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## Analysis of the Importance and Satisfaction Level of PAP Laboratory User

Susantiningrum<sup>1</sup>, Tri Murwaningsih<sup>2</sup>, Tutik Susilowati<sup>3</sup>

<sup>1</sup>Sebelas Maret University, Jl. Ir. Sutami 36 A, Surakarta, Indonesia <sup>2</sup>Sebelas Maret University, Jl. Ir. Sutami 36 A, Surakarta, Indonesia

Corresponding email: susantiningrum@fkip.uns.ac.id

### ABSTRACT

The study aims to identify the importance and satisfaction level of the PAP laboratory users; and to get advice to improve the PAP laboratory in order to make them more satisfied. The sample was chosen by using Simple Random Sampling Method consist of 172 users from 500 users of population. The collected data were analyzed by using Cartesian Diagram. There were two variables that studied, i.e. laboratory space and laboratory equipment. The result of the analysis were broken down into Cartesian Diagram. The position of the analyzed data was divided into four parts. Quadrant A showed that the two variables are important but less satisfied. Quadrant B showed that the two variables are very important and very satisfied. Quadrant C showed that the two variables are less important but quite satisfied. Quadrant D showed that the two variables are not important but satisfied. The result showed that the variable of laboratory space scattered in quadrant A, C, and D. While the variable of laboratory equipment was scattered in quadrant B and C. Those mean that the respondents were not too concerned about laboratory space, but they want the novelty and the adequacy of the number of the equipments in the laboratory.

**Keywords:** Laboratory space, laboratory equipment, the importance level, the satisfaction level, Cartesian diagram.

## 1 INTRODUCTION

Pendidikan Administrasi Perkantoran (PAP) is an Educational Programme in Faculty Teaching and Education (FKIP) Universitas Sebelas Maret (UNS). PAP is a skill field that learning the functions of management and the guidelines about the official operation in organizing information, communication and recorded materials [10].

PAP FKIP UNS has three laboratories, i.e. (1) Technological Laboratory of Modern Office, (2) Laboratory of Manual Typing, and (3) Mini Office Laboratory. The tools and equipments of the laboratory are conventional, only some using information technology. All of the laboratories are used to practical learning most of courses in there.

Given the matters described above, PAP FKIP UNS needs to analyze how far the importance and satisfaction level of PAP laboratory users; in the hope of improving their needs and interest in the future so that they feel satisfied. Based on its condition, there are two aspects that may influence the user's interest and satisfaction. The two aspects are laboratory space and the laboratory equipment.

## 2 MATERIALS

Education is a process of learning activity for students deliberately to make an appropriate result with the aim that has been established (Purwanto, 2014: 18). The learning activity comes from the interaction between teacher, student, and transferring

knowledge conducted by the teacher to the student. Social sciences (IPS) discuss the relationship between people and his environment. Social learning can be a media for students to know the condition of social environment around them. Through the learning of social science in the school, the students can learn about his role as human life and will be able to comprehend the role in society.

Laboratory is one of facilities in a learning process having an important role in achieving the objectives of national education [16]. It is used to reach the cognitive, psychomotor and affective aims [6]. Laboratory is a specific place to give a certainty or to confirm such information; to determine a causal relationship; to show some indication; to verify such a concept, theory, law, and formula; to develop skills, to support the participants using scientific method in solving problems; and to carry out a research [9, 10, 14].

Students as the user of the laboratory have a meaningful role in designing their courses of study [1, 3, 10]. In education environment the important customer is students, by the way it need to analysis how they satisfied with the facilities included the laboratory.

Further, laboratory needs to be developed to make the users satisfied. In this case, the concept of student satisfaction will refer to the concept of customer satisfaction [1, 4, 10, 14]. According to that, satisfaction of customer or client is a happy or disappointed feeling of someone as a result of comparison between the achievement or product which is tasted and expected.

There are two variables that studied in the research, i.e. laboratory space and equipment. The collected data were analyzed by Importance Performance Analysis (IPA). IPA is the one of measurement methods that is used to calculate a customer's satisfaction. The satisfaction is measured by comparing the level of expectations with performance carried out by others. The level of importance and satisfaction will be described in Cartesian Diagram. The diagram can be used to identify the importance and satisfaction level of PAP laboratory user. The horizontal axis (X) was filled up with the scores of the satisfaction level, and the vertical axis (Y) was filled up with the importance level [2, 7, 11]

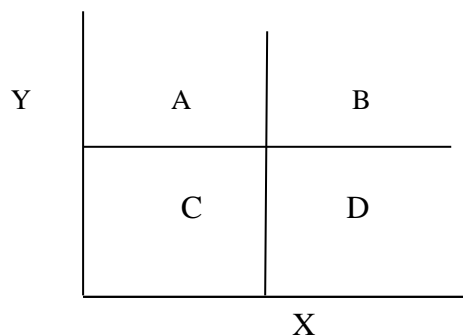


Figure 1. Diagram Cartesian

The four quadrants can be explained below:

- Quadrant A means that laboratory space and laboratory equipment are important but less satisfied
- Quadrant B means that laboratory space and laboratory equipment are very important and very satisfied
- Quadrant C means that laboratory space and laboratory equipment are less

- important but quite satisfied
- d. Quadrant D means that laboratory space and laboratory equipment are not important but satisfied

### 3 METHODS

The study is an applied research that using a descriptive quantitative method. It aims to describe the satisfaction of PAP laboratory users.

The required data is obtained by dissemination of questionnaires. The data of the questionnaire consist of the importance and satisfaction level of laboratory users about laboratory space and laboratory equipment.

The number of samples is 172 students taken from 500 users in the period of March – August 2015. The samples were chosen by using Simple Random Sampling Method.

The data were analyzed by using Cartesian Diagram to know the user's importance and satisfaction level toward the PAP laboratory in two aspects, i.e. laboratory space and laboratory equipment.

### 4 RESULTS AND DISCUSSION

This section will describe the results of research related to the variable RL and PL. The research was conducted on laboratory users PAP by the number of respondents was 172 respondents.

#### 4.1 Analysis of Importance Gap and User Satisfaction Levels Laboratories PAP

This analysis calculates the interest rate gap and the level of user satisfaction PAP laboratory to variable Space Laboratory and Laboratory Equipment.

Table 1. Importance and Satisfaction Users PAP Laboratory for Variable RL

Indicator	Level of Importance				Sum	Mean	Level of Satisfaction				Sum	Mean	GAP
	SPt	Pt	KPt	TPt			SP	P	KP	TP			
	4	3	2	1			4	3	2	1			
RL1	170	110	18	2	1048	3,49	55	164	68	13	861	2,87	0,62
RL2	187	102	10	1	1075	3,58	35	194	57	14	850	2,83	0,75
RL3	157	135	7	1	1048	3,49	41	166	80	13	835	2,78	0,71
RL4	193	96	10	1	1081	4,6	53	132	93	22	816	2,72	1,88
RL5	160	128	10	2	1046	3,49	46	157	79	18	831	2,77	0,72
RL6	1	139	140	20	721	3,4	46	157	76	21	828	2,76	0,64

Based on Table 1, it was known that value of the interest rate and user satisfaction with laboratory space used by users in training activities. The results showed that users were satisfied with extensive laboratory space used (RL1). This can be seen by the low level of interest with the GAP between the level of user satisfaction related to the PAP Laboratory spacious rooms used.

In connection with Layouts supplies/office furniture (RL6) in general, respondents also showed their satisfaction over the layout. It is known by the small value gap between importance and satisfaction level of the respondents. With regard to the ventilation of the room (RL4), the respondent should feel that they require ventilation but not yet feel satisfaction with the existing room ventilation. It can be seen from the high value of the gap between importance and satisfaction to ventilate the room.

It can be concluded that in relation to variable laboratory room, the user is satisfied with the conditions of laboratory space. Just note again related to ventilate the room. This relates to the level of user comfort PAP laboratory.

Table 2. Importance and Satisfaction Users PAP Laboratory for Variable PL

Indicator	Level of Importance				Sum	Mean	Level of Satisfaction				Sum	Mean	GAP
	SPt	Pt	KPt	TPt			SP	P	KP	TP			
	4	3	2	1			4	3	2	1			
PL1	212	79	9	0	1103	3,68	60	162	54	24	858	2,86	0,82
PL2	186	103	10	1	1074	3,58	53	148	76	23	831	2,77	0,81
PL3	174	111	12	3	1056	3,52	53	137	80	30	813	2,71	0,81
PL4	174	114	10	2	1060	3,53	49	147	78	26	819	2,73	0,80

Laboratory equipment variable is the second variable analyzed in this study. These variables are measured by four (4) indicators, the appropriate equipment/ machinery, the condition of equipment/machinery, the number of tools/machines and recency of equipment/machinery. The highest gap is in the completeness of equipment/ machinery (PL1). Users laboratory PAP as respondents revealed that in essence, a tool used in laboratory need to be completed again. Likewise with the condition of equipment/machinery (PL2) and the number of equipment/machinery (PL3). In accordance with the results of the analysis, it can be said that it still required the addition of appropriate equipment/machinery, improvement of the condition of equipment/machinery as well as the number of tools/machines. Although for recency equipment/machinery (PL4) respondents stated that they were satisfied.

#### 4.2 Analysis of Importance and Satisfaction Users PAP Laboratory

This analysis is done by calculating the average indicator of the level of interest and the level of user satisfaction PAP laboratory. Furthermore, with the average value can be illustrated by Cartesian diagram. X-axis describes the value of the average rate of the satisfaction level. Y-axis shows the value of the average of importance level.

## 4.2.1 Cartesian diagram of Variable RL

Table 3. Average Level of Importance and Satisfaction Users PAP Laboratory for Variable RL

	Mean of Importance (Y)	Mean of Satisfaction (X)
RL1	3,49	2,87
RL2	3,58	2,83
RL3	3,49	2,78
RL4	4,6	2,72
RL5	3,49	2,77
RL6	3,4	2,76
Mean	3,675	2,788

The table shows the results of the average rate of interest of the Laboratory of PAP for the variable RL is 3,675 with a satisfaction level of 2.788. Then, to determine any indicator in the RL variables included in quadrant A, B, C and D. Here is a cartesius diagram of the variable RL.

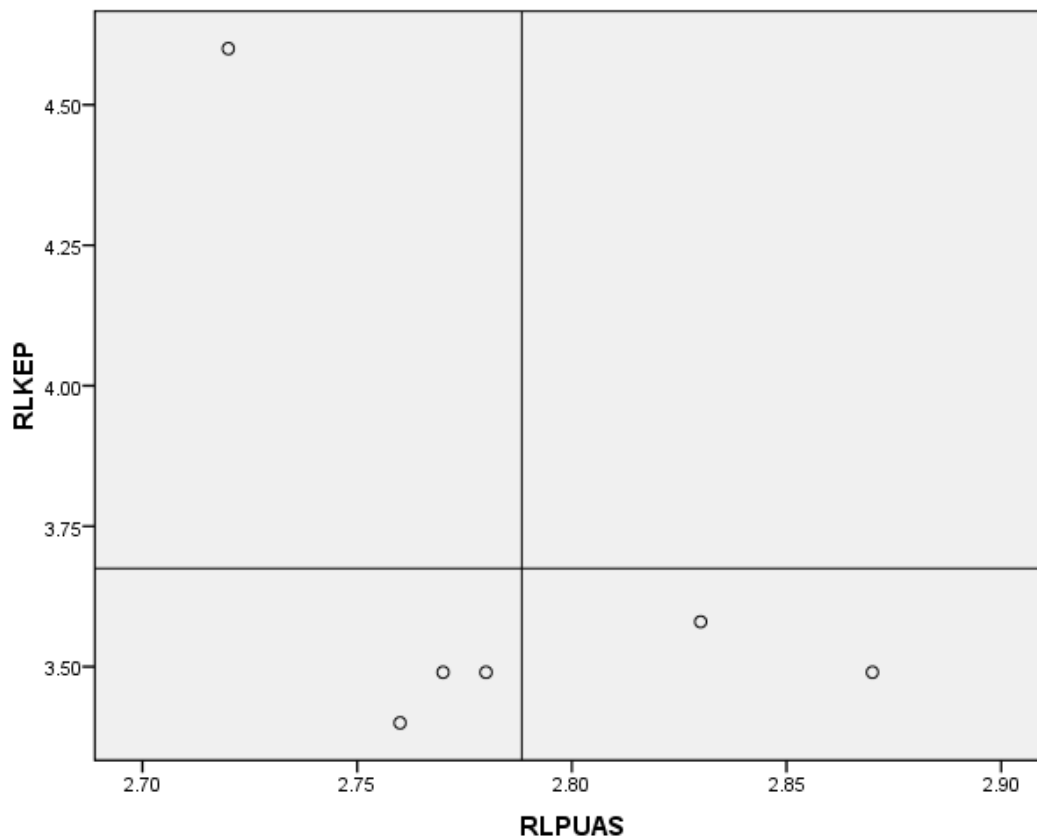


Diagram 2. Importance and Satisfaction Users PAP Laboratory for Variable RL

The diagram shows that indicators RL variable spreads in Quadrant A, C and D. It can be noted that:

#### Quadrant A

A quadrant can be known, that the user feels is important in the laboratory room ventilation PAP. However, they are not satisfied with the existing space ventilation. So it is very low levels of satisfaction for ventilation indicator. Indirectly, based on research results, the PAP laboratory users want their improvement PAP ventilation laboratory space.

#### Quadrant C

In quadrant C, room lighting indicator (RL3), Layout equipment / office machines in general (RL5) and Layout supplies / office furniture in general (RL6), considered less important by respondents. Respondents also felt not quite satisfied with these indicators. Thus, the need to repair and shows the importance of these indicators for the PAP laboratory.

#### Quadrant D

Based on the results of the analysis indicate that users find spacious rooms (RL1) and the cleanliness of the room (RL2) PAP laboratory according to them is not too important. And they are quite satisfied with the cleanliness of the room is spacious and laboratory PAP. However, users tend to ignore the indicator located at this position. In accordance with the quadrant analysis, it can be seen that the need for improvements to lighting a room, equipment layout, equipment layout and spacious rooms as well as laboratory room cleanliness PAP. Thus, the user will feel comfortable and satisfied when using PAP laboratory.

#### 4.2.2 Variable Cartesian diagram KP

Table 4. Average Level of Importance and Satisfaction Users PAP Laboratory for Variable **PL**

	Mean of Importance (Y)	Mean of Satisfaction (X)
PL1	3,68	2,86
PL2	3,58	2,77
PL3	3,52	2,71
PL4	3,53	2,73
Rata-rata	3,5775	2,7675

Table 4 the average rate of interest of the Laboratory of PAP for variable PL is 3.5775. While the level of user satisfaction PAP Laboratory for variable KP is 2.7675. Furthermore, to determine any indicator in OT variables included in quadrant A, B, C or D, then the following diagram is presented Cartesian. Interest showing in Cartesian diagram is to map the level of interest and the level of user satisfaction PAP Laboratory for variable PL.

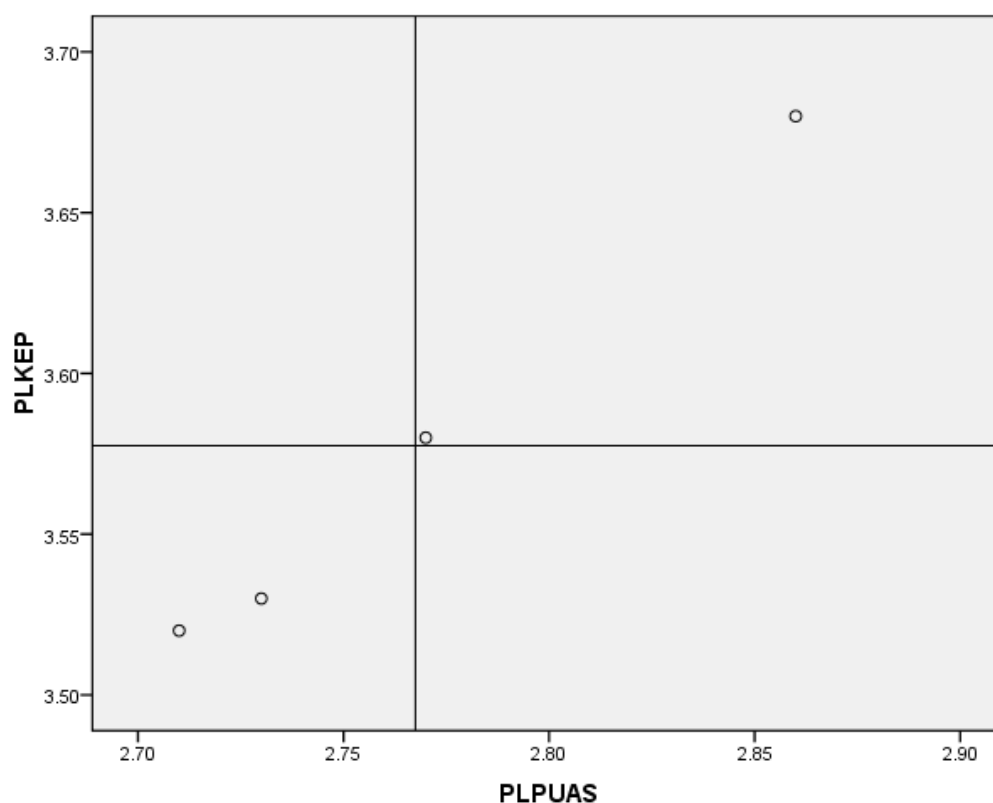


Diagram 3. Importance and Satisfaction Users PAP Laboratory for Variable PL

In accordance with the diagram 3, it is known that for PL variables, indicators are spread in Quadrant B and C. Thus it can be noted that:

#### Quadrant B

Having regard to the B quadrant, then the views of the interests of users Laboratories PAP, an indicator of the completeness of equipment / machinery, is at a high level, and the views of satisfaction, users feel a high level of satisfaction as well. Likewise, the indicator of the condition of equipment / machinery is.

#### Quadrant C

Quadrant C shows that when seen from the interests of users Laboratories PAP, both indicators of equipment / machinery and the most up-to-date of equipment / machinery, is not taken seriously. But when seen from the level of user satisfaction is quite good. However, users tend to ignore the indicator located at this position.

Based on these results, it can be argued that the need for improvement in terms of equipment/machinery and the most up-to-date of equipment / machinery at the Laboratory of PAP. It can also be argued that the need to increase for completeness equipment / machinery and the condition of equipment / machinery.

## 5 CONCLUSION

The conclusions of this research are:

1. It needs to improve the lighting of the room, layout of the equipments, laboratory space, and its cleanliness.
2. It needs to add the amount of the tools/machines, to improve the most up-to-date of the tools/machines, and to repair them.

## REFERENCES

- Alexander Serenko (2011) Student satisfaction with Canadian music programmes: the application of the American Customer Satisfaction Model in higher education, *Assessment & Evaluation in Higher Education*, 36:3, 281-299, DOI: 10.1080/02602930903337612.
- Donald R. Cooper, Pamela S. Schindler, (2006), *Metode Riset Bisnis*, (terjemahan), Volume I dan II, Edisi Sembilan, Penerbit PT Media Global Edukasi, Jakarta.
- Eddie Mark (2013) Student satisfaction and the customer focus in higher education, *Journal of Higher Education Policy and Management*, 35:1, 2-10, DOI: 10.1080/1360080X.2012.727703.
- Gandolfo Dominici, Federica Palumbo, (2013), How to build an e-learning product: Factors for *student/customer satisfaction*, *Business Horizons* 56, 87—96, Elsevier. [http:// dx.doi.org/10.1016/j.bushor.2012.09.011](http://dx.doi.org/10.1016/j.bushor.2012.09.011).
- Hodson, D. (1990). A Critical Look at Practical Work in School. *Science Review*. Vol. 70.
- Hofstein, A. dan Lunetta, V.M. (1982). The Role of Laboratory in Science Teaching: Neglected Aspect of Research. *Review of Educational Research*. Vol.52. No.2.
- J. Supranto. (2006). *Pengukuran Tingkat Kepuasan Pelanggan: Untuk Meningkatkan Pangsa Pasar*. Rineka Cipta, Jakarta.
- Kertiasa Nyoman, (2006), *Laboratorium Sekolah dan Pengelolaannya*, Puduk Scientific, Bandung.
- Ketut Suma, (2005), *Efektivitas Kegiatan Laboratorium Konstruktivis Dalam Meningkatkan Penguasaan Konsep-Konsep Arus Searah Mahasiswa Calon Guru*, *Jurnal Pendidikan dan Pengajaran IKIP Negeri Singaraja*, No. 2 TH. XXXVIII April 2005, ISSN 0215 – 8250, Hal : 159-171.
- McCuddy, M.K., Pinar, M., & Gingerich, E.F. (2008). Using student feedback in designing studentfocused curricula. *International Journal of Educational Management*, 22, 611–637.
- Peraturan Pemerintah No 60 Tahun 1999 tentang Pendidikan Tinggi.
- Riduwan, (2008), *Variabel-variabel Penelitian (skala pengukuran)*, Alfabeta, Bandung.
- Soetrisno dan Brisma Renaldi, (2009) *Manajemen Perkantoran Modern. Modul Diklat Prajabatan Golongan III*, Lembaga Administrasi Negara- RI, Jakarta.
- The Liang Gie, (1996), *Administrasi Perkantoran Modern*, BPE UGM, Yogyakarta
- Van den Berg, E. dan Gidding, G. (1992). *Laboratory Practical Work: an Alternative View of Laboratory Teaching*. Monograph. Curtin University of Technology, Western Australia, Science and Mathematics Education Centre.
- Wahyono Budi, (2012), *Pengertian dan Pengukuran Kepuasan Konsumen*, Diakses dari [www.pendidikanekonomi.com](http://www.pendidikanekonomi.com), Diakses pada tanggal 14 Oktober 2016.