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# Role of Technology in the Prevention of Plagiarism and Promotion of Research Integrity in HEIs of India

**Sharad Kumar Sonkar[1]\* and Maneesh Kumar Bajpai[2]**

[1]Associate Professor, Department of Library and Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow-226025, Uttar Pradesh, India

[2]University Deputy Librarian, Dr. Ram Manohar Lohiya National Law University, Lucknow-226012, Uttar Pradesh, India

(\*Corresponding author) email id: \*sksonker@yahoo.co.in, [2]maneeshbajpai@rmlnlu.ac.in

### ABSTRACT

This paper explores the technology implementation to prevent plagiarism and to promote research integrity in the higher education and research institutions of India. Recently, The University Grants Commission passed the UGC Regulation 2018 for the promotion of academic integrity and prevention of plagiarism in higher educational institutions. This paper deals with the features and operations related to similarity checkers i.e. URKUND and TURNITIN. It highlighted the various shades of pictures of the software which are used for maintaining research integrity and prevention of plagiarism in the higher education system of India.

**Keywords:** Academic integrity, Plagiarism, Similarity checker, TURNITIN, URKUND

## INTRODUCTION

Due to the rapid advancement of information technology and web publishing, electronic content is growing much faster than print publishing. Electronic contents provide seamless flexibility to the writers/authors/Researchers/students to search, retrieve, copy, download, modify, and reuse published material for their education and research. Some of the authors are stealing ideas, thoughts, and literature from the other contributors without giving proper acknowledgment/credit to them knowingly or unknowingly. In the university system, teachers are imparting their services through guiding and supervising students in their research work at various levels viz. project preparation, dissertation and thesis work, etc.

Analyzing plagiarism in their work is a very difficult and time-consuming activity in the print environment but the technology-enabled us by facilitating plagiarism detection tools in the electronic publishing environment which reduces the time of detection and analysis of the plagiarized contents in the thesis, dissertation, and project report, etc.

Indian has several higher education institutions and universities which are involved in imparting education and research. Every institution should have a research integrity policy to prevent plagiarism and to promote research integrity in the institution which led to the academic and ethical cultural development in the society. There were found several instances of misconduct about plagiarism among the academic fraternity including teachers, research scholars, students, scientists, and vice-chancellor, etc. for which they were penalized by various competent authorities. It also forced them to lose their

positions and rendered them to the black patches in their careers.

Keeping in view the increasing numbers of plagiarism cases in Higher Educational Institutions (HEIs), the UGC framed a plagiarism policy under "the University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulation 2018". It was implemented on 28 July 2018. The regulation says that "Academic Integrity" is the intellectual honesty in proposing, performing, and reporting any activity, which leads to the creation of intellectual property.

## LITERATURE REVIEW

In recent years, Plagiarism is quite a hot topic that has been discussed a lot among researchers and academicians. Singh and Bhatt (2018) found in their study that 97% of respondents agreed that easiness and availability of varied e-resources can be easily copied and present as one's own is a reason for plagiarism. Pathak and Malakar (2016) found that "Every aspect of anti-plagiarism mechanism should be given due importance to developing the research output. It is an ethical issue and a proactive approach requires that it should be closely related to academic ethics". Kale (2017) stated in his study that "No scholar followed the rule of a longer quote of more than 40 words whenever scholars get lengthy borrow ideas (more than 40 words) and source paraphrased. This is another reason for high plagiarism (beyond the limit) in the doctoral theses in India". Kadam (2018) stated in a study that UGC Regulation 2018 is a welcome step but it has limitations and drawbacks. It appears to address only the "copy paste" act by relying heavily on the similarity index, ignoring various forms of dishonesty which include self plagiarism, wrong citation, data manipulation, photo plagiarism and so on.

## UGC'S PLAGIARISM POLICY

As per the University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations, 2018, HEIs means the higher Educational Institutions covered under Section 2(f) of the UGC Act, 1956. It refers that the regulation related to plagiarism and integrity does not apply to those institutions which are not covered under section 2(f) of the UGC Act, but they may adopt the regulation in their institutions to set the ethical academic research. Through the regulation, the UGC made an effort to form a policy to curb plagiarism in research and made provisions for the penalty to the students as well as teachers too.

The regulation allows every HLIs to develop a plagiarism policy for their institutions to curb plagiarism and promote ethical scholarly writings under the light of following major provisions of penalties for teachers/ librarians, students, and research scholars-

## A COMPARATIVE STATEMENT FOR THE PLAGIARISM CHECKER SOFTWARE

"By analyzing a paper, the software offers the user information on how much of the content is identical, i.e., copied from other sources. However, it is important to point out that there is no defined boundary that will separate original papers from plagiarized ones. It is up to the user to carefully and with understanding interpret the results obtained from the software analysis (Birkic, 2016)".

Hon'ble Prakash Javedkar, Minister of Human Resource Development, Government of India announced in June 2018 that TURNITIN and other anti-plagiarism software tools should be used to check the plagiarism in thesis and dissertation of the universities. Among several available similarity checker/anti-plagiarism software tools, TURNITIN and URKUND are the two most popular among the higher educational institutions. The reason is that these two are introduced in India by the INFLIBNET. Presently, URKUND similarity checker is provided to all HLIs which are covered under section 2(f) of the UGC Act, 1956 as free of cost whereas TURNITIN is implemented by the organization on their own.

**Levels of Plagiarism and Penalties**

| Levels of Plagiarism | Type of similarity | Penalty for Students | Penalty for Teachers |
|---|---|---|---|
| Level 0 | Similarities up to 10% | No penalty | No penalty |
| Level 1 | Similarities above 10% to 40% | Shall submit a revised research paper within six months | Shall be asked to withdraw the manuscript |
| Level 2 | Similarities above 40% to 60% | Deprived of submitting the revised script for the period of one year | • Shall be asked to withdraw the manuscript<br>• Teachers may be debarred from supervising for two years to supervise to any Master's M.Phil, Ph.D. Student/scholar<br>• Shall be denied a right to one annual increment |
| Level 3 | Similarities above 60% | Registration shall be canceled | • Shall be asked to withdraw the manuscript<br>• Shall be denied a right to two successive annual increments<br>• Teachers may be debarred from supervising for three years to supervise to any Master's M.Phil, Ph.D. Student/scholar |

| Basics | URKUND | TURNITIN |
|---|---|---|
| Nature | Similarity checker | Similarity checker |
| Year | 1999 | 1998 |
| Developed by | • Stockholm-based Prio Infocenter AB<br>• Taken over by Private Equity Fund Procuritas Capital Investors VI in 2018. | • "In 1994, Dr. John Barrie created the original architecture and fundamental technology behind iThenticate and TURNITIN in 1994"[11].<br>• Four University Students as a peer review application |
| Available in | 06 Languages | Eighteen |
| Available in Indian Regional Languages | No | No |
| Countries | 70 | 150 |
| Institutions | 2000 | 15000 |
| Developed for | • Secondary Education<br>• Higher Education<br>• Corporate | • Secondary Education<br>• Higher Education |
| Source | • Available resources on the internet<br>• Published materials.<br>• Student materials | • 929 million archives of students' papers<br>• 67 billion web pages |
| Training | • On-site training<br>• Live interactive webinar | • On-site training<br>• Webinar |
| Report | Through registered email only | May be downloaded directly |

## CHALLENGES AMONG INDIAN ENVIRONMENT

India is a country of multi-faceted languages and linguistics. The rich heritage of regional languages is cherished by scholars. The thesis, dissertations, and research papers are been published in a large number. The similarity checker software only checks the documents which are written in foreign languages i.e. English, Spanish, and German, etc. but they are not able to check the documents written in Hindi and other Indian

**DIFFERENCES**

| S.No. | Turnitin | Urkund |
|---|---|---|
| 1. | • The bibliography may be excluded<br>• Quoted materials may be excluded<br>• Small matters may be excluded | • The bibliography may be excluded<br>• Quoted materials may be excluded<br>• Small matters may be excluded |
| 2. | Footnote and Endnote cannot be excluded | Footnote and Endnote cannot be excluded |
| 3. | The references need to check the similarly | Original material gives in simultaneous |
| 4. | Community learning used for a conversation on academic integrity | Not available |
| 5. | Similarity Index Report | Significant Study |
| 6. | Multi-colored report | Two-color report |
| 7. | Comprehensive and large Database | The database is smaller than TURNITIN |
| 8. | Personalized email system | Dedicated email system |
| 9. | High Cost | Lower than TURNITIN |
| 10. | Rigid license model | Through INFLIBNET |
| 11. | Available with Write Check which enables grammar enhancement and other same | Not available such feature |
| 12. | Grading and feedback is available | Not available |
| 13. | Very user-friendly | Quite a complex system |

regional languages viz. Bengali, Telugu, Punjabi, Urdu, Tamil, etc. Due to this inability of the similarity checker/ anti-plagiarism software tools, a large number of documents written and published in Indian Languages are deprived of the primary level of the check of plagiarism. The researchers and scholars of the same languages are unable to benefit from curbing plagiarism and promoting academic integrity.

## RECOMMENDATIONS AND SUGGESTIONS

The challenges always allow developing new policies to address issues and upgrade the technology to incorporate new features as per the requirement. The authorities and developers of such anti-plagiarism/ similarity checker software tools may take the following steps to include the regional languages-

i. The UGC and other competent authorities should frame a universal document formatting policy for HEIs to write a thesis, dissertations, and other documents in Indian regional languages.

ii. The authorities should provide the guidelines for scripts and fonts e.g. If the document is to be written

in Hindi, then the writer may have chosen one of the font types -Mangal, Kruti Dev 10, Dev Nagri, etc, which will create ambiguity too. Therefore, if the authorities enforce that the documents written in Hindi languages may only use the Mangal or any other decided font type. It will bring uniformity and will increase accessibility.

iii. The similarity checker/anti-plagiarism software tools should incorporate databases in Indian regional languages and have the facility to check the documents written in regional languages before introducing them in Higher Educational Institutions of India.

## CONCLUSION

The University Grants Commission is trying to encourage Higher Educational Institutions of India to prevent plagiarism and to promote academic integrity. It is going to bring a change in the scholarly work of teachers, librarians, research scholars, students, and others who are associated with academic assignments. Similarity checker/anti-plagiarism software tools are very

useful in curbing plagiarism related issues but at the same time, they are unable to address the work written or published in Indian regional languages. Therefore, the TURNITIN, URKUND, and other such similarity checker software tools must incorporate databases in Indian regional languages. The government of India and other state governments must develop a uniform script/ font policy for writing research work, thesis and dissertation, etc. It will help the researcher/supervisor/ guider and software developers to make such similarity checkers accessible to all irrespective of language barriers.

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