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Evaluation of E-Learning Implementation in Gorontalo State University

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Abstract— **UNG has implemented online learning since 2006. At first, the implementation was still in one Faculty, namely the Faculty of Education. It was continued in 2007 in which PJJ PGSD began using moodle-based e-learning. In 2009, the Faculty of Engineering, especially the Informatics Engineering Department applied online learning using moodle and it was followed by the Faculty of Economics and Business. In the academic year 2012/2013, online learning has been integrated with the integrated academic information system (SIAT) due to the increased interest in the use of e-learning. This study aims to evaluate the implementation of e-Learning in UNG by analyzing the intensity on the use of e-Learning in SIAT and in two e-Learning based on moodle, besides analyzing the depth of the content of content in all these systems. The methodology used by this research is descriptive research. The results of this research are the level of effort, contribution to learning, skill, and responsiveness of the instructor are quite good based on data gathered from online survey by the students who enrolled course of introduction to computer network, design and management of computer network, teacher's profession and educational innovation. The intensity of utilization e-Learning on SIAT are experiencing ups and downs for the average of all courses. Most of the courses from each of faculty in e-Learning based on moodle have complete contents including the forum, chat, online reference, glossaries, and course feedback.**

Keywords: evaluation, SIAT, e-Learning, moodle

I. INTRODUCTION

Gorontalo State University (UNG), which was established in 1963, has 10 faculties with 720 active lecturers spread across all faculties with a total of 18,078 active students. Based on previous research, [1] UNG has implemented online learning since 2006 where its implementation was still in one Faculty, namely the Faculty of Education. It was continued in 2007 in which PJJ PGSD began using moodle-based e-learning. In 2009, the Faculty of Engineering, especially the Informatics Engineering Department, applied online learning using moodle and it was followed by the Faculty of Economics and Business. In the academic year 2012/2013, online learning has been integrated with the integrated academic information system (SIAT) due to the increased interest in the use of e-learning. However, many lecturers who have attended e-learning and

moodle related training cannot integrate those components with SIAT.

E-learning that has been integrated with SIAT has the same features possessed by Moodle. Moreover, it is easy to use. Besides that, e-learning can adjust to the lecturers' schedule along with the students according to each subject per week. In the course of implementing eLearning in UNG, the SIAT is being integrated with the use of e-Learning by lecturers in each faculty. However, it is still considered low, so that moodle-based eLearning is developed. The policies governing e-Learning in UNG are regulated in the rector's regulation UNG Number 862 / UN47 / LL / 2017 in which LP3M UNG acts as an eLearning organizer whose job is to manage and develop e-Learning programs. Meanwhile, ICT UPTs are the developers and maintainers of e-Learning and also the administrator of e-Learning. In practice, LP3M does not play a significant role in managing and developing eLearning programs. E-Learning content is more developed by each lecturer in each Faculty without passing verification to LP3M. The lecturers or lecturer groups who have received recommendations from the study program chairman are then verified by LP3M.

A. e-Learning

e-Learning refers to the use of ICTs to enhance and/or support learning in higher education. [2] e-Learning is also defined as the education delivered through internet technologies without the necessity of teacher and student being present at the same time. [3] By definition, eLearning is the use of electronic media, educational technology and information and communication technologies (ICT) in education. E-Learning includes numerous types of media that deliver text, audio, images, animation and streaming video. It includes technology applications and processes such as audio or video tape, satellite TV, CDROM, and computer based learning, as well as local intranet/extranet and web based learning. Information and communication systems, whether free standing or based on either local networks or the internet in networked learning. [4].

II. METHODOLOGY

The methodology used in this research is descriptive. Descriptive research is one of the methodologies in research which is trying to describe and interpret the object according

to what it is. This research collects the data to test research question or hypothesis related to the condition and event happening, reported the object situation or subject researched according to what it is. [5] The research data are gathered from the survey to evaluate the level of effort, contribution to learning, skill, and responsiveness of the instructor. All those data gathered from the students who use e-learning based on moodle. To evaluate the intensity of utilization each of faculties, the data are gathered from e-learning based on SIAT. The contents on the e-Learning based on moodle are also evaluated to find out how deep the lecturers preparing the content to the student.

III. RESULTS AND DISCUSSION

A. Survey Results

The data in the present research are gathered from online survey completed by the students who enrol course of introduction to computer network, design and management of computer network, teacher's profession and educational innovation to evaluate the level of effort, contribution to learning, skill, and responsiveness of the lecturer. The respondents are 21 students from the course of introduction to computer network, 19 students from the course of design and management computer network, 11 students from the course of teacher's profession and educational innovation.

TABLE I.   SURVEY RESULTS

	Average level of effort	Average Contribution to Learning	Skill and Responsiveness of the instructor
Introduction to computer network	Very Good	Very Good	Instructor effectively used time during class periods, Instructor stimulated the students' interest, Presentation were clear and well-organized
Design and Management of Computer Network	Satisfactory	Fair	Instructor effectively used time during class periods, Presentation were clear and organized
Teacher's Profession	Excellent	Very Good	Instructor was an effective lecturer/administrator, Instructor stimulated the students' interest
Educational Innovation	Excellent	Excellent	Instructor stimulated the students' interest, Instructor was available and helpful

B. Intensity of Utilization e-Learning on SIAT

The data are gathered from SIAT from the academic year 2012/2013 to 2018/2019 for each faculty in Gorontalo State University. The data are shown as follows
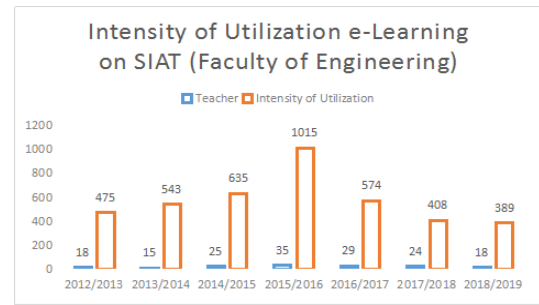

Figure 1. Intensity of Utilization e-Learning on SIAT (Faculty of Engineering)

The average of lecturers who created and used e-learning in the Faculty of Engineering are only 11% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 288.5. At least 6 lecturers from the Department of Informatics Engineering, Civil Engineering Department and Architecture Engineering Department from academic year 2012/2013 consistently use e-Learning on SIAT
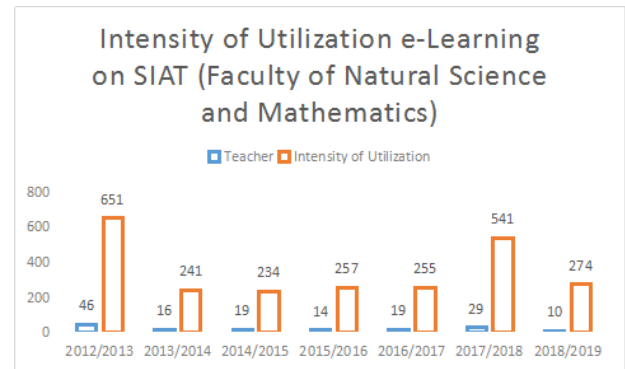

Figure 2. Intensity of Utilization e-Learning on SIAT (Faculty of Natural Science and Mathematics)

The average of lecturers who created and used e-learning in the Faculty of Natural Science and Mathematics are 10.92 or 11% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 175.2. At least 4 lecturers from the Department of Chemistry, Department of Mathematics and Department of Physics from academic year 2012/2013 consistently use e-Learning on SIAT.
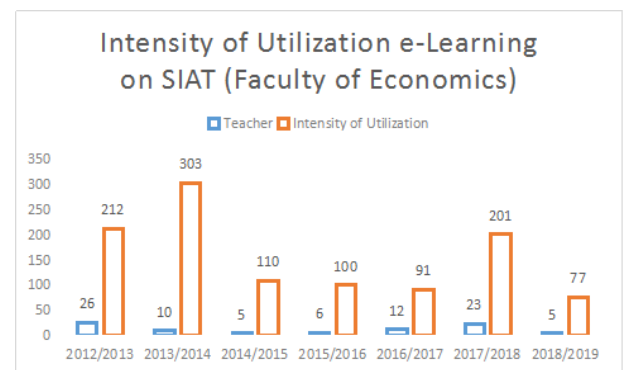

Figure 3. Intensity of Utilization e-Learning on SIAT (Faculty of Economy)

The average of lecturers who created and used e-learning in the Faculty of Economy are 6.21 or 6.5% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 78.14. At least 2 lecturers from the Department of Management from academic year 2012/2013 consistently use e-Learning on SIAT.
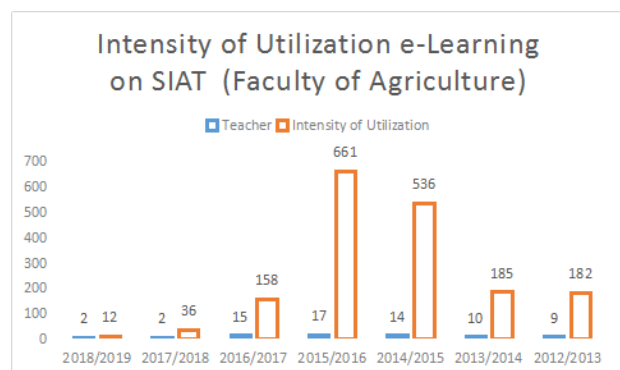

Figure 4. Intensity of Utilization e-Learning on SIAT (Faculty of Agriculture)

The average of lecturers who created and used e-learning in the Faculty of Agriculture are 4.92 or 7.68% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 126.42. Only 1 lecturer from the Department of Agriculture Engineering from academic year 2012/2013 consistently use e-Learning on SIAT.
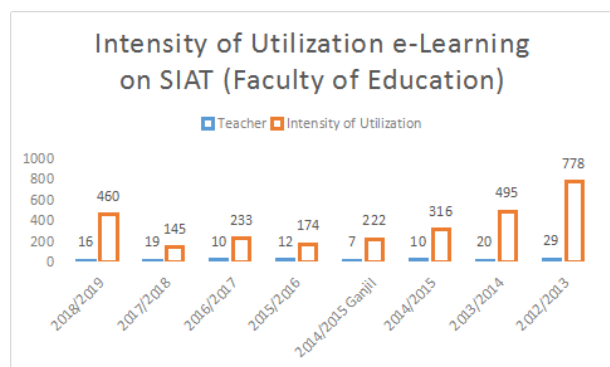

Figure 5. Intensity of Utilization e-Learning on SIAT (Faculty of Education)

The average of lecturers who created and used e-learning in the Faculty of Education are 8.28 or 10.48% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 151.91. At least 4 lecturers from the Department of Education Management and Department of Primary Teacher Education from academic year 2012/2013 consistently use e-Learning on SIAT.
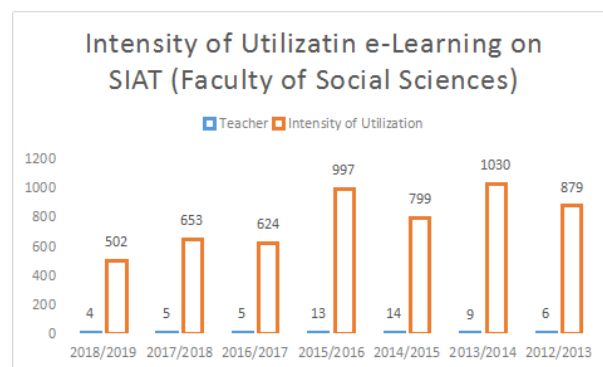

Figure 6. Intensity of Utilization e-Learning on SIAT (Faculty of Social Sciences)

The average of lecturers who created and used e-learning in the Faculty of Social Sciences are 8.28 or 10.48% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 151.91. At least 2 lecturers from the Department of communication studies and Department of Civic Education from academic year 2012/2013 consistently use e-Learning on SIAT.
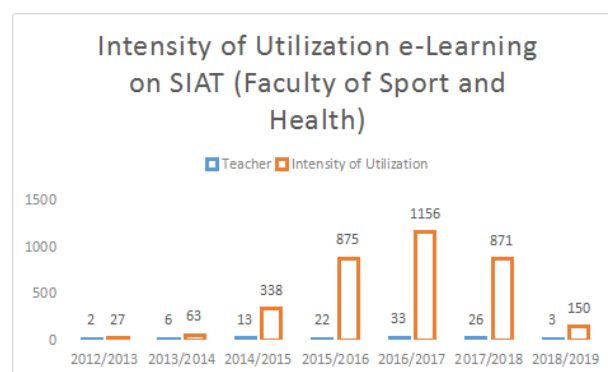

Figure 7. Intensity of Utilization e-Learning on SIAT (Faculty of Sport and Health)

The average of lecturers who created and used e-learning in the Faculty of Social Sport and Health are 7.5 or 9.61% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 248.57. At least 2 lecturers from the Department of Physical Education and Health Sciences and Department of Sport Coaching Education from academic year 2012/2013 consistently use e-Learning on SIAT.
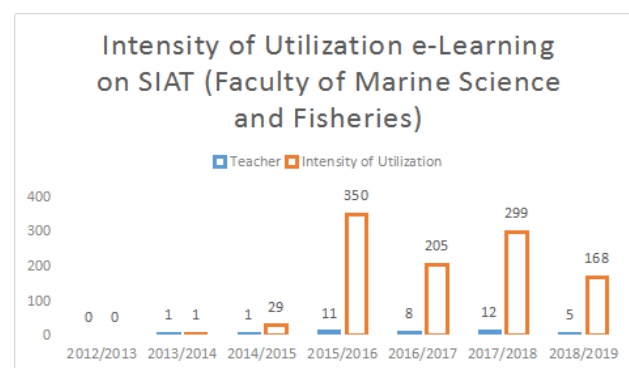

Figure 8. Intensity of Utilization e-Learning on SIAT (Faculty of Marine Science and Fisheries)

The average of lecturers who created and used e-learning in the Faculty of Marine Science and Fisheries are 2.78 or 9.92% from the total numbers of lecturers in the Faculty. The intensity of utilization is experiencing ups and downs, it is presented in the average which is 75.14. Only 1 lecturer from the Department of Fisheries Product Technology from academic year 2012/2013 consistently use e-Learning on SIAT.
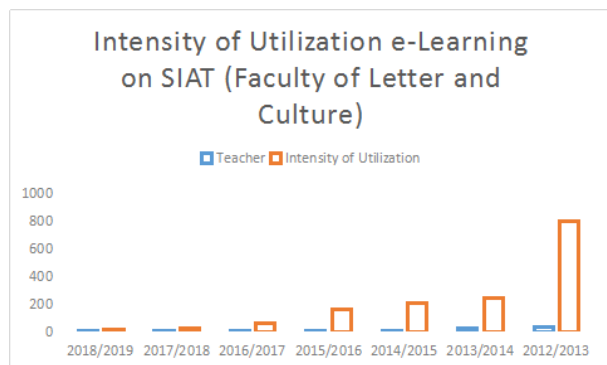

Figure 9. Intensity of Utilization e-Learning on SIAT (Faculty of Letter and Culture)

The average of lecturers who created and used e-learning in the Faculty of Letter and Culture are 78.21 Faculty or 10.01% from the total numbers of lecturers in the Faculty. The intensity of utilization is extremely down from 2012/2013 to 2018/2019, it is presented in the average which is 111.28. At least 4 lecturers from the Department of Indonesian Language and Literature Education and English Language Education Department from academic year 2012/2013 consistently use e-Learning on SIAT
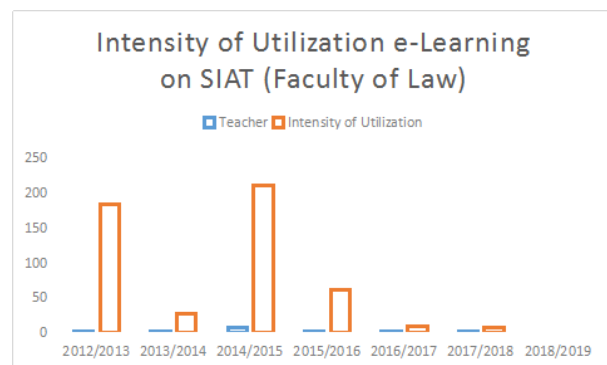

Figure 10. Intensity of Utilization e-Learning on SIAT (Faculty of Law)

The average of lecturers who created and used e-learning in the Faculty of Law are 1.07 or 5.35% from the total numbers of lecturers in the Faculty. The intensity of utilization is extremely down from 2012/2013 to 2018/2019, it is presented in the average which is 35.71. Only 1 lecturer from the Department of Legal Studies from academic year 2012/2013 consistently use e-Learning on SIAT.

C. Contents e-Learning based on Moodle Evalutaion

Evaluation of e-Learning is also held from two sites of e-Learning based on Moodle (http://kuliahdaring.ung.ac.id and http://elearning-

idb7in1.ung.ac.id) to analyse how deep the lecturers preparing the content for the student. There are 3 facultie's courses categories on http://kuliahdaring.ung.ac.id and 4 faculties on http://elearning-idb7in1.ung.ac.id. The lists of courses from each of faculty with the completed course components can be seen in table 2.

Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in:

TABLE II. COURSE ON E-LEARNING BASED ON MOODLE COMPLETENESS COMPONENT

Faculty	Course	Identity of Course	Description of Course	Reading Material	Slides	Video/ Animation	Asignment
Engineering	Introduction to Architecture and Computer Organizations	√	√	√	√	√	√
	Textile Craft Art	√	√	√	-	√	√
	Ergonomics and Work Design 2	√	-	√	-	√	√
	Decision Support System	√	√	√	√	√	√
	Database System	√	√	√	-	√	√
	Basic of Control System	√	-	√	-	-	√
	Design and Management of Computer Network	√	√	√	√	√	√
	Introduction to Computer Network	√	√	√	√	√	√
Natural Science and Mathematics	Marine and Coastal Biology	√	√	√	√	√	√
	Food Ecology	√	√	√	√	√	√
	Enviromental Sciences	√	√	√	√	-	√
	Coastal Ecology	√	√	√	√	√	-
	Microbiology	√	√	√	√	√	√
	Structure of Animal Growth	√	√	-	√	√	√
	Structure and Reactivity of Inorganic Chemistry	√	√	√	√	√	√
	Genetics	√	√	√	√	√	√

	Course						
	Evaluation and Biology Learning	√	√	√	√	√	√
Education	Education Innovation	√	√	√	√ √		√
	Teacher's Profession	√	√	√	-	-	√
Economy	Analysis of Financial Statements	√	√	√	√ √		√
	Production Management	√	√	√	-	√	√
	Advertising	√	√	√	-	√	√
	Introduction to Computer Application	√	√	√	√	√	√

Based on table II, most of the courses from each of faculty have the complete contents including forum, chat, online reference, glossaries and course feedback. Some of the courses are also hosted in e-Learning managed by Ministry of Research, Technology and Higher Education of The Republic of Indonesia (https://spada.ristekdikti.go.id) such as Education Innovation, Structure and Reactivity of Inorganic Chemistry.

IV. CONCLUSION

The level of effort, contribution to learning, skill, and responsiveness of the instructor are quite good based on

Data gathered from online survey by the students who enrol course of introduction to computer network, design and management of computer network, teacher's profession and educational innovation. The intensity of the e-Learning utilization on SIAT is experiencing ups and downs for the average of all courses. Most of the courses from each of faculty in e-Learning based on Moodle have the complete contents including the forum, chat, online reference, glossaries, and course feedback.

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ACKNOWLEDGMENT

REFERENCES

[1]   Badu, Syamsu Qamar, et al**.** 2012. *Elearning Administrative Simplification Through Integration With Academic Information System of Higher Education.*. International Symposium on Open, DIstance and Elearning (ISODEL) 2012.

[2]   Yogita, Navani and Ansari, M.A**.** 2016**.** *A Study of e-Learning Readiness of University Faculty.* International Journal of Current Research, Vol. 8. 0975-833X.

[3]   *University Students Readiness for e-Learning.* s.l. : Ensayos. Revista de la Facultad de Education de Albacete, 2017, Vol. 32.

[4]   Semih, Caliskan, Vasfi, Tugun and Huseyin, Uzunboylu. 2015. *Assesment in e-Learning Environment Readiness of Teaching Staff, Administrators, and Students of Faculty of Nursing-Benghazi University.* International Journal of the Computer, the Internet and Management , Vol. 23.

[5]   Sukardi**.** 2016. *Methodology of Education Research.* Yogyakarta : Bumi Aksara, 979-526-852-X.