

Designing Campus Communal Spaces with Student Behavior Pattern Approach

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Abstract. There are several previous studies that have discussed communal space. However, none of this research discusses communal spaces related to student behavior pattern. This study will involve two main variables, namely indoor and outdoor at Universitas Negeri Medan (Unimed). Based on observations, there are significant differences in spatial characteristics. This will also influence students behavioral patterns when utilizing energy. The performance of these two spaces will also show how much the quality of the use of this communal space is related to the anthropological and social values of urban society. Regarding the implementation of this research, there are several method approaches used, namely quantitative and qualitative with field observations and questionnaires. The results of this research are an analysis of students energy needs in campus communal spaces which is linked to a behavioral pattern approach.

Keywords: student behavior patten, campus communal space, Universitas Negeri Medan

1 Introduction

Patterns of behavior determine how to project future interests and needs, related to the use of communal space. For campus life, behavior patterns also play an important role in creating interaction. There are several factors that serve as a benchmark for the creation of campus communal space interactions, namely: the presence of students, lecturers and the campus environment [1]. As the largest users of campus communal spaces, students as part of the academic community have the right to be able to obtain educational services that can increase their talents, interests, potential and abilities. Improving the quality of communal space for students will basically have a significant impact on student behavior and the achievement of a physical activity.

Furthermore, as from previous studies that have been carried out. It is known that improving the academic quality of students only revolves around academic competency in learning, time management skills, learning strategies, student characteristics, etc [2-5]. If it is associated with communal spaces, the existence of communal spaces on campus contributes as an academic space to student learning. As one part of the place where educational services take place, communal spaces on campus can be a place for social interaction, ranging from private

activities to public activities that occur between the academic community [6]. Based on this, the existence of a campus communal space has an important role to create an academic atmosphere between lecturers and students outside of formal lectures (indoor). In addition, the communal space is also a place for the transition of time between lectures, a place for student character formation by participating in student organization activities and non-formal learning places.

As one of the leading state universities in the province of North Sumatra, Universitas Negeri Medan (Unimed) has achieved several achievements, one of which is in the field of educational services, which is very satisfactory accreditation. Based on the decision of the National Accreditation Board for Higher Education (BAN PT) No. 1067/SK/BAN-PT/Ak-PPJ/PT/XII/2021, Unimed obtained The accreditation which is valid from December 21, 2021 until December 21, 2026 [7]. The next award came from UI Green Metric, Unimed in 2016 was ranked 20 [8] and was followed in 2017 and 2018 with 18th and 19th rank in Indonesia. Based on UI Green Metric data for 2019-2021, Unimed's ranking continues to decline, namely in 2021 it is ranked 59th nationally. Based on the two award indicators, the findings of increasing and decreasing educational service achievement at Unimed must be a common concern of the academic community, especially students.

The condition of communal spaces at Unimed is very worrying. This can be seen from the lack of facilitation of student activities in discussing and developing themselves (oriented towards positive activities) after the lecture process ends. This condition is also exacerbated by the existence of student activities that lead to criminal acts such as brawls between students and several other negative actions [9]. Based on these conditions, the existence of the phenomenon of communal space at Unimed has an urgency value to be investigated. Through this research, the assessment of conditions and activities in the communal space becomes a strategy to see and determine Unimed's policies in creating a sustainable academic atmosphere.

1.1 Campus Communal Spaces

Basically, the campus will offer academic life for its residents, which includes correlation between lecturers and students in the knowledge transfer process. Life has an important role in determining the campus's supporting capacity for the formation of social, cultural and personal relationships [10]. Furthermore, to determine the right conditions for campus design, academic facilities and services are needed which can immediately increase the sense of ownership and learning performance [10, 11].

As the most important places on campus, communal spaces have a hierarchy that is inseparable from academic life. Campus planning must consider the existence of various spaces into an efficient unified whole [12]. In this understanding, the existence of communal space has the most important contribution in improving the quality of life and health of academics, especially students [10, 12-15].

1.2 Energy Consumption

Energy consumption in buildings is increasing every year, including in communal space areas. Individual use of devices in communal space areas also plays an important role in this increase. Changing the energy consumption behavior of each individual must start from the user's awareness of the device used [16]. This increase is also the basis of the energy policy pillar. The main target of this policy is the reduction of energy consumption to reduce the building footprint [17].

The gadget-oriented behavior of students during their activities has several positive and negative impacts on the quality of their socialization, learning and personality patterns. Furthermore, the use of gadget devices in campus environments, especially in communal spaces, is also influenced by the various conveniences and comforts provided by manufacturers [18-20]. However, this progress has created conditions in the form of lifestyles and severe dependence on energy use. The use of this device in communal spaces basically aims to provide efficiency in information and learning

As is well known, the use of various devices, such as laptops and gadgets, is common in everyday life, especially in communal spaces. Some of the behavior patterns that are often seen are the large use of laptops and gadgets in the communal areas of the campus, both for the learning process, communication and also entertainment. Furthermore, several classifications of student activities in campus communal spaces, such as learning activities, self-development activities, social activities, administration activities, personal activities and technology/information activities are all closely related to energy consumption [21].

2 Method

The research method used is a qualitative method approach [22]. Qualitative research is an approach that aims to develop a statement of knowledge that comes from individual activities and social values, to build a theory or a certain pattern of approach [23]. This research is also included in the category of exploratory research. The purpose of exploratory research is to reveal broadly and deeply the causes and things that influence the occurrence of something [24]. In this study, an exploratory qualitative approach was used to obtain data in the form of information about the assessment of communal spaces and user responses to the existence of existing communal spaces. From this approach, the characteristics and orientation of students will be obtained when they are in communal space on campus.

This research uses primary and secondary data collection methods. Primary data is data that comes from the original or first source [25]. Secondary data is data that refers to information collected from existing sources [26]. Primary data collection uses a survey method in an online questionnaire (via google form) to obtain user responses to the design of the communal space. Furthermore, the mapping method was also implemented to see current conditions with a direct observation approach to locations that are often used as communal spaces. Secondary data were obtained from field surveys (technical identification of existing communal space designs) and a literature review regarding technical and non-technical requirements related to communal space design.

3 Results and Discussion

3.1 Participants

According to the 127 questionnaires results, data were obtained from 127 Unimed students consisting of 126 undergraduate students and 1 master and doctoral students. If divided by gender, 201 were female and 83 were male. Furthermore, based on the academic background of students were: 1.) Faculty of Engineering (FEng) 41.7%, 2.) Faculty of Mathematics and Natural Sciences (FMNSc) 14.2%, 3.) Faculty of Economics (FEc) 11.0%, 4.) Faculty of Social Sciences (FSocSc) 5.5%, 5.) Faculty of Languages and Arts (FLA) 10.2%, 6.) Faculty of Sports Science (FSpoSc) 3.9%, 7.) Faculty of Education (FEEd) 12.6%, and 8.) Postgraduate Program (PPr) 0.8%.

Based on field survey data conducted directly, several important things were obtained in looking at student behavior in the Unimed communal room, namely sitting, telling stories/discussions, eating, drinking and resting. If we look closely at behavior, the use of gadgets is very dominant in reflecting their activities in campus communal spaces. The overall behavior associated with the use of gadgets by students can be seen in all faculties at Unimed.

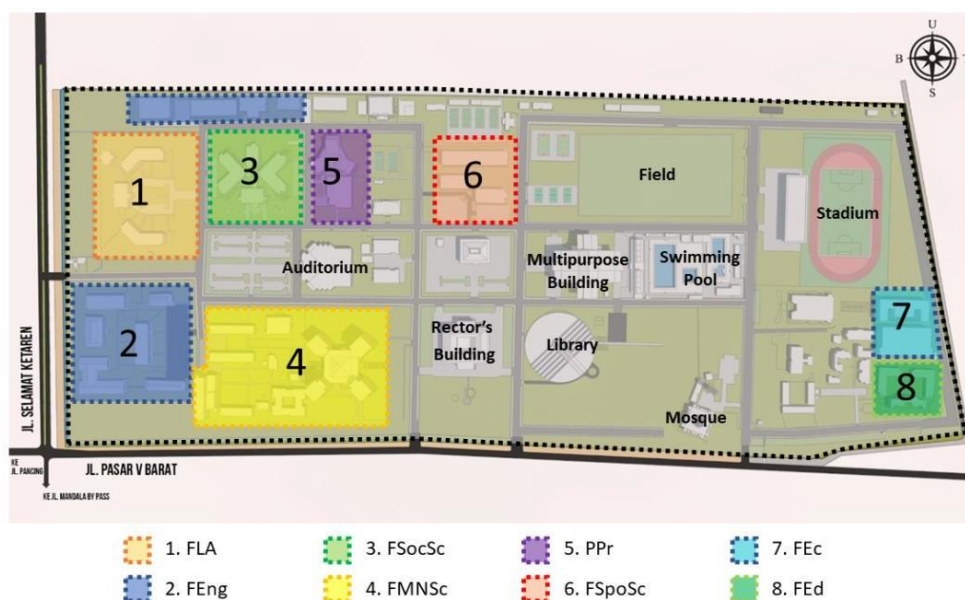


Fig. 1. Map of the distribution of faculties at Universitas Negeri Medan

3.2 Student Behavior

The gadget-oriented behavior of students when carrying out activities on campus, especially in communal spaces, is very clear. There are several indicators that show the influence of the relationship between student behavior and gadget use, namely loneliness, boredom, talking

and lecturing. As the data obtained, the indicator of loneliness has a rapid influence on the use of gadgets in communal spaces, namely 96.10%, boredom reaches 94.50%, discussions reach 42.50% and lectures reach 77.20%. The use of gadgets during lectures can take place in a structured or spontaneous manner. As is known, Learning Management System (LMS) based learning makes the use of gadgets mandatory for students. However, there are several conditions that cause the use of gadgets to affect the lecture process, including the use of gadgets for activities outside of lectures, so that the use of gadgets becomes prohibited/limited, unless there is approval from the lecturer. Student behavior in using gadgets.

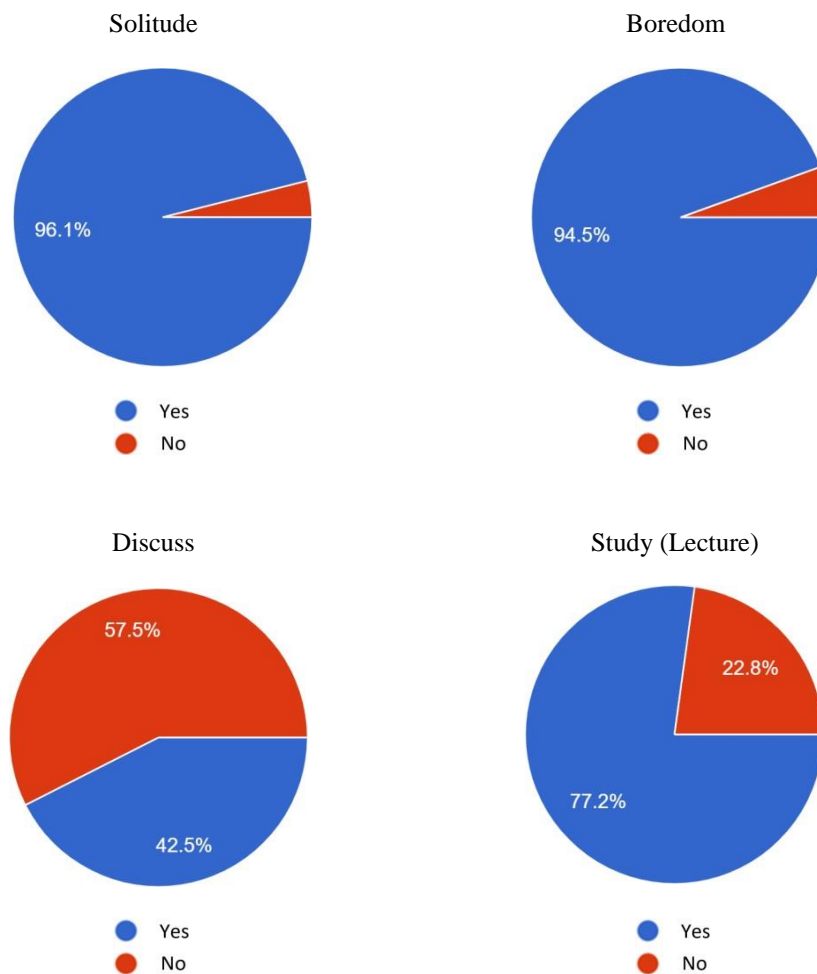


Fig. 2. Diagram of the relationship between conditions of use and gadgets

Based on the relationship between conditions of use and gadgets (Fig. 2) it shows that conditions of loneliness and boredom cause students to use gadgets as a form of escape from busy lectures. However, if students use gadgets while in communal spaces during discussions, it decreases, but this condition is almost close to 50%.

Based on the results of surveys and observations carried out in the period May – August 2023, there are striking differences in student behavior patterns in campus communal spaces. This is due to the transition of semesters, where there will be new students present. This condition increases competition in sharing communal space with existing students. Apart from the lecture process, there are several events during the semester transition, such as bazaars, graduations and other activities, causing several campus communal areas to appear busier (Fig. 3).

The use of various devices other than gadgets such as speakers, microphones, cameras and other devices is commonly seen during semester transition activities. Utilizing this technology will certainly create communal spaces that are more dynamic and less monotonous. However, this condition is very vulnerable to the safety and comfort of communal space users due to the installation of electrical installations.



Fig. 3. Student activities in communal spaces during the semester transition

The condition of the communal space when the lecture process is in progress, the use of gadget devices is very easy to find. Both in joint learning activities and discussions, the use of gadgets is the main behavior carried out by students both in indoor and outdoor communal spaces (Fig. 4).



Fig. 4. Students and gadgets in campus communal spaces

4 Conclusion

Based on the results and analysis of research data in communal spaces on campus, it can be concluded that there are several findings related to student behavior, namely the use of gadgets and several other devices will of course require energy. Geographically, Indonesia is a country with a tropical climate, of course it has very good sunlight. Therefore, the use of solar panels in the design of campus communal space planning will provide relief regarding electricity arrears funded by the campus and can create conditions that are more environmentally friendly. However, this condition also has a negative value related to students' constructive behavior patterns related to excessive and irresponsible energy use.

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