

Turnitin Use and Analysis: Software to Reduce Plagiarism at Medan State University

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ABSTRACT

Plagiarism is taking the idea of someone else's essay or writing then as if making the work as his own work. Seeing the many cases of plagiarism committed against scientific papers, it is necessary to analyze the use of turnitin software in examining quotations taken from other people's written works. The purpose of this study was to analyze the use of Turnitin software in reducing plagiarism at Medan State University. This type of research is qualitative research with descriptive methods. Data collection conducted in this study was through interviews and documentation studies. The results of software usage data showed a significant decrease in the similarity index of student writing. In the similarities index percentage of 1% - 24%, data entered in the Turnitin software shows the number of scientific papers is increasing compared to the similarities index of 50% - 74%. The same thing happens with the similarities index of 25% - 49%, the number of scientific papers entered in the software is greater than 50% - 74%. The use of Turnitin software is also effective in reducing plagiarism of scientific papers because the achievement indicators consist of clarity on the goals achieved and strategies in achieving the goals in their implementation are clearly visible; facilities and infrastructure already have standards in services carried out for plagiarism tests; The implementation of plagiarism test services that have been carried out has effectiveness and efficiency in its implementation; surveillance system and Controls that have been implemented well, as well as human resources, namely librarian staff and plagiarism detection teams, understand the use of the Turnitin device application in serving plagiarism tests.

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1. INTRODUCTION

Plagiarism is generally done on various occasions in everyday life, such as in the fields of art and writing. Plagiarism activities are also carried out in the academic field [1]. Plagiarism occurs under two conditions, namely the perpetrator's awareness to quote or represent the work of others, and unintentional in committing plagiarism. According to [2] Plagiarism occurs when a person: 1) uses the words, ideas, or work of others; 2) can be identified with other sources; 3) not to use citations as a link between the work and the source obtained; 4) acknowledge as the original author that does not belong to him; 5) used for personal gain

The number of plagiarism cases that occur in universities is suspected based on factors that affect plagiarism [3]. According to [4] Revealing the existence of two factors that influence the act of plagiarism, namely the main factor and additional factors. Key factors include individual understanding, academic ability, long-term habits, technological developments. Meanwhile, additional factors are curriculum demands, environmental issues, personal characteristics. Both factors are interrelated in influencing plagiarism. The next factor that triggers is the perception of the level of seriousness in dealing with plagiarism. The assumption of plagiarism problems that are not serious makes students have a habit of not respecting the work of others. The lack of maximum efforts to prevent and overcome plagiarism from university leaders has made many students unidentified in stealing other people's written works.

Digital technology offers various conveniences for users and one of them can access written quotes from internet media [5][6]. This problem has become more worrying with the use of the internet which provides easy access for students to commit plagiarism [7][8]. The number of scientific papers produced by students without including sources or references from the original author [9][10][11], so that caused harm to the original author. The negative impact of this internet advancement can cause negative changes in behavioral values, norms, rules and morals in students and the academic community of universities [12]. As many as 55% of 1055 students in universities, both public and private universities, have plagiarised scientific papers in the last 10 years. As much as 89% of this increase in plagiarism is believed to be caused by computers and the internet.

Human resource (HR) management, also known as HR Management, is intended to be a best practice to provide the provision and skills to manage human resources in an organization, such as government offices, community institutions, and educational institutions [13][14]. State University of Medan is one of the universities in Indonesia where

every year produces quality and quality students. In encouraging the prevention of plagiarism, Medan State University implements a paper examination through turnitin software. Plagiarism prevention efforts carried out by Medan State University through the application of turnitin technology are preventive measures in supporting the improvement of the quality culture of education, graduate learning and publications.

Turnitin is software that identifies the matched material by checking the electronically submitted documents against its database of academic publications, internet, and previously submitted documents. Turnitin provides a "similarity index," which does not mean plagiarism. The prevalence of plagiarism could not reduce tremendously in the presence of many paid and un-paid plagiarism detecting tools because of the assortment of reasons such as poor research and citation skills, language problems, underdeveloped academic skills.

The software turnitin is a tool that helps to index the percentage rate of similarity of each written text with previously published electronic text. In addition to these functions, Turnitin technology can also compare the number of similarities between written works from one university to another. Turnitin software can improve the quality of scientific papers in the higher education ecosystem [15]. Turnitin can find irregularities as well as direct citations without paraphrasing and its reference sources. With the examination of scientific papers through Turnitin technology, students and the academic community are trained in the ability to think to paraphrase every text quoted in other people's writings [11].

In encouraging a plagiarism-free system, Turnitin management staff were also formed in each study program at Medan State University which aimed to assist library tasks and serve students and the academic community in checking plagiarism of scientific papers. Turnitin managers must be able to provide services to all lecturers and students consisting of 927 permanent lecturers, 85 non-permanent lecturers, and 26,506 students (simpegunimed.ac.id 2022). In a survey conducted on one of the plagiarism detection teams at the Medan State University Cosmetology Education Study Program related to a holistic approach to plagiarism, it was found that 18 students from May 2021 to February 2022 were detected to have committed plagiarism actions of 50% - 72% as a result of the use of Turnitin. Furthermore, the survey was conducted on several journal flatforms at Medan State University, there are also several journal flatforms that publish scientific articles with a plagiarism rate of 50%-100%. From the survey, it can be known that there are many cases that must be explored to find out a number of plagiarism levels committed by Medan State University students. Therefore, researchers are interested in exploring the Use and Analysis of Turnitin Software: Software to Reduce Plagiarism Rates at Medan State University

2. RESEARCH METHOD

This research uses descriptive qualitative methods to analyze existing information or data. For the preliminary study, researchers collected 11,442 data from January 2021 to

March 2022. From the data of 11,442 entered in the turnitin software, researchers observed the principles discussed earlier on how to use the turnitin application to obtain index limit values, namely the accuracy of texts from undergraduate student papers, grammatical and spelling errors in uploaded texts, the use of foreign languages, the level of similarity between uploaded texts and texts already in the database.

3. RESULTS AND DISCUSSION

3.1. RESULTS

Researchers have collected data and analyzed Turnitin software to improve academic writing at Medan State University. To conduct the analysis, researchers used Turnitin software to obtain text similarity or matching index values from 11,442 scientific papers of undergraduate students submitted from January 2021 to March 2022 can be seen in the table below:

Table 1. Results of Turnitin Software Usage Data at Medan State University, (2022)

Master Account ID	Account ID	Account Name	Month	Active Class	Active Instructors	Submission	Similarity report	0% Similarity	1-24% Similarity	25-49% Similarity	50-74% Similarity	75-100% Similarity
132419	132479	State University of Medan	01/01/2021	17	12	48	50	0	9	9	20	12
132419	132479	State University of Medan	01/02/2021	12	4	60	60	0	28	21	8	3
132419	132479	State University of Medan	01/03/2021	113	64	311	311	0	83	116	75	37
132419	132479	State University of Medan	01/04/2021	74	36	479	481	3	93	218	146	21
132419	132479	State University of Medan	01/05/2021	110	53	850	841	1	176	397	174	93
132419	132479	State University of Medan	01/06/2021	115	63	1411	1414	8	326	654	348	78
132419	132479	State University of Medan	01/07/2021	141	67	2196	2193	1	470	1257	409	56
132419	132479	State University of Medan	01/08/2021	119	61	915	925	1	279	458	147	40
132419	132479	State University of Medan	01/09/2021	179	62	1324	1352	7	427	645	213	60

132419	132479	State University of Medan	01/10/2021	125	63	1106	1144	5	275	601	225	38
132419	132479	State University of Medan	01/11/2021	122	61	1169	1158	0	266	591	224	77
132419	132479	State University of Medan	01/12/2021	143	63	1374	1365	6	378	656	254	71
132419	132479	State University of Medan	01/01/2022	156	71	1409	1380	2	326	726	236	90
132419	132479	State University of Medan	01/02/2022	122	65	881	865	3	322	381	125	34
132419	132479	State University of Medan	01/03/2022	196	89	1558	1861	52	533	784	341	151

From table 1, data is obtained that the results of student work in 2022 with a similarities index of 75% - 100% of 586 scientific papers, similarity index with a percentage of 50% - 74% of 2243 scientific papers, an average similarity index with a percentage of 25% - 49% of 5623 scientific papers, a similarity index with a percentage of 1% - 24% of 2810 scientific papers, similarity index with a percentage of 0% of 32 scientific papers. Meanwhile, in 2023, the similarity index with a percentage of 75% - 100% of 275 scientific papers, the similarity index with a percentage of 50% - 74% of 702 scientific papers, the similarity index with a percentage of 25% - 49% of 1891 scientific papers, the similarity index with a percentage of 15% - 24% of 1181 scientific papers, and the similarity index with a percentage of 0% of 55 scientific papers.

The results of data on the use of Turnitin software in table 2 show a significant decrease in the similarity index of student papers. The similarities index of 75% - 100% is the highest level of plagiarism and the similarity index of 1% - 24% has a low plagiarism rate, although there is also a similarity index of 0% in scientific papers. In the similarities index percentage of 1% - 24%, data entered in the Turnitin software shows the number of scientific papers is increasing compared to the similarities index of 50% - 74%. Likewise, at the similarities index 25% - 49%, the number of scientific papers entered in the software is greater than 50% - 74% and in the similarities index 50% - 74% the number of scientific papers entered in the software is greater than 75% - 100%. The lower the percentage of the similarities index, the results of scientific work produced do not adopt many quotes from other people's writings. Researchers observed various aspects in obtaining the limit value of the Turnitin software index, namely: the accuracy of texts from student scientific papers, grammatical and spelling errors in uploaded texts, the use of foreign languages, the level of similarity between uploaded texts and texts already in the database.

3.2. DISCUSSION

Based on the findings obtained from research on the use of Turnitin software as an effort to reduce plagiarism rates at Medan State University, the author can describe as follows:

3.2.1. Uses of Turnitin Software

As previously explained in analyzing the use of Turnitin software in reducing plagiarism rates at Medan State University using several indicators to obtain research success. The indicators are as follows:

3.2.1.1. Goals to be achieved

According to [16] goal-setting is a widely used and accepted strategy for promoting physical activity. In this case, the Medan State University Center has a clear goal in implementing a plagiarism test system on the scientific work produced. The purpose is to prevent plagiarism committed by students, lecturers and the academic community. Through the implementation of plagiarism checks, it will cause improvements to written works produced by students and can support the improvement of the quality culture of education and graduate learning, and publications within Medan State University.

With the plagiarism test service conducted by the Medan State University Library, it is hoped that students can produce their own scientific work and can utilize information technology properly and correctly. The purpose of plagiarism detection services has been announced through the decree of the Rector of Medan State University number 0036 / UN33 / KPT / 2022 which is guided by the Regulation of the Minister of National Education of the Republic of Indonesia No 17 of 2010 concerning the prevention and control of plagiarism in universities so that the clarity of the goals to be achieved can be right on target. The purpose of the plagiarism test service at Medan State University can be said to be successful, this can be seen from the level of similarity experiencing a decreased process after using plagiarism tools.

3.2.1.2. Goal Achievement Strategy

In achieving the goals of plagiarism test services, the strategic planning is a process carried out by an organization to determine strategy or direction, and make decisions to allocate its resources to achieve the strategy. Medan State University Library has a good strategy in achieving goals. The strategy is how plagiarism efforts on each scientific work and strategies for managing plagiarism test services well. Through this strategy, it is hoped that plagiarism test services can run in accordance with the goals achieved.

The strategy carried out in achieving the goal is to realize quality plagiarism test services through the formation of a plagiarism team to facilitate examination of each scientific work. The Medan State University Library also provides training to plagiarism team members in the operation of plagiarism tools with the aim of improving performance so that it can provide good service. Based on the researchers' searches, the following documentation of the formation of a plagiarism detection team for Support plagiarism test service goal achievement strategy:

3.2.1.3. Facilities and Infrastructure



Figure 2. Plagiarism Team Formation and Training on the Operation of Plagiarism Tools

The existence of available facilities and infrastructure can achieve the goals and strategies carried out [17]. Facilities and infrastructure are tools to support the success of a process of effective use of turnitin software. The facilities and infrastructure provided by the Medan State University library are computers, internet networks and plagiarism test service staff who can assist students, lecturers and the academic community in checking plagiarism of scientific papers produced.

The facilities and infrastructure of the Medan State University library are based on component standards in plagiarism test services. In this case, it can be seen from the internet network facilities and other facilities provided. Plagiarism examination can also be assisted by the staff of the plagiarism library of Medan State University in the plagiarism test service room. With the support of adequate facilities and infrastructure, the examination of scientific papers can run more effectively and efficiently. From the results of the researcher's search, the following is the documentation of the plagiarism test service room at the Medan State University Library:



Figure 3. Plagiarism Test Service Room at Medan State University Library

3.2.1.4. Effective and Efficient Implementation

Effectiveness is defined as the extent to which the social system achieves goals, while efficiency leads more to the achievement of goals [18]. Effective and efficient implementation is one of the supporting factors in the implementation of the program. In this case, effective and efficient implementation of programs is also implemented in plagiarism test services. Based on observations made by researchers, the implementation of plagiarism test services has been running effectively and efficiently. This is evident from the existence of manual and online examinations that make it easier for students, lecturers and the academic community to detect the scientific papers produced. In addition, the documents to be examined can be provided directly or online submission via google form to the plagiarism team or librarian staff of plagiarism test services. Through online submission, plagiarism checking will be more efficient. Online submission via google form can be seen as follows:

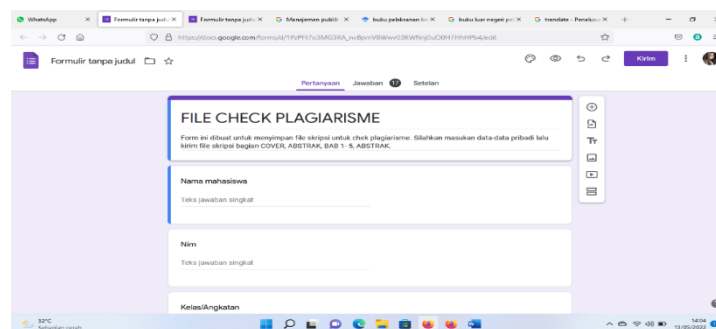


Figure 4. File Submission via Google Form (2022)

3.2.1.5. Supervision and Control System

To achieve the purpose of using software, turnitin requires supervision and control in its implementation. Supervision and control are an integral part of the implementation in the activity program. The purpose of supervision and control so that the service and use of turnitin software runs well so that students, lecturers and the academic community can see the level of plagiarism similarity from scientific papers.

Supervision and control of the use of turnitin software in the Medan State University Library has been going well. The librarian staff of the State University of Medan Library supervises and controls by controlling statistical data on the percentage of plagiarism through turnitin software administrators so that lecturers, students and the community know the percentage of plagiarism which can then correct plagiarism detected from their own scientific works. Statistical data on the use of turnitin software can be described as follows:

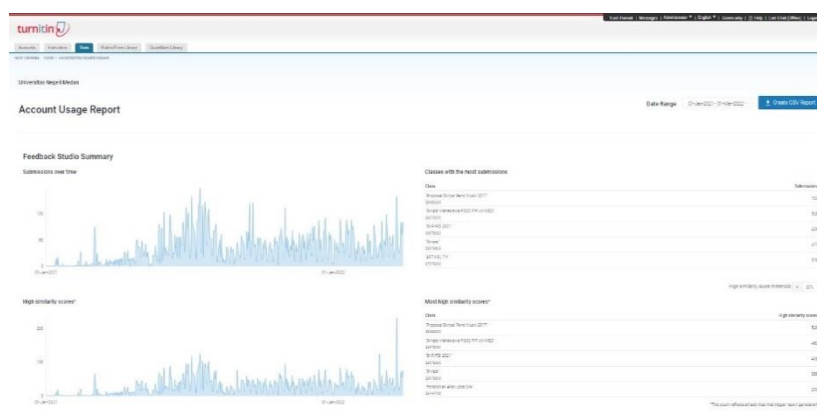


Figure 5. Turnitin Software Usage Statistics

3.2.1.6. Human Resources

Human resources is an organizational structure that has an important role in the effective use of turnitin software. Human resources have a great impact on the success of the objectives of the activity. The achievement of the effectiveness of using turnitin software can be seen from Users and policymakers expect what they call plagiarism detection software, but more exactly should be referred to as text-matching software, to use state-of-the-art similarity detection methods. The expected output is a report with all the passages that are identical or similar to other documents highlighted, together with links to and information about the potential sources. To determine how the source was changed and whether a particular case constitutes plagiarism or not, an evaluation a human being is always needed, as there are many inconclusive or problematic results reported. The output of such a system is often used as evidence in a disciplinary procedure. Therefore, both the

clarity of the report and the trustworthiness of its content are important for the efficiency and effectiveness of institutional processes [19].

Based on interviews conducted by researchers with librarian staff and plagiarism detection teams that have been formed by the Medan State University Library, fully understand the use and utilization of turnitin software. Training activities on the use of turnitin software were carried out twice which aimed to develop knowledge of ICT detection of turnitin applications. In the first training activity, the plagiarism detection team was equipped with an introduction to the turnitin software application and turnitin account so that they could immediately log in, then the plagiarism detection team could check student scientific writing cards. In the second training activity, the plagiarism detection team was given deeper training on the function of the features contained in the turnitin software which functions as knowledge development so that the plagiarism detection team can avoid cheating committed by students against scientific writing carts.

3.2.2. Supporting and Inhibiting Factors of Using Turnitin Software

3.2.2.1. Strength

Plagiarism test examination is one of the services created by the Medan State University Library. The purpose of creating this plagiarism test service is to make it easier for students to check scientific papers. From the purpose of the plagiarism test service, turnitin devices have their own strengths in their use.

From surveys conducted by researchers, turnitin devices have the power of being able to check the similarity of works or writings quoted from the work of others. In addition, the assessment results are issued quickly which of course saves the time of students, lecturers and the academic community who want to check plagiarism [20].

3.2.2.2. Debilitation

In addition to strengths, plagiarism test services also have weaknesses that have not been able to be reached in their use. From the results of observations and interviews conducted by researchers, the weakness of the turnitin device is that it cannot distinguish correctly quoted writing from plagiarism accurately or the detection process is not very accurate. In addition, this turnitin application also requires internet access in its use. Researcher also observed that when using the Turnitin software, students, appeared to be able to trick the Turnitin tool through images instead of text. Other research [15] also shows that there is fraud committed by students to trick Turnitin.

4. CONCLUSION

Overall use of turnitin software in reducing plagiarism rates. This can be seen from the calculation of the number of scientific papers entered in the Turnitin software shows that in 2022 with a similarities index of 75% - 100% of 586 scientific papers, similarity index with a percentage of 50% - 74% of 2243 scientific papers, an average similarity index with a percentage of 25% - 49% of 5623 scientific papers, similarity index with a percentage of 1% - 24% of 2810 scientific papers, similarity index with a percentage of 0% of 32 scientific papers. Meanwhile, in 2023, the similarity index with a percentage of 75% - 100% of 275 scientific papers, the similarity index with a percentage of 50% - 74% of 702 scientific papers, the similarity index with a percentage of 25% - 49% of 1891 scientific papers, the similarity index with a percentage of 15% - 24% of 1181 scientific papers, and the similarity index with a percentage of 0% of 55 scientific papers.

Based on the researchers' analysis, Turnitin software is effectively used to reduce plagiarism at Medan State University because the achievement indicators consist of clarity on the goals achieved and strategies in achieving goals in their implementation are clearly visible; facilities and infrastructure already have standards in services carried out for plagiarism tests; The implementation of plagiarism test services that have been carried out has effectiveness and efficiency in its execution; A well-implemented supervision and control system, as well as human resources, namely librarian staff and plagiarism detection teams, understand the use of the Turnitin device application in serving plagiarism tests. In addition, turnitin devices have advantages in their use, which is able to check the similarity of writing or detect plagiarism from the results of other people's written works. Meanwhile, turnitin devices have weaknesses in their use, namely they cannot distinguish correctly quoted writing from plagiarism accurately.

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