	83%	100.00%

7.1.2 AGE OF THE RESPONDENTS

Table 2 shows the frequency and percentage of respondents in different age groups. The majority of the respondents are between the ages of 25-30 years, accounting for 182 (53.5%) of the total. 20% of the respondents are in the age group of 30-35 years while 55 (16.2%) are more than 35 years of age. The age group of 20-25 years had the smallest number of respondents, accounting for 10.3% of the total. A maximum of 62 participants from the age group of 25-30 years are from Banaras Hindu University among all age groups. The least 8 participants from the age group of 20-25 years are from BBAU Lucknow among all age groups.

Table 2: Age of the respondents

			Age				Total
			20-25 years	25-30 years	30-35 years	More than 35 years	
Name of the University	AMU	Frequency	11	61	25	12	109
		Percent	10.10%	56.00%	22.90%	11.00%	100.00%
	BBAU	Frequency	8	59	22	23	112
		Percent	7.10%	52.70%	19.60%	20.50%	100.00%
	BHU	Frequency	16	62	21	20	119
		Percent	13.40%	52.10%	17.60%	16.80%	100.00%
Total		Frequency	35	182	68	55	340
		Percent	10.30%	53.50%	20.00%	16.20%	100.00%

Table 3 showcases the frequency and percentage of gender among 340 samples. In the complete sample, 206 (60.6%) are male and 134 (39.4%) are female. In male category, the highest participants 77 are from Banaras Hindu University whereas in female category the highest 47 participants are from BBAU Lucknow.

Table 3: Gender of the respondents

			Gender		Total
			Male	Female	
Name of the University	AMU	Frequency	64	45	109
		Percent	58.70%	41.30%	100.00%
	BBAU	Frequency	65	47	112
		Percent	58.00%	42.00%	100.00%
	BHU	Frequency	77	42	119
		Percent	64.70%	35.30%	100.00%
Total		Frequency	206	134	340
		Percent	60.60%	39.40%	100.00%

7.2 AWARENESS ABOUT PLAGIARISM

Table 4 exhibits the frequency and percentage of participants who are aware of plagiarism among alluniversities. Out of 340 samples, 337 (99.1%) responded that they are aware of plagiarism, while only 3 (0.9%) responded that they are unaware about plagiarism. Among all universities under study, BBAU Lucknow has been reported as fully aware about plagiarism with 112 (100%) responses followed by Banaras Hindu University with 117 (98.3%) responses are found aware.

Table 4: Awareness about plagiarism

			Awareness about Plagiarism		Total
			Yes	No	
Name of the University	AMU	**Frequency**	108	1	109
		Percent	99.10%	0.90%	100.00%
	BBAU	**Frequency**	112	0	112
		Percent	100.00%	0.00%	100.00%
	BHU	**Frequency**	117	2	119
		Percent	98.30%	1.70%	100.00%
Total		**Frequency**	337	3	340
		Percent	99.10%	0.90%	100.00%

7.2.1 REQUIREMENT TO CHECK RESEARCH WORK THROUGH ANTI-PLAGIARISM SOFTWARE

Table 5 shows the frequency and percentage of responses on the awareness of respondents about the mandatory requirement to check research work through anti-plagiarism software before submission. Among the 340 respondents, 337 (99.1%) answered "Yes" and 3 (0.9%) answered "No". This suggests that a large majority of the respondents are aware of the mandate of their respective university. It is further reveals by the results that all respondents109 (100%) from Aligarh Muslim University (AMU) are aware about this requirement followed by BBAU Lucknow where 111 (99.1%) within individual university category are aware about it.

Table 5: Checking research work through anti-plagiarism software

			Checking research work through anti-plagiarism software		Total
			Yes	**No**	
Name of the University	AMU	**Frequency**	109	0	109
		Percent	100.00%	0.00%	100.00%
	BBAU	**Frequency**	111	1	112
		Percent	99.10%	0.90%	100.00%
	BHU	**Frequency**	117	2	119
		Percent	98.30%	1.70%	100.00%
Total		**Frequency**	337	3	340
		Percent	99.10%	0.90%	100.00%

7.2.2 DIFFERENCE BETWEEN SIMILARITY AND PLAGIARISM

Table 6 shows the responses of the participants when asked whether they know the difference between similarity and plagiarism. Out of 340 participants, 301 (88.5%) responded "Yes" while 39 (11.5%) responded "No." Maximum respondents 103 (92%) from BBAU Lucknow responded "Yes" on this followed by 105 (88.2%) respondents from Banaras Hindu University within the frequency and percentage at individual university level. While,maximum 16 (14.7%) responded "No" from Aligarh Muslim University (AMU) followed by 14 (11.8%) from Banaras Hindu University (BHU).

Table 6: Difference between Similarity and Plagiarism

			Difference between Similarity and Plagiarism		Total
			Yes	**No**	
Name of the University	AMU	**Frequency**	93	16	109
		Percent	85.30%	14.70%	100.00%
	BBAU	**Frequency**	103	9	112
		Percent	92.00%	8.00%	100.00%
	BHU	**Frequency**	105	14	119
		Percent	88.20%	11.80%	100.00%
Total		**Frequency**	301	39	340
		Percent	88.50%	11.50%	100.00%

7.2.3 PLAGIARISM IS NOT REGARDED FOR QUOTED MATERIALS, GOVERNMENT REPORTS, FACTS, FIGURES, AND COMMON KNOWLEDGE

Table 7 showcases thefrequency and percentage of the responses asking about the awareness on permitted exclusions from plagiarism. 102 (30%) have agreed on this followed by 76 (22.4%) responded as they strongly agreed on this statement. 68 (20%) responded as neutral. While 48 (14.1%) responded that they disagree with the statement followed by 46 (13.5%) as strongly disagreed.

Table 7: Exclusions from plagiarism

			Plagiarism is not regarded for quoted materials, government reports, facts, figures, and common knowledge, but it is similarity					Total
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	16	28	33	14	18	109
		Percent	14.70%	25.70%	30.20%	12.80%	16.50%	100.00%
	BBAU	**Frequency**	30	41	17	12	12	112
		Percent	26.80%	36.60%	15.10%	10.70%	10.70%	100.00%
	BHU	**Frequency**	30	33	18	22	16	119
		Percent	25.20%	27.70%	15.10%	18.50%	13.40%	100.00%
Total		**Frequency**	76	102	68	48	46	340
		Percent	22.40%	30.00%	20.00%	14.10%	13.50%	100.00%

7.2.4 SIMILARITY REPRESENTS FIXED EXPRESSION AND NOT BASIC IDEAS, BUT PLAGIARISM DOES

Table 8 represents responses on the statement "Similarity represents fixed expression and not basic ideas, but plagiarism does". Out of 340 respondents, 81 (23.8%) strongly agree, 47 (13.8%) agree, 78 (23%) neutral, 74 (21.8%) disagree and 60 (17.6%) strongly disagree with the statement.

Table 8: Plagiarism includes basic ideas

			Plagiarism includes basic ideas					Total
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	16	13	32	27	21	109
		Percent	14.70%	11.90%	29.30%	24.80%	19.30%	100.00%
	BBAU	**Frequency**	30	18	27	21	15	112
		Percent	26.80%	16.10%	25.00%	18.80%	13.40%	100.00%
	BHU	**Frequency**	35	16	18	26	24	119
		Percent	29.40%	13.40%	15.10%	21.80%	20.20%	100.00%
Total		**Frequency**	81	47	78	74	60	340
		Percent	23.80%	13.80%	23.00%	21.80%	17.60%	100.00%

7.3 METHODS, TOOLS, AND TECHNIQUES TO AVOID PLAGIARISM

7.3.1 THOROUGH REVIEW OF THE LITERATURE

Table 9 states the frequency and percentage of the statement "Thorough review of literature for better understanding of the concept and subject". 126 (37%) respondents strongly agreed, 128 (37.7%) agreed, 11 (3.2%) were

uncertain, 42 (12.4%) disagreed, and 33 (9.7%) strongly disagreed with the statement. While analysing at the individual university level, a maximum of 48 (42.9%) respondents strongly agreed with the statement from BBAU Lucknowfollowed by 40 (33.6%) from Banaras Hindu University. While 13 (11.9%) respondents from Aligarh Muslim University strongly disagreed with the statement followed by 11(9.3%) responses from Banaras Hindu University (BHU).

Table 9: Thorough review of the literature

			Thorough review of literature for a better understanding of the concept/ subject					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	38	41	5	12	13	109
		Percent	34.90%	37.60%	4.60%	11%	11.90%	100.00%
	BBAU	**Frequency**	48	40	3	12	9	112
		Percent	42.90%	35.70%	2.70%	10.70%	8%	100.00%
	BHU	**Frequency**	40	47	3	18	11	119
		Percent	33.60%	39.50%	2.50%	15.10%	9.30%	100.00%
Total		**Frequency**	126	128	11	42	33	340
		Percent	37%	37.70%	3.20%	12.40%	9.70%	100.00%

7.3.2 PRESENT YOUR OWN IDEAS AND THOUGHTS

Table 10 exhibits the responses asking about "Present your own ideas and thoughts" as a method, tool, and technique to curb plagiarism. Out of 340 responses, 134 (39.4%) strongly agreed, 83 (24.4%) agreed, 16 (4.8%) were uncertain, 62 (18.2%) disagreed and 45 (13.2%) strongly disagreed with the statement. Further, while analyzing at each university level, it is evident from the table that a maximum of 51 (45.5%) respondents strongly agreed with the statement followed by 44 (40.4%) from Aligarh Muslim University (AMU). On the other hand, a maximum of 17 (14.3%) respondents from Banaras Hindu University strongly disagreed with the statement followed by 16 (14.3%) respondents from BBAU Lucknow.

Table 10: Present your own ideas and thoughts

			Present your own ideas and thoughts					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	44	29	7	17	12	109
		Percent	40.40%	26.60%	6.40%	15.60%	11%	100.00%
	BBAU	**Frequency**	51	24	5	16	16	112
		Percent	45.50%	21.40%	4.50%	14.30%	14.30%	100.00%
	BHU	**Frequency**	39	30	4	29	17	119
		Percent	32.70%	25.20%	3.40%	24.40%	14.30%	100.00%
Total		**Frequency**	134	83	16	62	45	340
		Percent	39.40%	24.40%	4.80%	18.20%	13.20%	100.00%

7.3.3 PARAPHRASE CORRECTLY USING PARAPHRASING TOOLS

Table 10 showcases the responses on the statement "Paraphrase correctly using paraphrasing tools". Out of 340 responses, 119 (35%) strongly agreed, 102 (30%) agreed, 33 (9.7%) were uncertain, 45 (13.2%) disagreed and 41 (12.1%) strongly disagreed with the statement. Analysis at the university level reflects that the maximum 48 (42.9%) respondents strongly agreed with the statement from BBAU Lucknow followed by 37 (33.9%) responses from Aligarh Muslim University and the least 34 (28.6%) from Banaras Hindu University (BHU). Conversely, a maximum 16 (14.3%) responded strongly disagreed from BBAU Lucknow followed by 13 (11.9%) from Aligarh Muslim University (AMU) and the least 12 (10.1%) from Banaras Hindu University (BHU).

Table 11: Paraphrase correctly using paraphrasing tools

			Paraphrase correctly using paraphrasing tools					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	37	40	10	9	13	109
		Percent	33.90%	36.70%	9.20%	8.30%	11.90%	100.00%
	BBAU	**Frequency**	48	28	6	14	16	112
		Percent	42.90%	25.00%	5.40%	12.50%	14.30%	100.00%
	BHU	**Frequency**	34	34	17	22	12	119
		Percent	28.60%	28.60%	14.30%	18.50%	10.10%	100.00%
Total		**Frequency**	119	102	33	45	41	340
		Percent	35.00%	30.00%	9.70%	13.20%	12.10%	100.00%

7.3.4 USING REFERENCE MANAGEMENT SOFTWARE

It is evident from Table 11 on the statement "Using Reference management tools help in minimizing plagiarism in research work", out of 340 responses, 106 (31.2%) strongly agreed, 94 (27.6%) agreed, 41 (12%) were uncertain, 57 (16.8%) disagreed and 42 (12.3%) strongly disagreed with the statement. The further analysis at the university level shows that a maximum 42 (37.5%) from BBAU Lucknow strongly agreed to the statement followed by 33(30.3%) responses from Aligarh Muslim University (AMU) and least 31 (26.1%) from Banaras Hindu University (BHU). On the other side, a maximum of 16 (14.3%) respondents from BBAU Lucknow strongly disagreed with the statement followed by 14 (12.8%) from Aligarh Muslim University (AMU) and least 12 (10%) from Banaras Hindu University (BHU) strongly disagreed with the statement.

Table 12: Reference management tools for managing citationsand references

			Use Reference Management Software for managing Citations and References					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	33	32	17	13	14	109
		Percent	30.30%	29.30%	15.60%	11.90%	12.80%	100.00%
	BBAU	**Frequency**	42	29	11	14	16	112
		Percent	37.50%	25.90%	9.80%	12.50%	14.30%	100.00%
	BHU	**Frequency**	31	33	13	30	12	119
		Percent	26.10%	27.70%	11%	25.20%	10%	100.00%
Total		**Frequency**	106	94	41	57	42	340
		Percent	31.20%	27.60%	12%	16.80%	12.30%	100.00%

7.3.5 USE QUOTATION FOR OUTSIDE SOURCES AND EXTRACTS

Table 12 highlights the usage of quotation for the extracts or verbatim text taken into the study with due attribution. Out of 340 responses, 104 (30.6%) responded as strongly agreed, 98 (28.8%) agreed, 34 (10%) were uncertain, 62 (18.2%) disagreed and 42 (12.4%) strongly disagreed with the statement. Further analysis at the university level showcases that a maximum 42 (37.5%) respondents from BBAU Lucknow followed by 32 (29.4%) from Aligarh Muslim University (AMU) and least 30 (25.2%) from BHU strongly agreed to the statement. On the other side, a maximum 16 (14.3%) from BBAU Lucknow followed by 13 each from Aligarh Muslim University (AMU) and Banaras Hindu University (BHU) strongly disagreed with the statement respectively.

Table 13: Use quotations for using outside sources and extracts

			Use quotations for using outside sources and extracts					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	32	35	15	14	13	109
		Percent	29.40%	32.10%	13.80%	12.80%	11.90%	100.00%
	BBAU	**Frequency**	42	28	10	16	16	112
		Percent	37.50%	25%	8.90%	14.30%	14.30%	100.00%
	BHU	**Frequency**	30	35	9	32	13	119
		Percent	25.20%	29.40%	7.60%	26.90%	10.90%	100.00%
Total		**Frequency**	104	98	34	62	42	340
		Percent	30.60%	28.80%	10.00%	18.20%	12.40%	100.00%

7.3.6 CITE EVEN YOUR OWN SOURCE

According to the Table 12, which advocates for citing even one's own source to avoid self-plagiarism, out of 340 responses, 104 (30.58%) respondents strongly agreed to the statement, 86 (25.3%) agreed, 34 (10%) uncertain, 74 (21.8%) disagreed and 42 (12.3%) strongly disagreed to the statement. At the university level, a maximum of 42 (37.5%) respondents from BBAU Lucknow strongly agreed to the statement followed by 32 (29.4%)

from Aligarh Muslim University (AMU) and least 30 (25.2%) from Banaras Hindu University (BHU). On the other end, a maximum of 16 (14.3%) respondents from BBAU Lucknow strongly disagreed with the statement followed by 13 each from Aligarh Muslim University and Banaras Hindu University (BHU).

Table 14: Cite even your own source

			Cite even your own sources correctly					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	32	34	15	15	13	109
		Percent	29.40%	31.19%	13.80%	13.70%	11.90%	100.00%
	BBAU	**Frequency**	42	26	10	18	16	112
		Percent	37.50%	23.20%	8.90%	16.10%	14.30%	100.00%
	BHU	**Frequency**	30	37	9	30	13	119
		Percent	25.20%	31.10%	7.60%	25.20%	10.90%	100.00%
Total		**Frequency**	104	86	34	74	42	340
		Percent	30.58%	25.30%	10.00%	21.80%	12.30%	100.00%

7.3.7 SEEK GUIDANCE FROM EXPERTS/PEERS IN RESEARCH WORK

Table 12 is the expression of the responses on the statement "Seeking guidance from experts/peers" is helpful to minimize plagiarism from the research work". It is evident from the responses that out of 340 responses, 111 (32.6%) strongly agreed to the statement, 120 (35.3%) agreed, 19 (5.6%) uncertain, 53 (15.6%) disagreed and 37 (10.9%) recorded their response as strongly disagreed to the statement. The results analyse at the university level reflects that a maximum of 44 (39.3%) responses from BBAU Lucknow strongly agreed to the statement followed by 35 (32.1%) from Aligarh Muslim University (AMU) and least 32 (26.9%) from Banaras Hindu University (BHU). On the contrary, it is reported that a maximum of 16 (14.3%) from BBAU Lucknow, 11 (9.2%) from BHU and 10 (9.2%) from Aligarh Muslim University (AMU) have strongly disagreed to the statement.

Table 15: Seek guidance from experts/peers in research work

			Seek guidance from experts/peers in research work					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	35	46	4	14	10	109
		Percent	32.10%	42.20%	3.70%	12.80%	9.20%	100.00%
	BBAU	**Frequency**	44	34	4	14	16	112
		Percent	39.30%	30.40%	3.60%	12.50%	14.30%	100.00%
	BHU	**Frequency**	32	40	11	25	11	119
		Percent	26.90%	33.60%	9.20%	21.00%	9.20%	100.00%
Total		**Frequency**	111	120	19	53	37	340
		Percent	32.60%	35.30%	5.60%	15.60%	10.90%	100.00%

7.3.8 ATTENDING AWARENESS AND TRAINING PROGRAMS

Table 13 exhibits the responses received on the statement "Attending awareness and training programs" helps in reducing the plagiarism from the research work. Out of 340 responses, 89 (26.2%) strongly agreed, 127 (37.3) agreed, 23 (6.8%) uncertain, 56 (16.5%) disagreed and 45 (13.2%) strongly disagreed to the above statement. While analysing the table at university level, it is evident that a maximum 35 (31.2%) from BBAU Lucknow, 28 (25.7%) from Aligarh Muslim University (AMU) and least 26 921.8%) strongly agreed to the statement. At the same time, a maximum 15 (13.4%) from BBAU Lucknow, 14 (11.8%) Banaras Hindu University (BHU) and least 10 (9.2%) from Aligarh Muslim University (AMU) strongly disagreed with the said statement.

Table 16: Attending awareness and training programs

			Attending awareness and training programs					Total
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Name of the University	AMU	**Frequency**	28	50	8	13	10	109
		Percent	25.70%	45.80%	7.30%	11.90%	9.20%	100.00%
	BBAU	**Frequency**	35	42	5	15	15	112
		Percent	31.20%	37.50%	4.50%	13.40%	13.40%	100.00%
	BHU	**Frequency**	26	41	10	28	14	119
		Percent	21.80%	34.45%	8.40%	23.50%	11.80%	100.00%
Total		**Frequency**	89	127	23	56	45	340
		Percent	26.20%	37.30%	6.80%	16.50%	13.20%	100.00%

8   MAJOR FINDINGS

The academic research has now been measured by both quantitative and qualitative parameters. Moreover, in recent years it is quality of research which has gained traction in academia. Plagiarism along with other ill practices have damaged the reputations of individuals and their parent institutions. The study is an effort to measure the awareness and use of anti-plagiarism methods, tools, techniques and practices to curb plagiarism. The major findings based on the data and its interpretation are as follow"

    i. The study undertakes two categories of the users which includes faculty members and research scholars. The result finds that 278 research scholars which stands 83% of total users' strength have participated in the study. In second category of the user, 58 faculty members participates in the study which stands 17% of the total sample. The result further reveals that most number of 99 research scholars have participated in the study from Banaras Hindu University (BHU). 20 faculty members each from BBAU Lucknow and Banaras Hindu University (BHU) participated in the study.

ii. Study highlights the different age groups of the respondents. It shows that maximum participation receives from 25-30 years of the age group which accounts to182 (53.5%) of the total sample population followed by 68 (20%) from the age group of 30-35years.

iii. The responses undertaken are categorized under both male and female gender. The study expresses that out of 340 samples, 206 responses are registered under the male category, which is 60.6%. The female participation records at 134 which is 39.4% of the sample. The greatest number of male respondents 77 are from Banaras Hindu University (BHU) and the greatest number of female respondents are 47 from BBAU Lucknow.

iv. The study primarily highlights the awareness to plagiarism by faculty members and research scholars. The analysis reveals that most of the participants are aware of plagiarism. A good number 337 out of 340 samples are aware of plagiarism which amounts to 99.1% of the total sample. While, only 3 are found unaware of plagiarism which is just 0.9%. BBAU has responded with the highest awareness rate of 100%.

v. The analysis of the statement on awareness about the use of anti-plagiarism software before the submission of research work by both faculty members and research scholars reveals that 337 respondents which is 99.1% of the total sample responded as "Yes". Only 3 responded to "No" which is 0.9% of the sample. The results show that there is a good amount of awareness among users regarding the use of anti-plagiarism tools to minimise the possibility of plagiarism in academic and research work.

vi. The awareness between plagiarism and similarity has been extracted and analyzed. This shows that 301 participants respond "Yes" as they are aware of the difference between both terms. The rest 39 responded "No" which counts them as unaware of the difference between plagiarism and similarity. There is a thin line between both terms and it is a good sign that the users in academics can identify and respond to challenges posed by this dubious combination.

vii. The analysis exhibits an awareness of permitted exclusions in the form of Government reports, common knowledge, quoted material, facts, and figures. The result shows that 76 (22.4%) strongly agreed and 102 (30%) agreed with the statement. BBAU Lucknow is found with the highest number of awareness responses.

viii. One of the common differences between similarity and plagiarism is that similarity amounts to fixed expression, imitation, text verbatim, etc. However, plagiarism includes even ideas and styles of expression, if picked from other sources without due attribution. Most of the respondents, ie. 81 (23.8%) strongly agreed with the statement. However, it is closely challenged by the respondents whereas 74

(21.8%) disagreed with the statement. In a few earlier studies, it has been found that the experts are of the view that ideas cannot be imitated and research generally builds upon the earlier laid foundation.

ix. The study reveals that it is evident to thoroughly review the literature of the subject under study to escape the possible plagiarism threat. The literature review provides the necessary instincts and understanding of the subject and finds the gap for further research. The data present that 126 (37%) strongly agreed and 128 (37.7%) agreed on it. Respondents from BBAU Lucknow have responded highest as strongly agreed and BHU has responded highest on the agreed response.

x. In the research process following earlier related studies are inherited and natural practices. Including one's own original ideas and thoughts reduces the chances of falling prey to plagiarism. Most of the respondents i.e. 134 (39.4%) strongly agreed with the statement that presenting their own ideas and thoughts is an effective strategy against plagiarism.

xi. The faculty members and research scholars enquired about whether using paraphrasing tools for effective paraphrasing is an effective tool against plagiarism. Most of the respondents i.e. 119 (35%) strongly agreed followed by 102 (30%) agreed with the statement. The paraphrasing should always be followed by due acknowledgment to the original author.

xii. The users were asked to record their responses on whether using reference management software for managing error-free citations and references is an effective strategy against plagiarism. The highest percentage i.e. 106 (31.2%) strongly agreed and 94 (27.6%) agreed with the statement.

xiii. The responses received on the statement whether using quotations for including information from outside sources with proper citations helps against plagiarism. The majority 104 (30.6%) strongly agreed followed by 98 (28.8%) agreed with the statement. Although using excessive quotes may reduce the novel contribution and original ideas in the research.

xiv. Researchers generally copy part of the information from their earlier research without citing. This is known as self-plagiarism. On asking the statement to cite even your own sources correctly, a majority of respondents i.e. 104 (30.58%) strongly agreed followed by 86 (25.3%) agreed. Although, there are responses that disagreed on this claiming both the work as their own.

xv. The limited capability of similarity detection tools to detect similarity not plagiarism has obligated the users to take guidance and advice from the expert, supervisor, and peers. The responses to the statement

"Guidance from experts/peers in research work helps to tackle plagiarism" shows that the majority of 120 (35.3%) agreed and 111 (32.6%) strongly agreed with it. The pertinent regulations, guidelines and policy documents of higher educational institutions also kept space for expert and peer advice.

xvi. The users were asked whether attending awareness and training programs on plagiarism have an impact to reduce plagiarism. Most of the respondents i.e. 127 (37.3%) agreed followed by 89 (26.2%) strongly disagreed with it. Although a number of respondents found disagreed and strongly disagreed to this statement, the possible reasons could have been the limited knowledge of the expert, no hands-on practice to offer, the language of the program, the limited capacity of participants, etc.

9 CONCLUSION

Academic ethics and integrity have been intact in the higher education system since antiquity. In earlier times, we witnessed honor codes in higher educational institutions to tackle integrity and plagiarism. The issue of academic plagiarism has widely been discussed in the recent past. In the last few years, there were numerous instances of alleged academic plagiarism cases in India. This has compelled the academic regulatory authority to frame some guidelines for higher educational institutions to stem the proliferation of plagiarism. The ever-growing instances of plagiarism resulted in more deliberations and research on it. There are certain aspects on plagiarism i.e. level of awareness, the difference between similarity and plagiarism, exclusion of plagiarism, plagiarism detection tools, research tools like paraphrasing software, a thorough review of literature, using original ideas and thoughts, reference managers, quotation and in-text citations, citing own source to avoid self-plagiarism, human intervention through expert and peers advice and attending awareness and training program on academic integrity and anti-plagiarism organized by the parent and other institutions. It is observed that plagiarism is still in its emerging stage and concerted efforts involving all stakeholder is required to control it before it flourishes deep into the Indian academia. It is the bigger responsibility of the teachers and the institutions concerned to take the lead and advise and train the researchers to follow academic integrity and ethical practice and discard plagiarism in all forms. All should take the required help of technological advancements in curbing the menace of plagiarism. It is the quality and original research which shall bring laurels to the individual, institution, and nation. It is suggested to conduct more such studies with a wider sample in terms of universities, institutions, and user categories i.e. Post Graduate, Under Graduate, and non-teaching staff. Technological advancements like Artificial Intelligence (AI) and Machine Learning have posed a serious threat in terms of plagiarism

practices. Future studies should take into consideration the existing and upcoming challenges related to academic plagiarism.

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