

Evaluation the Concept of Revitalization Pedestrian Path on Raden Saleh Raya Street, Central Jakarta

by Ulinata Ulinata

Submission date: 11-Apr-2023 09:07AM (UTC+0700)

Submission ID: 2061110410

File name: onPedestrian_Pathon_Raden_Saleh_Raya_Street,_Central_Jakarta.pdf (1.25M)

Word count: 4626

Character count: 24669



Evaluation the Concept of Revitalization Pedestrian Path on Raden Saleh Raya Street, Central Jakarta

*Ulinata*¹

¹Architecture Study Program, Faculty of Engineering, Universitas Kristen Indonesia

Abstract. DKI Jakarta Provincial Government is increasing the activation of pedestrian paths with the aim of making the DKI Jakarta region a pedestrian-friendly city so as to reduce the use of private vehicles that use fuel oil that can cause congestion, air pollution that has the potential to damage the environment. DKI Jakarta Provincial Government has also revived the development of urban equipment such as infrastructure and pedestrian sidewalks to encourage citizens to explore the city on foot. Pedestrian paths can now be sidewalks, walkways, squares, and malls. This study aims to evaluate the concept of Revitalization pedestrian path on Raden Saleh Raya Street and whether they meet the design criteria of pedestrian paths and whether there is an increase in the number of residents walking in the area. This study uses quantitative methods. The results show that pedestrian path on Raden Saleh Raya Street are used by pedestrians but some parts of the pedestrian path are used for selling activities, parking motorcycles so that the pedestrian lane has not provided complete comfort so that an improvement strategy is needed to improve pedestrian comfort so that the number of pedestrians using pedestrian path on Jalan Raden Saleh, Central Jakarta, has increased.

Keywords: evaluation, pedestrian, revitalization

Received 1 November 2022 | Revised 8 November 2022 | Accepted 11 November 2022

1 Introduction

The city is one of the location that is considered to have complex problems in human life because it is influenced by the activities of its users and adapts to the needs of the times and lives [1]. The city as a process has visible results compared to areas outside the city, is more prominent in its development and emphasizes the economic aspect so that the economic life of its people is realized [2]. In addition, cities are also seen as being able to affect human life in various fields which has an impact on the emergence of increasingly complex problems that need to be solved [3]. Poor urban spatial planning affects the spatial structure of a city or certain areas within a city, making it obviously difficult to restore its original state [4]. This is because

*Corresponding author at: Architecture Study Program, Faculty of Engineering, Universitas Kristen Indonesia
Mayjen Sutoyo Street No 2 Cawang, East Jakarta

E-mail address: ulinata@uki.ac.id

urban development is basically aimed at the benefit of the community/citizens of the city. This development continues to happen continuously and there is no effort to prevent it, but sooner or later this will have a long-term impact on the suffering of the people and will increase the burden on the provincial and municipal governments. At present, the main issues in urban design cannot wait for central government subsidies, but must be carried out by local governments independently within the framework of self-governing local government. Therefore, the mentality must be changed so that what is programmed can really support the attractiveness of the city market for investors who want to invest their capital there. Improving the ability to manage municipal government and utilize local resources, the implementation of decentralization and autonomy in the design of integrated and functional urban spaces are important parts of urban development planning. In this case, a Design City product must be designed in a SMART (Specific, Measurable, Achievable, Realistic and Timed) manner that can be defined as the result of urban design that is specific to local conditions, measurable, applicable, and practical, and can be completed within a specified period of time [5]. To achieve this, a study or action plan (Action Plan/ Action Program) is needed. A city center designed as a good city is one that must provide free but orderly traffic, be it pedestrian activities along with the activities of wheeled or four-wheeled vehicles [6]. Reality deviates from actual experience, the distribution of space for vehicle activity is wider than the space for activity and this is very unfair. The city center as a pedestrian-friendly area will slowly be degraded and abandoned as pedestrians turn to vehicle dependence due to its function as an eco-friendly city. In relation to the explanation above, according to the author's observations, in the case of major cities in Indonesia including the Special Capital Region (DKI) Jakarta, there are still very limited areas that are specifically designed with the provision of paths for pedestrians or pedestrians. Although various real estate designs have adopted the concept of residential areas that provide pedestrian or pedestrian access, the location is far from the center of the capital city. Therefore, the provincial government of the Special Capital Region (DKI) Jakarta promotes the revival of pedestrian paths with the aim of making the Special Capital Region (DKI) Jakarta a more pedestrian-friendly city. The growth of city infrastructure and facilities such as pedestrian crossings has also been revived as a promise of the provincial government in the Special Capital Region (DKI) Jakarta to encourage city dwellers to explore the city on foot [7]. For this reason, a solution is needed, namely by Revitalization an area, building or city. Revitalization is an effort to revive a building, area or city so as to improve material aspects, economic aspects and social aspects [8]. One of the areas that can be revitalized is the pedestrian crossing area. A pedestrian crossing is a special location or path that people can walk through [9]. Today, pedestrian crossings can be sidewalks or pedestrians, highways, sidewalks, squares, and commercial centers [10]. Currently, the paradigm of urban planning is shifting from a private vehicle-oriented approach to a pedestrian-friendly approach that encourages a healthier urban culture and seeks to support the use of public transportation. The Provincial Government of the Special Capital Region (DKI) Jakarta through the Jakarta Capital Region (DKI) Highways

Office has successfully completed a revitalization project of ten (10) pedestrian road sections for pedestrians in five capital areas [11]. The location is in South Jakarta, namely on Jalan Senopati, Jalan Suryo and Jalan Wolter Monginsidi, as well as Jalan Tebet Raya Suite and West Jakarta on Jalan Duri Kosambi Raya. Then to West Jakarta to Jalan Puri Wangi and Jalan Pesanggrahan. In East Jakarta, it is located on Jalan Layur, and in North Jakarta it is inside the Gorontalo Triangle Park, namely on Jalan Gorontalo Raya, Jalan Gadang and Jalan Gorontalo II. In Central Jakarta it is located on Raden Saleh Raya Street. The pedestrian path that will be revitalized must certainly be able to adapt to the needs of pedestrians and function optimally to support activities or activities in the city. Walking is an integral part of other activities. Therefore, it is necessary to have good pedestrian crossing planning to support all pedestrian activities more comfortably, safely and efficiently. In the case of pedestrian or pedestrian design planning, special attention should be paid to the design elements as well as the criteria for pedestrian crossings (safety, comfort, humanity and completeness) including related regulations so that all such factors are interconnected. The research entitled Evaluation of the Concept of Pedestrian Lane Revitalization on Raden Saleh Raya Street, Central Jakarta, aims to evaluate the Concept of Pedestrian Lane Revitalization whether it meets the criteria for the design of pedestrian paths or not and by Revitalization pedestrian paths on Raden Saleh Raya Street, the number of pedestrians on the streets in the area will be known whether it has increased or not.

2 Literature Review

Revitalization is one of the development strategies in seeking preservation in an area or building so that there is an increase in vitality or revive vitality that once existed before but has faded [11]. Revitalization can be done in three ways, namely by means of economic renewal, rebirth of social values and physical regeneration [12].

Pedestrian comes from the Greek language, starting from the word pedos which means foot, so pedestrian can be interpreted as a pedestrian or a person who walks, while the road is a medium on earth that makes it easier for humans to walk so that pedestrians can be interpreted as the movement or movement of people or humans from one place as a point of departure to another as a destination by using the walking mode where in Indonesia it is better known as sidewalk, which means a small lane 1.5 to 2 meters wide [13].

Revitalization of pedestrian paths can be done by regenerating the physical focus on improving physical aspects such as repairing and realigning the physical condition of the path. The pedestrian path can be defined as one of the open spaces that is part of a road that is the barrier between buildings and a street that has aesthetic and comfort elements to support urban vitality [14].

Some of the aspects that affect pedestrian comfort are safety aspects, security aspects, temperature and weather, conditions and environment, pedestrian path accessibility, pedestrian path facilities [15]. While, some of the factors that affect pedestrian comfort are circulation, climate, noise, smells or smells, shape, security, hygiene, beauty [16].

The typology of pedestrian space is Pedestrian space on the Side of the Road (Sidewalk), Pedestrian Space on the Water Side (Promenade), Pedestrian Space in the Commercial/Office Area (Arcade), Pedestrian Space in RTH (Green Pathway), Pedestrian Space Underground (Underground), Pedestrian Space Above Ground (Elevated) [17].

3 Methods

Before conducting this study, researchers previously approached by reviewing several articles in national journals and international journals from three (3) similar studies that had been carried out at a previous time. The study is needed to understand what methods were usually used by previous researchers. From the results of the study, the right research method can be selected or determined in accordance with the research to be carried out. From several studies that have been carried out previously, the research entitled Evaluation of the Concept of Pedestrian Path Revitalization on Raden Saleh Raya Street, Central Jakarta, is to use a quantitative approach that focuses on how the concept of pedestrian path on Raden Saleh Street, Central Jakarta after revitalization. The data collection was carried out by literature studies, observations and interviews or interviews with pedestrians on the pedestrian path. In the early stages of this research, it is carried out through the process of describing the research background for the disclosure of facts in the field then formulating the problems that occur to obtain research objectives. There are two stages of research carried out in this study including observation and interviews. Observations were obtained from direct observation to the research site which became a case study in this study. From the results of field observations, researchers will get the primary and secondary data that researchers need as charts in conducting research. In the observation stage, researchers will carry out several previous stages including the following literature studies in this case are carried out to obtain variables that will be studied in the observation stage. The literature study was obtained from previous or previous similar research. From this study, the researcher looked for the similarity of variables which the researcher then adjusted to the architectural theories that the researcher used in this study, so that the variables found in the literature review chapter were obtained. Researchers are also looking for literature studies on the theories and standards of pedestrian path revitalization. The source of this literature study is obtained from national and international journal articles, national and international proceedings articles, books or other library sources accessed via the internet using a laptop or computer. Observation Equipment used by researchers in making observations in the study entitled Evaluation of the Concept of Pedestrian Lane Revitalization on Raden Saleh Raya

Street, Central Jakarta is as follows cameras are used to record events and document all the information contained in the field in the form of photographs. The camera used is a mobile phone camera. The results of the documentation are then visually researched and then described and classified based on the categories contained in the variables. Image Document or DED (detailed engineering design) on the Pedestrian Path on Raden Saleh Street, Central Jakarta or the Grand Design of the pedestrian path in DKI Jakarta. Image documents or DED (detailed engineering design) on the Pedestrian Path on Jalan Raden Saleh, Central Jakarta are needed to clarify the location of the site and the existing conditions as well as research objects in detail that can be obtained from the Jakarta Special Capital Region (DKI) Bina Marga Office. Notebooks or notes and stationery that will be used to take notes, write, sketch or draw important things contained on the Pedestrian Path on Jalan Raden Saleh, Central Jakarta during direct observation or survey.

The place or location of the research is the Pedestrian Path on Raden Saleh Street, Central Jakarta, which has been revitalized. This research is carried out on weekdays or even every day depending on the data needed to see the activities or activities of pedestrians on the Pedestrian Path or pedestrians in the Raden Saleh Raya Street Area, Central Jakarta.

The population of this study is as strong as the support of structuring forces and researchers and the government who have a role or influence in the process of Revitalization pedestrian path on Raden Saleh Street, Central Jakarta. Because the population is large, samples will be used.

The sample of this study was selected using initially by means of simple random sampling (simple). According to the simple random sampling technique can be interpreted as a sampling technique from members of the population that is carried out randomly by not paying attention to the strata contained in that population. The samples are grouped and the criteria for selecting respondents are as follows the Pedestrians on Jalan Raden Saleh, Central Jakarta, namely parties who use pedestrian path on Raden Saleh Street, Central Jakarta. Some of the questions that will be given to respondents are related to the identity of pedestrians, the reasons why they pass through raden saleh street, at what time to pass raden saleh street which is supported by data on the consideration of pedestrian concepts, how many pedestrians every day, whether there are other road supporters from the busway station and others so that they can use pedestrians on raden saleh street to walk and whether there is a large box Lorong whose contents are cables electricity, water and telephone on the raden saleh road and if any, what is the excavation system if there is damage, whether it interferes with the pedestrian path or not, whether there are path for disabled and cyclists, whether there are trees in the pedestrian path and whether or not the trees interfere with walking activities and whether or not the path clash with other path on the pedestrian. Associated with the objectives and methods of approach of this research, the data collection and analysis techniques for this research carried out are documents: that related documents in the form of writings, images, photos, videos, audio-visual, notes: related records

that have been archived, people: information from those involved or giving decisions, physical artifacts: related physical objects, road users. Furthermore, To arrange the activities and processes in this research, the data collection methods can be divided into several process including collection of primary data, namely by making direct observations or observations with the object of study, secondary data, namely by conducting a survey or review of the research site directly which is carried out in a few days or weeks depending on the overall data acquisition needed for this study, conducting literature studies by collecting books, articles in national and international journals both accredited and unaccredited or on national and international proceedings related to rules, norms, guidelines regarding the Characteristics and image of a pedestrian path, collection of theories regarding the theory and standards of pedestrian path revitalization.

4 Results and Analysis

The Provincial Government of the Special Capital Region (DKI) Jakarta through the Jakarta Special Capital Region (DKI) Bina Marga Office successfully completed a revitalization project of ten (10) pedestrian paths in five capital areas including the Central Jakarta Administrative City, located on Raden Saleh Raya Street.



Figure 1 Raden Saleh Raya Street, Central Java

Based on the typology of pedestrian space, the pedestrian path on Raden Saleh Raya Street in central Jakarta is a pedestrian space on the side of the road (Sidewalk) with a pedestrian width of 2-3 meters on the left and right sides and a road width of 7 meters.



Figure 2 Pedestrian Path in Raden Saleh Raya Street, Central Java

From the calculation results that have been obtained, in a series of studies that have been carried out, researchers conducted a survey where the results of the number of pedestrians passing on Raden Saleh Raya Street, were an average of 196/12 hours of pedestrians. Therefore, the population in this study was set at 196 pedestrians (Table 1).





Table 1 Results of Pedestrian Research on Raden Saleh Raya Street, Central Jakarta





No.	Time Range	Average Number of Pedestrians
1	08.00-12.00 (Morning-Noon)	60
2	12.00-16.00 (Noon-Afternoon)	80
3	16.00-20.00 (Afternoon-Night)	56
TOTAL		196/12 HOURS

In this study, the assessment criteria to be used are based on the theory presented in the literature review, namely the factors that affect comfort for pedestrians (Table 2).

Table 2 Criteria for Assessing Pedestrian Research on Raden Saleh Raya Street, Central Jakarta

No.	Aspects and Comfort Factors	Analysis Results	Recommendations
1	Safety	There are no security guards along the pedestrian path on Raden Saleh Raya Street, Central Jakarta	We recommend using CCTV so that it can minimize crimes if a crime occurs will be recorded by CCTV
	a. The existence of security guards as surveillance on unsafe paths that can lead to crimes that threaten safety.		

No.	Aspects and Comfort Factors	Analysis Results	Recommendations
2	Security a. There is a flat surface on the pedestrian path and no holes.	 <p>Pedestrian paths have a flat surface using conblock material. For pedestrian paths with disabilities, they use yellow guiding block material, square</p>	We recommend that the box where the water and gas pipes are dug does not interfere with pedestrian path for people with disabilities.
		 <p>in shape and have 2 textures, namely round and long straight lines.</p>	
		 <p>There are box-shaped holes for the excavation of water and gas pipes along pedestrian paths for people with disabilities that can cause people with disabilities to fall or stumble if they pass through them</p>	
3	Hygiene a. There are trash cans located between 15-20 meters along the pedestrian path on Raden Saleh Raya Street Central Jakarta b. Wet and dry bins are provided	 <p>Along the pedestrian path on Raden Saleh Raya Street Central Jakarta there is only 1 trash can and there are no trash cans available for wet and dry garbage, all garbage is</p>	We recommend that trash cans be provided in the form of wet and dry trash cans spaced between 15-20 meters apart

No.	Aspects and Comfort Factors	Analysis Results	Recommendations	
4	<p>Aesthetics</p> <p>a. Paying attention in terms of shape, color composition of plant arrangements and pavement elements</p>	<p>combined in 1 trash can.</p> <p>There are plants and trees but they are not yet visible for their color and shape composition.</p>	<p>The color composition and types of plants are more varied for a more attractive visual appearance</p>	
				
		<p>For the pavement elements the color and visual composition is good enough.</p>		
5	<p>Noise</p> <p>a. Using regularly arranged patterns and meetings to reduce/reflect noise</p>	<p>There is vegetation in the form of trees and shrubs as a barrier but only part of the path, some of which are not.</p> <p>There are street vendors at several points of the pedestrian path that cause crowds</p>	<p>Laying vegetation with a regularly arranged pattern along the pedestrian path. A special place is provided for the selling area, pedestrian paths are used for pedestrians only.</p>	
				
				
6	<p>Scents and smells</p> <p>a. The curb must be covered</p> <p>b. Covering material on the drainage network must always be kept clean</p>	<p>There is a section of the sidewalk that is not covered but does not cause odors.</p>		
				

No.	Aspects and Comfort Factors	Analysis Results	Recommendations
7	Temperature and Weather a. Tree planting as a shade from the sun's rays b. Creation of shelters, gazebos to protect from the weather (hot or rainy)	There are trees as shade from sunlight with a maximum height of 10 meters with a distance between trees of about 5-10 meters but not on all pedestrian paths and there are no shelters / gazebos along the pedestrian path.	Trees are provided along the pedestrian path and shelters and gazebos are provided.
8	Environmental Conditions a. Cleanliness of the surrounding air	The road along the pedestrian path is quite densely traveled by motor vehicles and causes pollution.	Pedestrians are advised to use public transportation so as not to increase the density of motor vehicles passing through the road.
9	Pedestrian Path Accessibility a. Ease of pedestrian access to use public/public transportation	No public transportation through Raden Saleh street in Central Jakarta	Public transportation route provided on Raden Saleh Raya Street Central Jakarta
10	Pedestrian Trail Facilities a. Availability of public seats or toilets	There are no public toilets available and seats are only available at one point along the pedestrian path..	Public seating and restrooms are provided at several points along the pedestrian path..



5 Conclusion

The pedestrian path on Raden Saleh Raya Street, Central Jakarta is one of the pedestrian path that has been revitalized by the DKI Jakarta Government. The typology of the pedestrian path on Raden Saleh Raya Street, Central Jakarta is the pedestrian space on the side of the road (Sidewalk) with a pedestrian width of 2-3 meters on the left and right sides and a road width of 7 meters. The condition of revitalization after being revitalized is quite good but a strategy of improvement is needed in the future in order to improve pedestrian comfort so that more and more people walk on the pedestrian path.

CCTV is needed for surveillance in pedestrian path so as to minimize the occurrence of crime. Boxes for excavation of water pipes and others should preferably be made with special paths so as not to interfere with the paths of pedestrians with disabilities. A place to sell street vendors is provided so that the pedestrian path is used only for pedestrians. Provide pedestrian facilities in the form of seats, trash cans, stops/shelters, public toilets at the netted points along the pedestrian path. There are trees or vegetation along the pedestrian path with distance, composition, color with regular patterns so as to provide a better and aesthetic visual

appearance. The recommendation can be realized if the pedestrian path is widened by 1-2 meters.

Acknowledgement

Praise and gratitude The author climbs into the presence of God Almighty, for His blessings and gifts the author was able to complete a research article entitled Evaluation of the Concept of Pedestrian Lane Revitalization on Raden Saleh Raya Street, Central Jakarta.

The author also expresses his gratitude to Mr. Dr.Dhaniswara.K.Harjono, SH., MH., MBA as rector of Universitas Kristen Indonesia, Mr. Dikky Antonius, ST., M.Sc as Dean of the Faculty of Engineering, Christian University of Indonesia, Mrs. Grace Putri Dianty, St., M.Ars as Chair of the Architecture Study Program at the Christian University of Indonesia, Respondents who are willing to be interviewed or fill out a questionnaire, DKI Jakarta Provincial Bina Marga Office which is willing to help provide data supporting research, Fellow Lecturers of the Architecture Study Program at the Christian University of Indonesia who always provide support in completing this research article Committee of the 2022 Semnastek National Seminar organized by the University of Muhammadiyah Jakarta.

All parties who have not been able to be mentioned one by one, thank you for their participation in the success of the research survey activity to completion. Hopefully, this research article can be useful for readers.

REFERENCES

- [1] S. Ersina, I. Rahayu, and Yuliana, "Jalur Pedestrian Sebagai Salah Satu Fasilitas Perkotaan di Jalan Prof. Abdurahman Basalamah, Makassar," *Natl. Acad. J. Archit.*, vol. 4, no. 1, pp. 57–65, 2017.
- [2] Suparmini and A. T. Wijayanti, "Masyarakat Desa dan Kota (Tinjauan Geografis, Sosiologis, dan Historis)," *Buku Ajar*, pp. 2–5, 2015.
- [3] J. Jacobs, "The kind of problem a city is," *Polit. Econ. Divers. Pragmatism Crit. Essays Plan. Theory Vol. 2*, pp. 137–157, 2017, doi: 10.4324/9781315246543-14.
- [4] R. Y. C. Sinaga, "The Spatial Analysis Urban Structure of Medan Baru Subdistrict," *Int. J. Archit. Urban.*, vol. 5, no. 2, pp. 126–133, 2021, doi: 10.32734/ijau.v5i2.6833.
- [5] UN Habitat, "a Guide To Setting Up an Urban Observatory," pp. 1–62, 2020, [Online]. Available: https://unhabitat.org/sites/default/files/2020/06/urban_observatory_guide.pdf
- [6] "No Title 一种适用于非侵入式负荷监测的暂态事件检测算法".
- [7] Komarudin, W. Alfisa, and E. Setyaningrum, "Pembangunan perkotaan berwawasan lingkungan," *Direktorat Jenderal Cipta Karya*, vol. 53, no. 9, pp. 1–458, 2020, [Online]. Available: https://simantu.pu.go.id/personal/img-post/superman/post/20181129101319__F_KMS_BOOK_20180723025129.pdf
- [8] M. Wilczkiewicz and M. Wilkosz-Mamcarczyk, "Revitalization – definition, genesis, examples," *Geomatix, Landmanagement Landsc.*, vol. 2, no. November, pp. 71–79, 2015, doi: 10.15576/gll/2015.2.71.
- [9] L. Trianingsih and R. Hidayah, "Analisis Perilaku Pejalan Kaki Pada Penggunaan Fasilitas Penyeberangan Di Sepanjang Jalan Kawasan Malioboro Yogyakarta," *J. Inersia*, vol. 10, no. 2, pp. 106–121, 2014.
- [10] I. N. Sudiarta, "Kajian (Jalur Pejalan Kaki) Program Studi Arsitektur Kondisi Pedestrian Ways (Jalur Pejalan Kaki) Di Jalan Waturenggong Kota Denpasar," p. 17, 2017.

- [11] T. K. Wibisono, V. Asfarilla, and N. G. Yuli, "Case Study : Bank Indonesia , Main Post Office , and BNI Bank in the Gondomanan Region , Yogyakarta The Concept of Building Revitalization with Office Functions as an Effort to Preserve Indies Buildings," no. 2013, 2020.
- [12] J. Jauhar, P. Setijanti, and A. Hayati, "Revitalization of Cultural Heritage Area With Sustainable Tourism Approach, Case Study: Tindoi Fort, Kabupaten Wakatobi," *J. Archit.*, vol. 20, no. 2, p. 75, 2021, doi: 10.12962/j2355262x.v20i2.a10719.
- [13] D. Iswanto, "[12] Pengaruh Elemen Pelengkap Jalur Pedestrian Terhadap Kenyamanan Pejalan," *J. Ilm. Peranc. Kota dan Permukiman.*, vol. 5, no. 1, pp. 21–29, 2006.
- [14] A. W. Lestari, Surjono, and C. Maulidi, "Planning In The Era Of Uncertainty Measuring Quality of Friendly Pedestrian path Based on Pedestrian Perception in Kartini Street," vol. 4, p. 5, no. March, 2013.
- [15] E. Science, "Elements identification for pedestrian comfort Elements identification for pedestrian comfort," 2021, doi: 10.1088/1755-1315/673/1/012026.
- [16] J. K. M. Sirait, P. D. R. Naibaho, and E. R. Aritonang, "Kajian Tentang Jalur Pedestrian Berdasarkan Aspek Kenyamanan," *J. Arsit. ALUR*, vol. 1, no. 2, pp. 11–21, 2018.
- [17] B. A. B. Ii and I. Ii, "Ruang Pejalan Kaki," pp. 14–40.

Evaluation the Concept of Revitalization Pedestrian Path on Raden Saleh Raya Street, Central Jakarta

ORIGINALITY REPORT

9%

SIMILARITY INDEX

3%

INTERNET SOURCES

3%

PUBLICATIONS

5%

STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

2%

★ Submitted to Universitas Sumatera Utara

Student Paper

Exclude quotes On

Exclude matches Off

Exclude bibliography On