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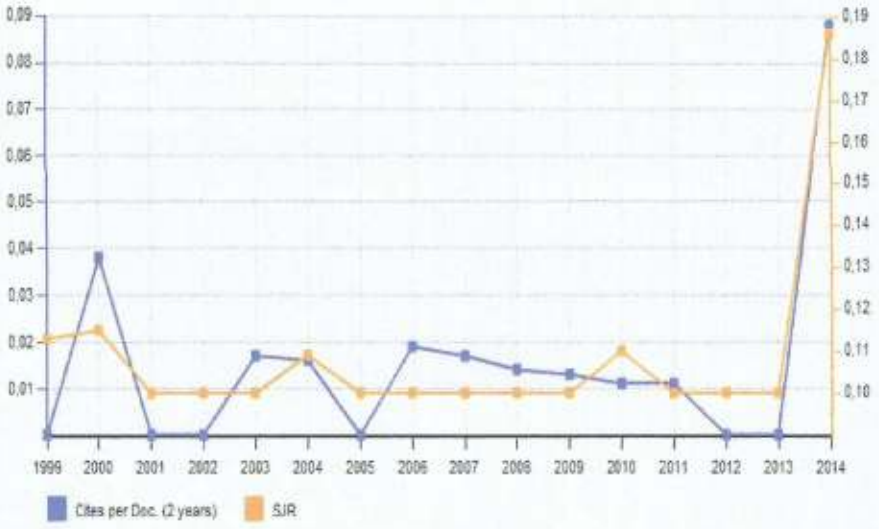
Charts | Data

SJR indicator vs. Cites per Doc (2y)



The SJR indicator measures the scientific influence of the average article in a journal, it expresses how central to the global scientific discussion an average article of the journal is. Cites per Doc. (2y) measures the scientific impact of an average article published in the journal. It is computed using the same formula that journal impact factor ™ (Thomson Reuters).

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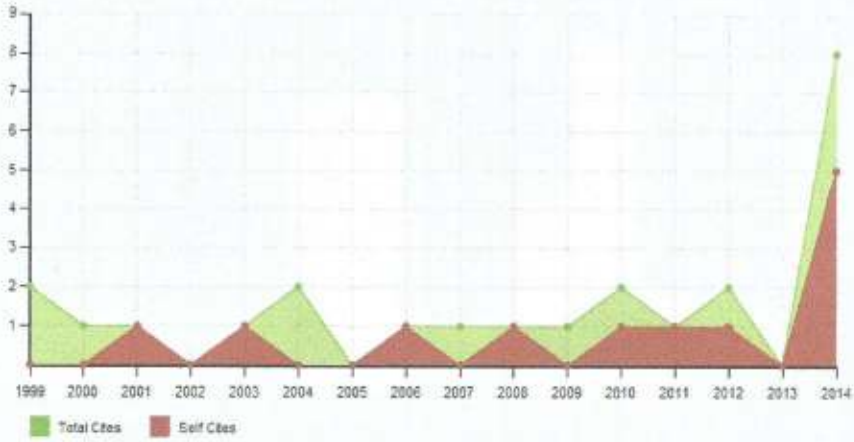
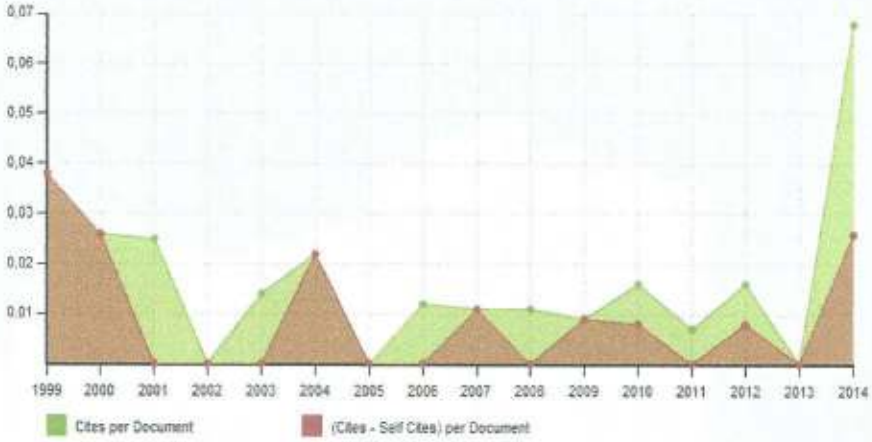


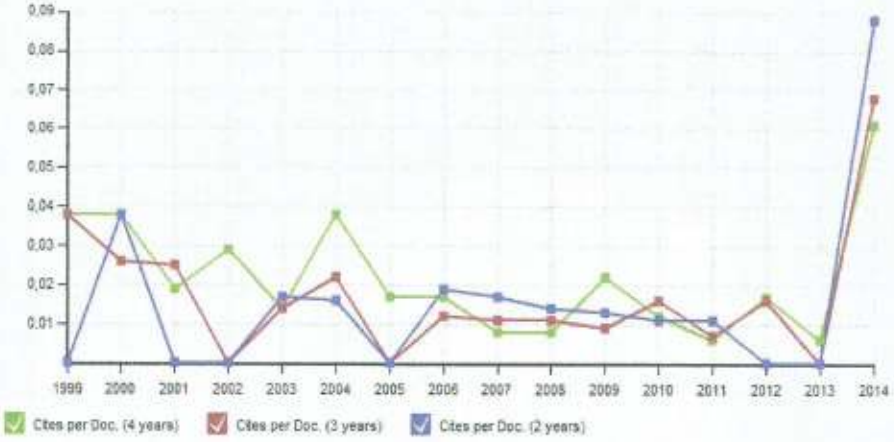
Evolution of the total number of citations and journal's self-citations received by a journal's published documents during the three previous years.

Cites per Document vs. External Cites per Document



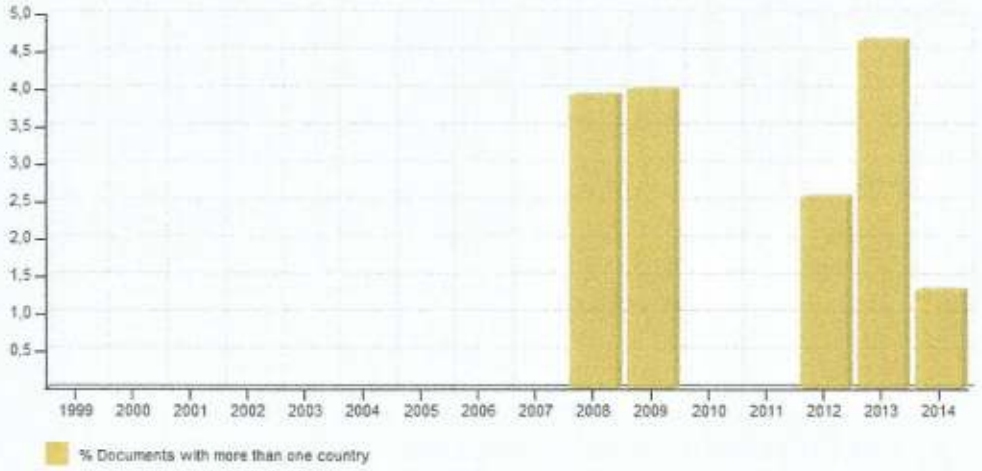
Evolution of the number of total cites per document and external cites per document (i.e. journal self-citations removed) received by a journal's published documents during the three previous years.

Cites per Document in 2, 3 and 4 years windows



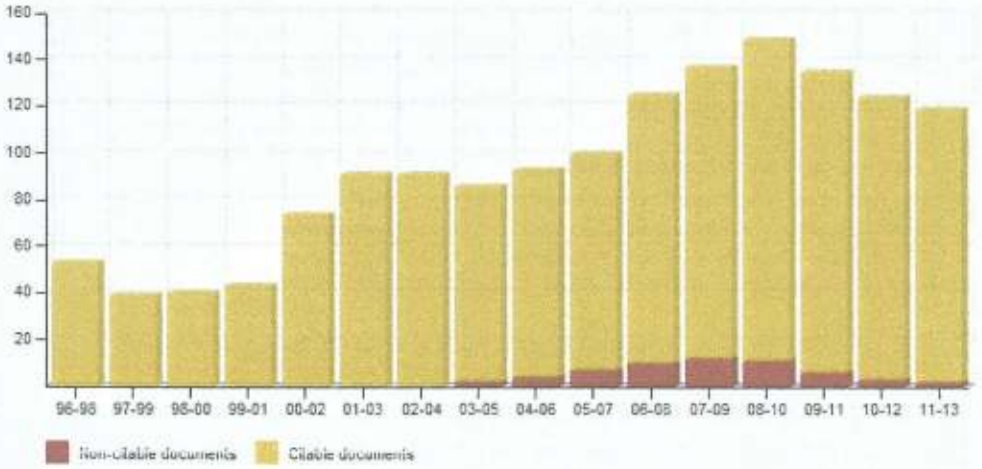
Evolution of Citations per Document to a journal's published documents during the two, three and four previous years. The two years line is equivalent to Journal Impact Factor ™ (Thomson Reuters) metric.

International Collaboration



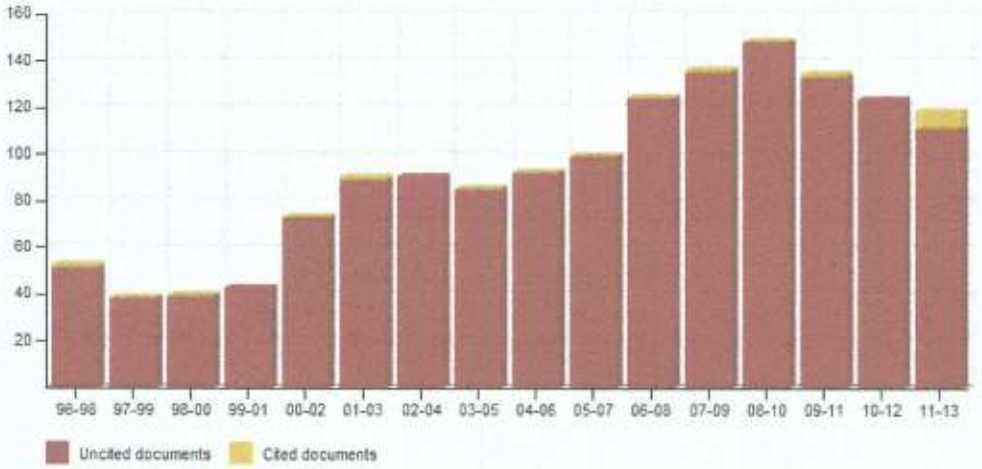
International Collaboration accounts for the articles that have been produced by researchers from several countries. The chart shows the ratio of a journal's documents signed by researchers from more than one country.

Journal's Citable vs. Non Citable Documents



Not every article in a journal is considered primary research and therefore "citable", this chart shows the ratio of a journal's articles including substantial research (research articles, conference papers and reviews) in three year windows.

Journal's Cited vs. Uncited Documents



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USING A CFUQ FACULTY FACILITY ASSESSMENT TO MANAGE TEACHING LEARNING FACILITIES EFFECTIVELY (A State University of Gorontalo Case)

Ikhfan Haris*

Teaching and learning facilities in higher education play an important role in the actualization of the goals and objectives of education. The actualization of the goals and objectives of education require the provision, maximum utilization and appropriate management of the facilities.

The purpose of this study was to develop a conceptual framework and an assessment model of teaching and learning facilities at three faculties (Faculty of Education; Faculty of Business and Faculty of Mathematics and Sciences) within the State University of Gorontalo, Indonesia. The paper applies a Research and Development approach to develop a model of CFUQ faculty facility assessment.

The preliminary result of this research indicated that overall the learning facilities in good condition. Nevertheless, there were several facilities that condition does not meet the requirements for learning activities. Standardization aspects of learning facilities conditions, indicated most of the facilities has not yet standardized in term of shape, types and sizes.

Findings also show that although some of the space has not functioned in accordance with their needs, but in general classrooms and laboratory have been used according to its function. The findings demonstrate that the overall level of space utilization rate in one faculty sample of this research: Faculty of Education is 26% which falls within a "satisfied" level of rate between 25% to 35%.

Based on the preliminary findings of this study, a conceptual framework model of CFUQ faculty facility assessment will be provided in order to manage effectively of teaching and learning facilities for maximum utilization.

Keywords: teaching, learning, facilities, condition, functionality, utilisation, quality, assessment, faculty.

INTRODUCTION

Faculty being perceived as the "heart" and "soul" of tertiary institution (Bodily, 2008) indicates its integral part and important role in implementing the three pillars of tertiary education (education, research, and community service). However, research focusing on academic development at faculty level is only a few (Smith, 2002; Aziz *et al.*, 2005). On the other hand, almost 80% of administrative decision at tertiary education is made at faculty level (Hilosky & Watwood, 1997; Wolverton, Gmelch, & Sarros, 1999; Dyer & Miller, 1999; Knight & Holen, 1985). This

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indicates the critical role of faculty towards the success of tertiary institutions (Thrash, 2012; Mok, 2003).

Supporting main activities of tertiary education requires various education infrastructure and facilities that include classroom, laboratory, studio, workshop, library, faculty and administration room, as well as dormitory, sport facilities, canteen, etc. The infrastructure and facilities shall be well managed within the stages of provision, inventory, operation and maintenance, renovation, abolition (if heavily damaged) and filing administration to identify the asset values on an ongoing basis (SPM-PT, Dirjen Dikti, 2010).

Various infrastructure and facilities are required to administer academic and supporting activities at faculty level. Their use shall be well managed to maximize their benefits to improve the quality of faculty teaching and learning. The facility management, in practice, including classroom arrangement, encounters issues and challenges, e.g. inefficient classroom utilization, non-standardized classroom facilities, and poor classroom lighting and ventilation.

Contextual, problematic shortages of teaching and learning infrastructure and facilities such as the total number of classrooms, the capacity of classrooms and the condition of classrooms that are less accommodating towards the comfortability of the users, and the classroom lay-out that is not designed to accommodate multi-activities of teaching and learning have become the important focuses in education facility management. It is urgent to address the shortage issues and to put in efforts for in-action solution as these directly relate to classroom teaching and learning activities that involve students and lecturers as the users of the faculty's infrastructure and facilities (Kaiser & Klein, 2010).

Classroom infrastructure and facilities are provided to help fulfill the needs of students and support the daily learning activities. Some perceptions are assessed on whether the infrastructure and facilities are appropriate or not and whether they are comfortably and satisfactorily used.

Audit, assessment or evaluation of the issues of academic infrastructure and facilities at faculty level is crucial in the improvement of teaching and learning quality at tertiary institutions. Control mechanism on the faculty infrastructure and facilities is ultimately required to assess the optimalization of the faculty's facility management (Pearson & Thomas, 2010). It is in accordance with the rapidly higher demand of accountability and transparency towards tertiary institutions to satisfy the needs and expectations of education stakeholders.

INCREASING THE QUALITY OF TEACHING AND LEARNING FACILITIES

Teaching and learning infrastructure and facilities greatly impact on teaching and learning activities. Improving their quality requires strong management to plan, direct, decide, coordinate, monitor, and control (Boyd, 2002).

Teaching and learning infrastructure and facilitis are designed to meet certain purposes of teaching and learning. There are a wide range of infrastructure and facilities for teaching and learning. They might be in the form of media that is functioned to facilitate teaching and learning activites as aids to: (1) describe certain concepts; (2) provide opportunities for students to have direct learning experiences; (3) support experiement and demonstration activities; (4) Conduct scientific research or review; (5) provide more variety of teaching and learning experiences; (7) develop scientific attitudes and skills; (8) protect individuals and provide them with comfortability in teaching and learning activities (APPA, 2001; Daigneau, 2003).

Non-direct supporting infrastructure and facilities for teaching and learning such as administration office, canteen, public areas, restroom, cleaners room, equipment room, and counseling room are mainly used to (1) create more effective teaching and learning; (2) improve cleanliness, neatness and safety of the infrastructure and facilities; (3) reduce fees and cycles of building operation; (4) extend the valid timeline of utilizing building; (5) create more efficient and effective staff and students in undertaking teaching and learning activities; (6) improve building quality, and (7) collect data and analysis for decision-making (Guckert and King, 2006; Kaiser, 2004).

Utilizing teaching and learning infrastructure and facilities in a more effective and efficient way requires collective efforts. Facility management shall be established, involving mangement processes of planning, organizing, decision-making, leading, coordinating and controlling. As teaching and learning methods change, innovative ideas and effective and efficient facility management are required. Here is where the collaborative efforts can produce new ideas and perspectives on facility mangement to improve the quality of teaching and learning infrastructure and facilities (Manns and Katsinas, 2006).

Facility management is an integral part of the whole management of an education institution. Comprehensive assessment of facility management shall be carried out to determine the needs for facility development. This assessment needs integrated efforts of related parties who have expertise for up-to-date and accurate assessment on education infrastructure and facilities. Education purposes can be met when proper provision, utilization and management of infrastructure and facilities are made available. The advance of science and technology requires education managers to adopt related modern methods of facility management to improve the teaching and learning quality through the utilization and the optimalization of teaching and learning infrastructure and facilities (Rose dkk, 2007).

METHODOLOGY

This research applies development approach with method and assessment as the final product of the developed model. Research steps and procedures refer to the

research of Borg and Gall Borg (1989) and Cennamo and Kalk (2005). The method is selected to develop preliminary method (define and design), implementation, trial, and presentation or deliver.

CFUQ faculty Facility Audit model is an audit system that combines three aspects of teaching and learning facilities that are physical condition, functionality or compatibility to support the purposes of the facilities, and utilization or the extent to which facilities are being optimized. The three combined aspects are the indicators and foundations to determine audit/assessment results of the whole quality of the facilities. The model is described in the following figure:

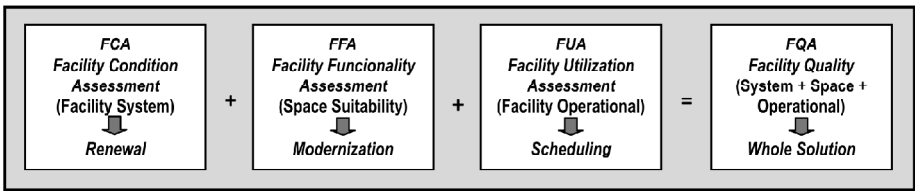

Figure 1: Model CFUQ Facuty Faciity Assessment

Even though comprehensive approach that combines physical condition and functionality of teaching and learning facilities have been implemented in some developed countries, the combination that includes the utilization of the facilities is still a few. This model is adopted from two models of Kaiser and Klein (2010) with Integrated Facilities Quality Assessment Model and model, that was developed by Yurko; Brown and Cary (2007): Calculating Capacity Model.

The combined model of teaching and learning facility assessment is developed to answer these questions: How good are the teaching and learning facilities available at the faculty in fulfilling the needs of their users perceived from the three aspects of condition, functionality, and optimalization of their use? How is the overall quality of the facilities?

This model of facility assessment is developed by considering factors related with minimum needs of users as outlined in the facility development quality policy at faculty/university level.

This study was conducted in State University of Gorontalo, Indonesia. The developed *CFUQ* Model will be implemented in three faculties (1 faculty in the first phase and 2 in the second phase).

Data collection techniques used in this research are: (1) Direct observation at the location of teaching and learning facilities; (2) Interview with the users of the teaching and learning facilities, i.e. students, lecturers, administration staff and faculty management to identify the effectiveness and the benefits of CFUQ Facuty Faciity Assessment model development; and (3) Tematic Focus Group Discussion: Interview focusing on teaching and learning infrastructure and facilities as the

follow-up of individual interviews. These techniques are used to re-confirm the questions and brainstorm the research theme.

RESULTS AND FINDINGS

The results identified from the completed questionnaires and observation check-lists on the teaching and learning facilities at the three faculties by the four aspects of condition, functionality, utilization, and quality are summarized as follows:

Assesment of Physical Condition of the Facilities

Physical condition of the facilities refers to the condition of these facilities in classrooms: Chairs for students, tables for lecturers, white boards, board erasers, air conditioners, lighting facilities, electric suppy facilities, and information technology support.

The condition of the teaching and learning facilities is also reviewed from the aspects of standardization or uniformity, which is carried out in 36 lecture classrooms at the three faculties (Faculty of Education; Faculty of Bussines and Faculty of Mathematics and Sciences).

The research results of the teaching and learning facilities show that the facilities are generally good. However some are still in inappropriate condition for teaching and learning activities, e.g. chairs/tables for students. Of 1,326 chairs/tables, 186 (or about 14%) are in mild damage condition even though they can still be used. If feasibility standards are applied, only 86% of the chairs/tables that are feasible to be used.

The research results show that of 247 lighting facilities in the classrooms, 20 of them (or 8%) are damaged and do not work. This indicates that 227 units (or 92%) work well.

The research results show that of 36 classrooms, none is equipped with LAN network. The WLAN network is accessible from all classrooms except one room of FIP A1. 2/PG PAUD.

The research results show that there are some classroom facilities that do not meet the required standards, e.g. unavailable or not permanently installed LCD in classrooms. Of twelve classrooms, only some are permanently set with LCD. There used to be six rooms permanently set with LCD but are currently not.

The research results show that most teaching and learning facilities have not been standardized (by shape, type and size) between one and another, e.g. tables and chairs for lecturers and white boards. The size of a white board in a classroom is different from other white boards in other classrooms, e.g. some classrooms have 400 x 120 cm white boards and some others 290 x 120 cm.

Chairs and tables for lecturers in all classrooms are non-standardized by type, size, and shape. The comfortability of the classrooms are not yet maximum in

meeting the set standards. Of 36 sample classrooms, three classrooms (or 29%) do not have good air circulation. The other 28 classrooms (or 71%) have good air circulation.

The research results indicate that it is usually hot during certain class hours (at 11.30 – 15.30). This is caused by the classrooms that only have fans to cool down the hot weather. Every classroom, either small or big, is provided with two fans.

The research results of the classroom measurement at the three faculties show that there are three classifications of size: (length x width): (1) 7m x 4m = 28m^2; (2) 7m x 4,5m = 31m^2 and (3) 9m x 5m = 45m^2. The size of the classrooms is classified into: big (45$m^{2)}$, medium (31m^2) and small (28m^2).

By size, in order to ensure the comfortability of all the classrooms, big-sized and medium-sized classrooms should be provided with more fans – not only two per classroom as currently arranged. It is recommended from this research to provide an air conditioner in every classroom.

Comfortability of classrooms is related with the flexibility of lecturers and students moving around during teaching and learning activities. The research results indicate that the classroom size and the classroom space for moving around are not feasible. It is assumed that the size of every student chair (l x p) is 45cm x 50cm= 2250$cm^{2.}$ Therefore if the classroom of 45 m^2 is provided with 36 student chairs then the whole classroom volume with the chairs is 81.000cm. The 81m^2 divided by 2 is 40,5m^2. If the whole area is subtracted from the calculation result (45m^2 – 40,50m^2), then it becomes 4,5m^2. This figure is the free space around the lecturer's table and white board. This free space still has to be substracted from the area of the lecturer's table and chair, which is usually the size of (p x l): 120cm x 65cm.

Proportionally the feasibility standard of the classroom space has not yet met the requirements of SKBI-Dept PU, which outlines the classroom moving space for teaching and learning in the theory room of 1,6-1,8 m^2.

Facility functionality or feasibility to support the functions the facilities

Even though assessment approach of teaching and learning facilities that combines comprehensive approach between physical and functional condition is widely acknowledged in various literature, its implementation has not been the main focus in the facility assessment process. Therefore this research is an attempt to address this foundational question: "How good are the available teaching and learning facilities in fulfilling the basic needs of teaching and learning?"

The functionality of classrooms and laboratories has met the criteria of functionality that is to be in line with the set utilization. However, the functionality of some classrooms is not yet maximized, e.g. the laboratories have not yet been

functioned for practicum activities. There are also some classrooms set with certain arrangements of chairs and tables that do not meet the set requirements.

The findings on the functionality of classrooms show that the labelling information system of the room utilization has not been systematically functioned. Most of the classrooms have not got the information label of the room utilization even though the functionality aspect emphasizes the importance of having the information so that schedules and types of activities of utilizing the classrooms can be identified.

Utilization or optimalization rate of facility utilization

Classrooms are the most valuable facilities owned by universities. Managing classrooms is a complicated challenge, requiring to consider many users of different campus activities. The need for classrooms is influenced by some factors, e.g. the increased number of new enrolled students and teaching and learning activities, the lack of classroom function because of the age of the classrooms, the lack of investment on classroom maintenance, the lack of funds for classroom provision, and the increase of funds for classroom maintenance. Considering the important function of classrooms and the efficient budgetting for classrooms, the utilization factor becomes important in teaching and learning facility management. Utilization rate assessment should be carried out on a regular basis. Facility management assessment should be done through shared responsibility between management level of tertiary institution/university and faculty as the main users of the teaching and learning classroom facilities. At the faculty level, the responsibility function for classroom facility assessment is more strategic because the faculty has the main control access of the existing rooms. The faculty is also more knowledgeable of classroom needs to undertake their activities.

At the same time, the faculty also provides required monitoring system to coordinate strategic purposes and promote cross-discipline activities. Increasing room management strategy, especially room utilization, is always the important topic in teaching and learning facility assessment.

In this article, the focus of discussion is on classroom utilization only for one faculty, i.e. Faculty of Educational as one of the faculty samples in this research.

Classroom utilization rate is identified by this formulation:

$$Utilization = \frac{Classroom\,utilization}{Available\,time} \times 100\%$$

The teaching and learning schedule allocates about 10 credits per day, counted on the assumption that effective teaching and learning time is between 07.00 – 17.45.

Space allocated (room)	*Total maximum hours for a week*	*Utilization*
FIP A1.2	8 hours	80
FIP A1.4	6 hours	60
FIP A1.1	7 hours	70
FIP A2.1	5 hours	50
FIP A2.3	3 hours	30
FIP A2.4	6 hours	60
FIP A3.3	5 hours	50
FIP A2.2	6 hours	60
FIP A3.2	6 hours	60
FIP A3.4	6 hours	60
FIP A1.3	7 hours	70
FIP A3.1	6 hours	60
		71

The calculation of the utilization rate of the eleven classrooms at *Fakultas Ilmu Pendidikan* shows that the classroom utilization value is 71%. This value is still under the NAO (1996) standard that recommends the classroom utilization value to be around 75%. This shows that there is still space around 4% of the total classrooms that can be utilized or around 40 hours or 4 credits that can be accommodated for teaching and learning within the eleven classrooms.

Another analysis on the classroom utilization using another formulation is outlined below.

$$U = \frac{FO\% \times 0\%}{100}$$

U% is the result of the calculation that relates with percentage or frequency of classroom utilization that is multiplied by the classroom occupation rate. Below is the formulation to calculate the frequency of classroom utilization:

$$F\% = \frac{Total\ hours\ used\ for\ a\ week}{Total\ maximum\ hours\ allocated\ for\ a\ week} \times 100$$

Calculation of classroom occupation rate is by using the following formulation:

$$0\% = \frac{Total\ capacity\ used\ for\ week}{Total\ maximum\ capacity\ for\ a\ week} \times 100$$

The level of utilization rate of the room adopted from NAO (1996), with the following calssification:

Level of rate achieved	*Rate*	*Interpretation*
	<25%	Not satisfied
	25% - 35%	Satisfied
	>35%	Good

The completed observation forms identify the capacity and occupation force of the classrooms based on the available chairs in all the classrooms.

No	*Room*	*Capacity*
1	FIP A1.2	30
2	FIP A1.4	29
3	FIP A1.1	46
4	FIP A2.1	28
5	FIP A2.3	34
6	FIP A2.4	30
7	FIP A3.3	36
8	FIP A2.2	49
9	FIP A3.2	31
10	FIP A3.4	31
11	FIP A1.3	29
12	FIP A3.1	39

No	*Space allocated (room)*	*Total maximum hours for a week*	*Total maximum capacity for a week*
1	FIP A1.2	50	1500
2	FIP A1.4	50	1450
3	FIP A1.1	50	2300
4	FIP A2.1	50	1400
5	FIP A2.3	50	1700
6	FIP A2.4	50	1500
7	FIP A3.3	50	1800
8	FIP A2.2	50	2450
9	FIP A3.2	50	1550
10	FIP A3.4	50	1550
11	FIP A1.3	50	1450
12	FIP A3.1	50	1950

Frequency of facility utilization:

$$F\% = \frac{Total\ hours\ used\ for\ a\ week}{Total\ maximum\ hours\ allocated\ for\ a\ week} \times 100$$

$$F\% = \frac{20}{50} \times 100$$

$$\mathrm{F\% = 40\%}$$

Calculation for level of occupation of the room/space as follows:

$$0 = \frac{Total\ capacity\ used\ for\ week}{Total\ maximum\ capacity\ for\ a\ week} \times 100\%$$

$$0 = \frac{1.337}{41 \times 50} \times 100\%$$

$$O\% = 65\%$$

Meanwhile, the calculation of room/space utilization are:

$$U = \frac{F \times 0\%}{100}$$

$$U = \frac{40 \times 65\%}{100}$$

$$U\% = 26\%$$

The results of the calculation indicate that the classroom utilization rate at Faculty of Education is 26%, which meets the required category that sets it to be between 25% – 35%.

Developing of CFUQ Faculty Facility Assesment Model

The observation results indicate that monitoring and evaluation activities related with teaching and learning facilities have not been regularly carried out at the sample faculties. The findings are supported by the three-time observations that do not show any change of condition on the teaching and learning facilities in all the classrooms. As there has not yet been any evaluation and assessment of the facilities then there have not been any actions to respond to the condition of the facilities.

The analysis of the completed questionnaires and observation forms is used as the reference to develop CFUQ design-build model. The model is designed to the following important activities in administering teaching and learning facility assessment:

1. CFUQ standard instrument development
2. Teaching and learning facility assessment and monitoring establishment
3. Assessment administration
4. Analysis and summary of assessment results
5. Follow-up
6. Advanced adaptation and development model

This research will answer three main questions related with development and assessment of the quality of teaching and learning facilities by using CFUQ model approach for facility assessment.

The first stage of this research focuses on answering the first research question: "In general, how are the condition, functionality, utilization and quality of teaching and learning infrastructure and facilities at the faculty?"

This developed model summarizes the following important activities in administering teaching and learning facility assessment:

1. The first step is establish instrument that will be used to assess teaching and learning facilities. This instrument includes and combines assessment on three aspects of teaching and learning infrastructure and facilities, i.e. physical condition of facilities, functionality or feasibility of facilities to support the purposes of the facilities, and utilization or optimalization of utilization of facilities. The three combined aspects become the indicators and foundations to determine assessment/audit results of the overall quality of facilities.
2. The second step is establish teaching and learning facility assessment schedule. The schedule can be set by month (per month, per three months, or per six months), by semester (at the beginning of the semester, in the mid of the semester, and at the end of the semester), or by year (at the beginning of the year, in the mid of the year, and at the end of the year). The selected schedule can be the combination of the three arrangements. The arrangements are aimed at maintaining regular maintenance, replacement, and renovation of teaching and learning facilities within certain timelines.
3. The third step is administer assessment. The assessment is done when the assessment schedule is agreed. Assessment procedures and mechnanism can be established at faculty or university level or the combination of both. Task force for the assesment consists of staff from equipment unit, planning unit, and representatives of lecturers and students. This team members should not only come from the units but also the representatives of lecturers and students as the main users of teaching and learning facilities at the faculty/university.
4. The fourth step is do data analysis and summary of assessment results and reporting. Follow-up planning of the assessment results can be made easier by determining priority scale of teaching and learning facilities that require follow-up. Determining the priority scale is done by using traffic light management approach: Red, Yellow, and Green. The priority scale establishment for teaching and learning facilities is based on the mapping results of condition, functionality, utilization, and quality of the facilities. Classification of teaching and learning facilties based on the CFUQ summary results is categorized into three groups by using management method approach of problem identification of traffic lights:
    1. Red Code for Teaching and Learning Facilities Group. This group has badly damaged, non-functional, not feasible facilities in terms of their condition, functionality, utilization and quality. The recommendation for this group is to require follow-up, e.g. immediate replacement, renovation, or reconstruction (first priority).
    2. Yellow Code for Teaching and Learning Facilities Group. This group has fairly good to be used facilities, yet their condition, functionality, utilization

and quality are minimum with mild to medium damage. This group is assummed to tend to have potentials to get worse and thus requires renovation/replacement (second priority).

3. Green Code for Teaching and Learning Facilities Group. This group has relatively good to be used facilities in terms of their condition, functionality, utilization and quality. However the facilities require quality improvement so that the condition of the facilities can be maintained and made better (third priority).

5. The fifth step is follow-up the implementation and the analysis of the assessment data results. The follow-up is based on the recommendations from the follow-up priorities that should and will be done. It is done by following-up data analysis and summary of assessment results and reporting. The follow-up is enabled by undertaking renovation, maintenance, and replacement of teaching and learning facilities.

6. The sixth step is adapt and develop the advanced model. It is expected that if the model has been implemented then the final output is to do further development, i.e. Teaching and Learning Facilities Database and Teaching and Learning Facilities Information System. The database or the information system includes information of the list of classrooms, the classroom lay-out, the information summary of classroom facilities, and the teaching and learning facilities data. Brief description of the facilities information system is presented below:

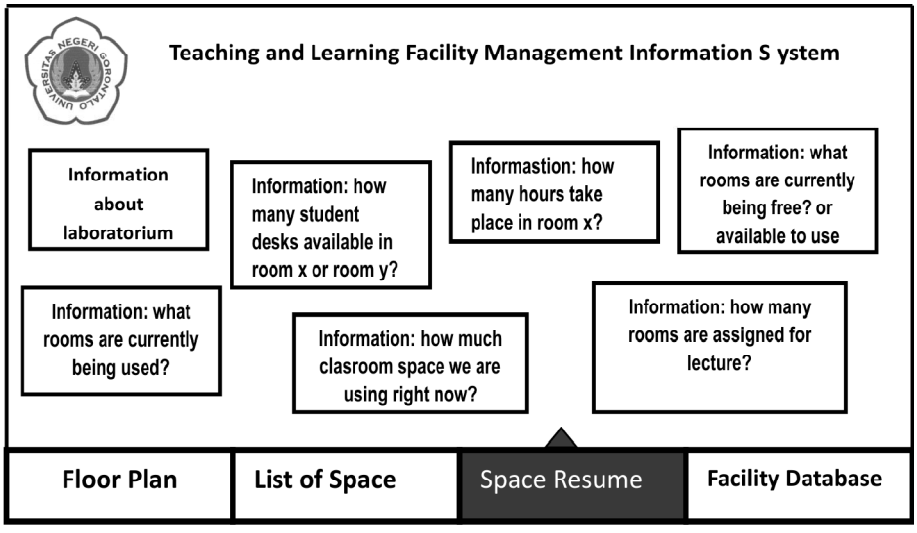

Figure 2: Teaching and Learning Facility Management Information System (TLFMIS)

Proposed description and illustration of teaching and learning facilities information system on the above diagram cover information about teaching and learning facilities and classrooms. On the Classroom Summary, for example, the information covers classrooms at Faculty X that are used or classrooms that are not used at the time at Faculty X.

Another example of the information included on the information system is the number of existing chairs in classrooms x, y and w. By the system, data and information on the number of chairs can be updated as need be based on the results of the assessment from *CFUQ* as the database for the information system.

It is the same for other related information on how long a classroom is used for a course or how long the utilization of a classroom is on certain days and the recap of the utilization of certain classrooms per day/week/month.

Identifying the proportion or the number of spaces or classrooms used for teaching and learning, laboratory, or administrative activities can be integrated into the information system.

The research results of the teaching and learning facilities at the three faculties show that, in general, the condition of the facilities is relatively good. However, there are some facilities that do not meet the requirements to be used for teaching and learning activities, such as chairs/tables for students.

The condition of the teaching and learning facilities shows that there are some teaching and learning facilities that have not been standardized, such as desks and chairs for lecturers, and white boards. The non-standardized facilities are identified from their shape, type and size.

In general, the functonality of the teaching and learning classrooms and laboratories has met the required criteria, i.e. in line with the utilization. However, there are still some classrooms that have not been maximized to fulfill the required functionality.

CONCLUSION

he findings of the classroom functionality show that the information labelling system of the classroom utilization has not been systematically established. Most of the classrooms have not been labelled with the information of their utilization. It is important to emphasize the importance of the information on the classroom utilization for the establishment of schedules and types of activities in utilizing the classrooms.

The calculation results indicate that classroom utilization rate at Faculty of Education is 26%, which is within the required category that sets the category range bewteen 25% – 35%.

It is concluded that the quality improvement of teaching and learning infrastructre and facilities can merely be achieved through well-arrranged, professional utilization of infrastructure and facilities management from the

provision, the utilization, and the maintenance. It is important to have complete, feasible, ready-to-use teaching and learning infrastructure and facilities to support teaching and learning activities. Teaching and learning becomes more enjoyable by utilizing various teaching and learning methods. Well-arranged, feasible management services of teaching and learning infrastructure and facilities referred to CFUQ aspects can improve the quality of the facilities and ensure their utilization to be effective, efficient and beneficial.

The infrastructure and facilities management should be carried out professionally so that their existence can be utilized to support effective achievement of meeting the teaching and learning targets.

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