

The Development of Learning Module Database with Matter Entity Relationship Diagram Based Blended Learning in Engineering Faculty Indonesia Persada University Y.A.I Jakarta

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ABSTRACT---The learning process with blended learning it is been helpful the process of learning be effective and efficient than traditional based learning. Learning blended learning ease users can do learning activities anywhere and anytime. The learning process with very much in need of the development of traditional based learning online that is neither of the blended with learning. The development of kind of classroom that they used the combination model that is Lee and Owens model and ADDIE model. Both the model produce learning module print and Learning module non print which used by lecturers student in learning lecture as a data base. The results of the study in the form of print module. Print module consists of 3 (three) module that is a topic the concept of database, the topic of a design entity relationship a diagram and topic of implementation relationship table. Module print and online at module validation by 3 (three) expert namely expert design instructional, expert matter and expert instructional media.

Keyword--- blended learning , traditional, print module, online module, validation

I. INTRODUCTION

The digital technology very important required by lecturers to get information individually with the aim of innovating for their interest[1]. We do not understand space learning physically without reference to learn technology and technology gital without referensi to place another user. One who performs research based education technology consider the idea of learning to supports himself physically , digital , social , and always exchange to share. Taking this idea to learn , teach and design classrooms in order that we may better understand the context of teaching wherever and share facilities for the promotion of learning in individuals and groups[2].

Learning is crucial for all persons and adult, teenagers and children. Learning is an the activity process or knowledge received to get so wholesome an outcome . Neil Mercer, Sara Hennessy, Paul Warwick say “ The implications of a important perspective social culture is that one is en couraged to find the cause of the success of education, and failure, in the nature and qualities of the process of education social and communicative than here in intrinsic students ability individual, didactic presentational

who skill individual teachers, or quality of resources that has been used”[3]. ”Structural institutions election and characteristic of students perception environment is their learning usually adopted as an act of the factors factors that influence study results on campus”[4]. Based on these two hearing was asserted that it is time lecturer need to understand technological progress and leave information from students by means of follow of technological development current. The importance of the use of various methods and engineering and material at the implementation of the program is often said the environment to the educational[5]

Technology development be a need for the present time including the development of learning . Based learning technology supported some media learning both in offline as well as online. Learning online that develops shaped e-learning who helped the teachers and students in learning activities That provides material learning so as to increase the motivation to study to university students and to ease lecturer in conveying matter learning . Bourdeau, dksay “ Change the data used for distance learning have can be given students a chance to reach the tertiary degree without any location or different perceptions in the campus , to a certain degree , the forum of dialogue class ”[6].

Engineering faculty indonesia persada university Y.A.I have information technology to use activities process learning. This was appendages in the learning process with technology, It takes learning website based with the aim of ease the teaching process activities. The faculty development one-size-fits-all and regulated in accordance with the schedule have been set and location -- and thus, will also continue to fail meet the needs of people who are interested in marginal or different from the majority [7].

Learning in this research on lecture database with reason student who quality and applied the field of science information in real life so that the learning good and improve learning outcomes. But observations in class be found learning with the talkssso the university students being saturated , bored and capricious snd little regard for the material that was delivered by lecturer. Besides interviews

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with lecturer be found teaching materials possessed by lecturers are not uniform, Almost all lecturers having material dormitory derived from college other because of engineering faculty not having material that is occupied in class and there is no coordination between lecture To discuss the material that was delivered in class .

Based on these problems needed the resolution of problems namely meeting coordination between lecturers lecture with head of study program discuss the purpose of those lessons lecture database. Both developed public instructional purposes, the purpose of special instructional, learning and strategies and subjects of basic.

Expectation of resolving the issue was the development of learning module based blended learning with the learning to facilitate the base efekti and efficient.

II. METHODOLOGY

The module is a package of program that developed and designed so that help students to reach the purpose of learning. Modul as the basis in designed systematically so users material easily studies learning without in facilitators by lectures [8].Module as a teaching material based mold designed to learn autonomously by students . Hence , module comes with instructions to learn for themselves .

Benefits the module: (a) Improved the motivation of students, because every time do their tasks lessons fringed with clear and in accordance with their capability, (b) After an evaluation, Teachers and students knew right , students have managed to studies on the module that failed to before , (c) Lessons learned divided some topic in occurring every six months, (d) Education is efficiently , Because of a lesson arranged according to the level of academic. Based on opinion experts conclude module is package program that arrange one of a breed of the teaching material systematically which used independently by student which furnished guidance and it is useful to motivate students, Evaluation successful use of module in occurring every six months, so can utilized for learning. Learning is a process to help students in learning process in effect in any, all the timeand anywhere in planning and teachers capable of designing instructional based on various sources of learning. Learning for the better it is required the development of learning by using a method of research and development (R & D) this qualitative and quantitative approaches.The mix, qualitative and quantitative, used to collect data .sikap scale to digital technology used as one of the data collection quantitative and semi-structured interview figure it is used to collect data. while a qualitative used in research try to reach to generalizable the supported with numbers on various problems that exist in the study, Research a qualitative aims to explain the phenomena the own in the environment and limitations[9]

This research attempts to develop the effective in learning activities. Besides the methodology research and development ismethod of development model to design module that developed The development of module that be used is Lee and owens model which combined ADDIE model. Second this model interconnected each other. Research procedure consists of 1) analisis, Model Lee and Owens aboutneed assessment in the interview andobservationfront end about audiese analysis , technology , the media and existing data; 2) desain, use 2 (two) model

that is a model lee and owens on specification media, lesson structure, constitation control and review cyclewhile ADDIE model on the preparation of purpose of public instructional and purpose of special instructional, purpose of special instructional dan reference for tests; 3) development, useLee and Owens model about preproduction, production and postproduction while ADDIE model been doing the preparation of a unit of the event lecture ; 4) Implementasi, while Lee and Owens modelwith step develop scrips and material, rehearse the presentation, broadcast season while ADDIE model use expert valiation and trial; 5) evaluasi, is research results shaped learning module which has validation by expert.[10][11][12][13][14][15]

III. RESULT AND ANALYSIS

This research development use combination 2 (two) model namely Lee and Owen model with ADDIE model. This both model develop with procedure namely 1) analisis, lee and owens model withneed assessment in interview and observation. First this step is interview for lecturers matter use problem that happens in learning database especially topics entity relationship diagramThe results of the interviews we found problems namely varicosity of teaching materials owned lecturers mattermostly material comes from several other universities to explain to students in the class of engineering faculty university of indonesia persada Y.A.I. The results of the direct observation of in the classroom see a good condition of the teaching process be found the problem learning that is lecturers explain matter with the methods talk make a student does not notice sparking the saturated, bored and are often seen kidding resulting in matter of teaching materials less on target the achievement of the purpose of learning .

The next step review curriculum vitae students, The results of the review obtained information student who the majority of educated with high school science classand a small proportion of educated vocational high school of engineering software with a value of the certificate the average worth 7, reside in the the plain and circuit around the greater jakarta area and the majority of lives with a family the curriculum vitae information review will be used as a both namely front end comprising analisis audience which explain the ability of studentsin received learning delivered lecturer in class, technology analisis which explain students having knowledge technologies in operate a computer, media analisis which explain the ability of students able to operate computer technology especially, data analisis analisis which explain value qualifications having average score7

The second step is design model of development by using 2 (two) model that isLee and Owen model with steps a) spefication media which explain technical specifications media learningnamely the use of hardware of personal computer and laptop with capacity of at least two ways which connect with the internet core, software with

application xampp; b) Lesson lecture which create structure



content which explains how the matter grouped, The depiction of a groove of the program and particular in the design navigation. The results of this stage the design of the products. The procedure of the appearance of online learning to promote disorder to which is made up of 3 (three) users namely admin display menu admin consists of information, The implementation of the online; c) confiscation control and review cycle which create the right of user access in the form of login and system menu dan menu learning system. Next design with ADDIE model with step a) Draw up common instructional purposes and the purpose of special instructional between lecturer matter and chairman of course in determining learning subject matter which delivered to students; b) Decided on a strategy instructional based on an order of the activities carried out by consists of description, relevation, learning objectives, the matter, sample, exercise, tests formative, feedback and follow-up. Followed by writing test the basis of reference and continued developing the draft teaching products of the fine print and non print ; d) Determine the patency reference for doing 2 (two) the test namely pre-test and post-test. Pre-test aims to measure the mastery students ahead of the start of learning . Post-test aimed at for measuring the level of success of students after complete the process lessons learned from a whole module. The tests conducted in this module is the test objective In the form of the average multiple choice test . The use of tests election objectiveis referring to a verb the purpose of instructional special namely C1 (remember), C2 (understand), C3 (apply), C4 (analysis).

The third step is development model with 2 (two) models namely ADDIE model with step a) design plan learning and learning material with continued the development of Lee and Owen model step a) Preproduction which conducted 2 two stages namely the first step to make a design display interface The appearance of login , the appearance of a menu that consists of menu lecturers, students, lecture, material college, duty college, and home. The second phase design module a print consists of cover, a preface, guidelines the use of module, map the concept, table of contents and learning activities which consists of Introduction, brief description, relevance, the purpose, the discussion matter, an example, exercise, summary, tests formative, a glossary, feedback and follow up and the library; b) production with stage validation the module to experts media to experts media, experts instructional design and experts matter learning. According to the experts media validation give value 55 said module worth used by students and teachers , the expert instructional design give value 45 said module worth used by students and teachers dan the expert matter give value 112 said module worth used by students and teachers . Based on the assessment of the three the experts expressed module worthy of be used after make an assessment so module at a revision and the result tested to learner ; c) Postproduction with trial phase to the learner which were brought over 3 three categories is one to one learner with 3 (three) learner, small group learner with 8 (eight) learner dan field trial group learner 30 (thirty) learner. The results of the tryouts of one to one learner inferred the value of weighted the score as much as 80,21% expressed module good be used students and teachers , The results of

the tryouts small group learner inferred rerata a score module is 80,60% expressed module good be used students and teachers and expressed field trial group learner inferred rerata a score module is 75% expressed module good be used students and teachers.

The fourth step is to evaluate the results of the evaluation of the module which consists of pre-test and post-test. The use of both the tests were to know the current effectiveness of the use of module for learner with the results of statistical tests obtained the price t count 19,3 and the price of t table on $\alpha = 0,05$ namely 2,030. By as the price of t count > the price t table so H_0 rejected;, so expressed learning module blended learning based on lecture database of the results of effects worthy of student learning. The results of that product aimed at it easy for users in learning activities. This issue and they be clear by Duygu Mutlu Bayraktar “ The ability of the use of the funds of a website the influence of the user of satisfaction and the craving and passionate in being able to use that website this results in again afterwards ”[16]

IV. CONCLUSION

The research development used combination 2 (two) model namely Lee and Owens model and ADDIE model. Second this model developed so produce the development of learning module on the eyes college as a data base in module print and online module. The module is an excess of module the other online module performed at the time of learning activities outside the classroom and students can communicate in online with the lecturer uses the media online learning come to blended learning. Module print produced is divided into 3 (three) namely learning module first on the topic of the concept of database, learning module second on the topic of a design entity relationship a diagram and learning module third and last chinese spot the topic of the implantation of the inter table of a mutual relation.

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