

# Analysis of Students Needs for Teaching Materials as A Reference for Developing E-Module of Digital Learning Courses

Dewi Pratita\* Dian Eka Amrina Yulia Djahir

<sup>1</sup> Department of Economic Educatio Universitas Sriwijaya, Indonesia

\*Corresponding author. Email: [dewipratita@fkip.unsri.ac.id](mailto:dewipratita@fkip.unsri.ac.id)

## ABSTRACT

This research aims to analyze students needs for teaching materials used in Digital Learning lecture activities. This research is an exploratory descriptive study with the sample of research is Economics Education students at fifth semester FKIP Sriwijaya University who are in two classes namely regular classes and extension classes as many as 79 students. Research data is obtained from preliminary observations showed that in the materials of Digital Learning lectures will be more practical in creating content in Digital Learning because of the limited time that only two credits at each meeting can make it difficult for lectures to provide detailed explanations of the material to students. The results of the student questionnaire analysis show that students need more digital type teaching materials in the from module in order to be supportive in student lecture activities.

**Keywords:** *Teaching Materials, E-module, Digital Learning, Courses.*

## 1. INTRODUCTION

Learning is a proses that consist of a combination of two aspect, namely learning directed to what must be done by students nd teaching oriented to what must be done by the teacher [1]. The success of the teaching learning process is inseparable from the availability of faculties and infrastructure owned by the school. Means meant are learning media and teaching material that is in accordance with changing times that can support the learning. Today the development of Science and Technology is developing so rapidly. Moreover, the development is greater aimed at the world of education. The use of instructional media and teaching material that contains interactive features must be considered and adjusted to the development of the times so that the learning process can run well.

Learning with interactive multimedia will make the learning process more enjoyable, clear, the amount of teaching time for lectures can be reduced, and teaching and learning can be done anywhere and anytime or flexible to do [2]. Interactive multimedia will significantly help students in understanding abstract concepts because they can make abstract concepts more concrete and easier to understand. Futhermore, concrete

concepts will make students exited so that learning becomes more meaningful.

Learning resources in the form of electronic module are needed to support the effectiveness of learning, deliver material and facilitate learning. Learning patterns that used to be with a single tool are now changed to multimedia based learning [3]. This electronic module based multimedia learning can make students comfortable compared to conventional learning and make learning more effective. With an interctive electronic module learning design, it will be able to increase student motivation in learning, involve sensory activities, provide direct feedback, provide opportunities for students to determine their acceleration of learning and able to conduct self evaluations.

Digital Learning course are course given in the fifth semester of the Economic Education Study Program. Student who can take this course are students who have completed the Economic Learning Media Development course. Digital Learning course are given in semester five with a total of two credits. The description of the material to be studied in this course is related to computers and digital learning activities such as the use of the internet in learning, digital learning models, digital learning activities literacy, digital text, digital

image, digital audio, digital video, digital animation and develop virtual classroom in learning. Because the material is complex and requires direct practice in learning activities and the limitations in lecture time, this is what motivates the research team to develop Digital Learning module as one type of teaching material that can be used in lectures and will be packaged electronically to make it more effective and efficient to use in learning activities, especially in Digital Learning course.

The material will be arranged in a systematic and interesting module to be studied which includes material, pictures and evaluations that can be used independently by students to achieve the expected competencies. With the module, it is expected that students in obtaining information about lecture material can be done independently. Module consist of two categories, namely print module and digital module [4]. The digital module has the advantage of being able to display material using learning media anywhere and anytime without taking up time. In the era of the industrial revolution 4.0 where the use of technology in the world of education continues to spur educators to innovate in the field of learning, one of which is by converting printed module into electronic module.

The module serves to increase the ability of students to learn on their own without depending on the educator. In the module there is material that has been compiled in detail about the material to be studied and there is also an evaluation so that it can be support for educators in providing material. Based on the existing background, this study will discuss the analysis of student needs for teaching materials as a reference for developing E-module for Digital Learning course in the Economic Education Study Program FKIP Sriwijaya University.

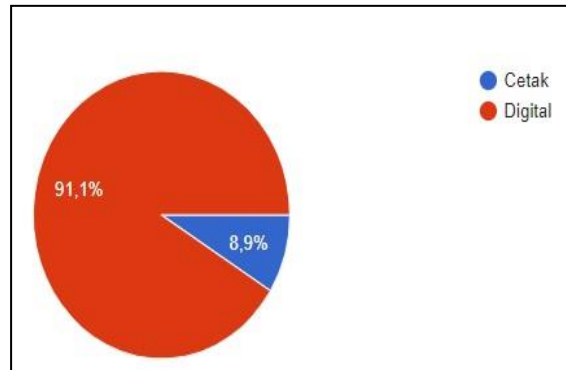
**2. METHOD**

This research is an exploratory descriptive study with the research subjects being student of the fifth semester of the FKIP Sriwijaya University, who are in two classes, namely the regular class and the extension class as many as 79 students. Research data were obtained from preliminary observation activities and filling out a questionnaire on the needs of the desired teaching materials. Observations were made to analyze the teaching materials that will be used and the materials that will be developed into the teaching materials. Data from result of needs analysis provided via google form to students shows that students need digital module as teaching materials for Digital Learning courses.

**3. RESULTS and DISCUSSIONS**

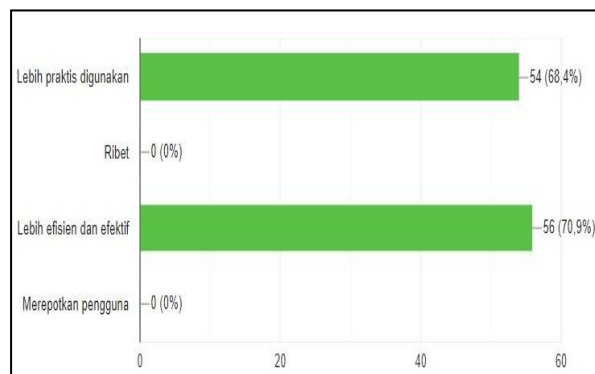
**3.1 Results**

Based on the results of the questionnaire data that has been filled in by the students, it shows that the percentage of students like digital teaching materials can be seen in figure 1.



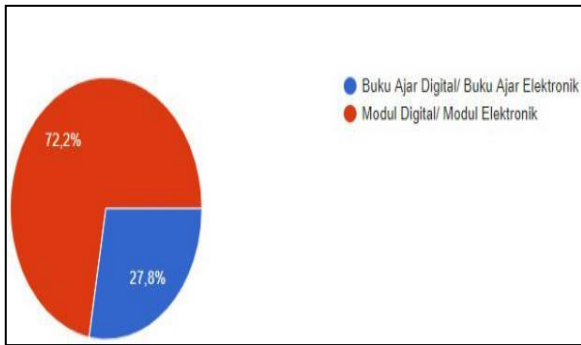
**Figure 1**Percentage of students like digital teaching materials

In figure 1 above, it can be seen that the presentation of students who choose electronic or digital teaching materials is greater than students who choose printed teaching materials. For digital teaching materials 91.1% the amount for print teaching materials is 8.9%. The percentage that shows the reasons they like digital teaching materials can be seen in figure 2.



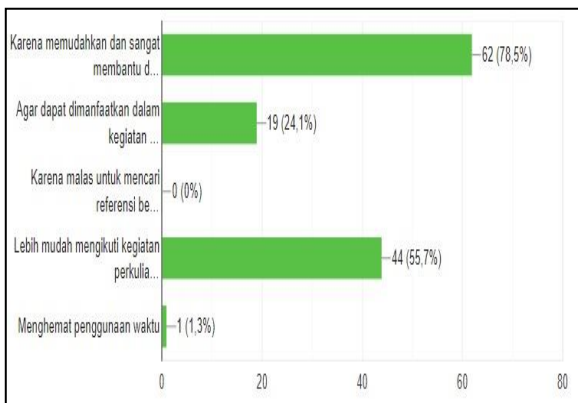
**Figure 2** The percentage that shows the reasons they like digital teaching materials

While the figure 2 above provides information about the students reason for choosing the teaching materials they have chosen in the first question. For the reason that are more practical and easy to use by 68.4%, while reasons are more efficient and effective to use by 70.9%. It means that according to students that use of electronic module is more in lecture activities. While the percentage of teaching materials that will be used in supporting learning lectures digital can be seen in figure 3.



**Figure 3** Percentage of teaching materials that will be used in supporting learning lectures digital

While the figure 3 shows the presentation of the teaching materials selected by the students. For electronic textbooks by 27.8% while for electronic module by 72.2%. This shows that students prefer to use electronic module for digital learning lecture activities. The reasons that show students choosing a digital module can be used in lecture activities can be seen in the percentage in figure 4.



**Figure 4** Percentage of the reasons that show students choosing a digital module can be used in lecture activities

While figure 4 provides information about the reasons for students choosing the electronic module namely providing convenience and very helpful in independent learning activities by 78.5%, so that it is easier to use in lecture activities by 24.1% and it is easier to take part in lecture activities by 55.7%. Electronic module that will be developed in this Digital Learning course contains about form of presentation of material self learning systematically arranged into units of learning smallest to achieve specific learning presented in the electronic format in which there animation, audio, navigation makes that user more interactive with the program.

Electronic module can be accessed by students has benefits and different characteristics. If the terms of the benefits of electronic module can make the learning process more interesting, interactive, can be done anytime and anywhere and can improve the quality of learning [5].

Electronic module is digital learning media device or non printed that is constructed systematically for independent learning needs [6]. Electronic module demands the students to solve the problem in their own way [7]. Electronic module is a part of electronic based learning in which the learning utilizes information technology and communication, specifically electronic device. It means that not only internet, but also all of electronic devices such as film, cassette, video, OHP, slide, LCD, projector and tape set [8].

Dealing with several assumptions above, it can be concluded that electronic module is an electronic learning material that use systematically constructed which aims to create interactive learning accompanied with animation that supports the learning for interesting learning process.

### 3.2 Discussion

Based on the results of the student needs analysis obtained through the questionnaire they have filled in, it can be identified that students need digital teaching materials in lecturing activities like digital module. From the results of the analysis it is known that in the process of Digital Learning course, students are very limited in using time to study with lecturers in class, while the material being studied is very complex and requires direct practice. Through the module, students can understand the material independently and still be able to complete the existing material according to the competency objectives that have been set in Digital Learning course.

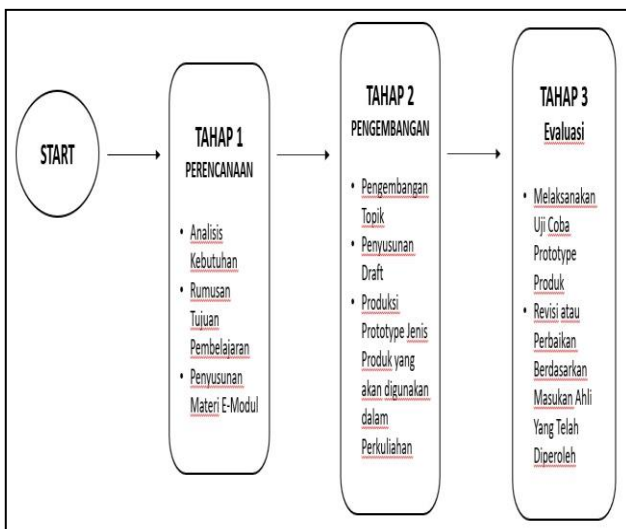
Of the 79 respondents, 91.1% chose teaching materials in digital. The reasons respondents like digital teaching materials include 68.4% more practical to use, more efficient and effective use of 70.9%. The form of teaching materials chosen by respondents in supporting Digital Learning course activities is a digital module or an electronic module by 72.2%. Respondents felt the need to develop teaching materials in the form of digital module or electronic module because it made it easier and very helpful in lecturing activities by 78.5%, so that they could be used in lecture activities by 24.1% and to make it easier to take part in Digital Learning lectures by 55.7%, while the reasons another is to be able to save time in lecturing activities by 1.3% can use module as a means of independent learning. From the overall results of the need analysis, it is found that students who take Digital Learning course need digital module for lecture activities.

Learning that uses information and communication technology can help teachers in delivering material and students in understanding the learning material [9]. Teaching materials with multimedia facilities, including interactive electronic module, the content can be modified to be more attractive. Interactive electronic

module teaching material is one of the teaching materials whose publishing process in digital form consists of text, images or a combination of both [10]. Electronic module are teaching materials that are presented systematically so that their use can learn with or without a facilitator or lecturer [11].

For the first step in developing an electronic module is to conduct a need analysis. Development model a recommended set of activities that defines a process for successful instructional design [12]. The definition of instructional development is a systematic approach to the design, production, evaluation and utilization of complete system of instruction [13]. Russel and Smaldino define instructional development as the process of analyzing needs, determining what content must be mastered, establishing educational goals, designing materials to reach the objectives and trying out and and revising the program in terms of learner achievement [14].

Development is a business that is carried out consciously, planned, directed to help increase the effectiveness of learning by producing a product. Method used in develop an electronic module is the research and development. Research and development (R&D) is the process of researching consumer needs and then developing products to fulfill those needs. The purpose of R&D efforts in education is not formulate or test theory but to develop effective products for use in lecture. Such products include teacher training materials, learning materials, sets of behavioral objectives, media materials and management system. Research and development used of adaptation of the Rowntree model [15].



**Figure 5** Rowntree Product Development Model

There are three stages in using the Rowntree product development model, namely the planning stage, the development stage and the evaluation stage [16]. For the first stage of the Rowntree product development model is planning. The planning stage is carried out to identify

student needs for the product to be develop. The information obtained will be the basis for the preparation of teaching materials in form electronic module that can be used in lecture activities for Digital Learning courses. Then proceed with preparing material that will be made module for Digital Learning courses.

The second stage is development. The development stage is to start compiling the module material that has been prepared into digital form. At this stage, the preparation of the electronic module uses the Sigil application. And the third stage is conducting an evaluation, namely testing the product prototype and the results of the trial will be revised. By developing electronic module, it will help students understand Digital Learning material in lectures. The materials in electronic module must be understood by student and student must know the meaning of what they are learning, therefore teachers can use teaching material in the form of electronic module so that students can understand the concept of subject matter [17].

Understanding the concept is a very important aspect in learning, because by understanding the concept of student can develop their abilities in each subject matter. Electronic module can assist and facilitate educators in delivering material in the learning process [18]. Electronic module are selected in the discharge of problems related to improving the quality of learning in the subjects of physics because it can facilitate communication between learners and educators, subject matter and among fellow learners in terms of the situation, condition, time or place [19]. This is because learning with electronic module can not only be done during school hours but can also be outside school hours [20].

**4. CONCLUSION**

Based on the result of the study it can be concluded that the research is the early stage of research on the development E-module for Digital Learning courses. This initial needs analysis is needed to see to what extent this E-module is effectively used in lecture activities. The next research stage is to develop module and convert the module into E-module using the Sigil Application. It is hoped that other researchers can develop E-module with various types of applications so that in their application they can attract students interest in using E-module as teaching materials in lecture activities. The use of media in learning becomes one of effective ways that is combined with learning model which demands the students to be active. One of learning media and models that can be utilize in learning is Electronic Module or E-Module. An electronic

module can be utilize to support the effectiveness of Digital Learning lecture become interesting and student are motivated. An electronic module is expected will help the reach of learning objectives and maximal learing outcomes.

## ACKNOWLEDGMENTS

We would like to our deepest gratitude for Rector Sriwijaya University for supporting this research. The research of this arcicle was funded by DIPA of Public Service Agency of Sriwijaya University the year 2020. SP.DIPA-023.17.2.677515/2020, Revision 1 on March 16, 2020. In accordance with the Rector's Decree Number: 0684/UN9/SK.BUK.KP/2020, on July 15, 2020.

## REFERENCES

- [1] Yulando Steven. Sutopo. Tabughang Franklin Chi. Electronic Module Design and Development: An Interactive Learning. American Journal of Educational Research, 2019, Vol.7, No. 10, 694-698. DOI:10.12691/education-7-10-4
- [2] Ariani, N., & Haryanto, D., Pembelajaran multimedia di sekolah. *Jakarta: Prestasi Pustaka*, 2010.
- [3] Permendikbud of the Republic of Indonesia, Basic Framework and Curriculum Structure of Senior High School/ Madrasah Aliyah No.69 in year 2013. Jakarta, 2013.
- [4] Prasmala ER dan Tanggu ED. Needs Analysis of Digestive System Module Development with Make a Match Learning Model Based on Digital Daily Assesment. PEDAGOGIA: Jurnal Pendidikan. 2020. <https://doi.org/10.21070/pedagogia.v9i1.266>.
- [5] Fengki Adie Perdana. Sarwanto. Sukarmin. Imam Sujadi. Development of e-module Combining Science Process Skills and Dynamics Motion Material to Increasing Critical Thinking Skills and Improve Student Learning Motivation Senior High School. International Journal of Science and Applied Science: Conference Series, 2016. doi: 10.20961/ijsascs.v1i1.5112.
- [6] Ahmad Jaenudin. Baedhowi. Tri Murwaningsih. The Effectiveness of The E-Module of Economics Learning on Problem Based Learning Used To Improve Students Learning Outcomes. *Advances in Social Science, Education and Humanities Research (ASSEHR)*, volume 158. International Conference on Teacher Training and Education 2017 (ICTTE 2017).
- [7] Fausih, M. Tandionomanu. Development Electronic Module as A Media for Subjects Productive Installing LAN for Participants Class XI Department of Computer Network Engineering at SMK Negeri 1 Labang Bangkalan Madura.2015.
- [8] Taiwo, S. Teachers Perception of The Rule of Media in Classroom Teaching in Secondary Schools. *The Turkish Online Journal of Educational Technology-TOJET*, 8 (1), 75-83. 2019.
- [9] Hamidi, S. Designing Teaching and Learning Activities so Entertaining, The Edudtainment Method Makes Students Creative and Comfortable in Class. Yogyakarta: Divapress, 2012.
- [10] Munir. Multimedia: Concepts and Applications in Education. Bandung: Alfabeta, 2013.
- [11] Asyhar, R. Creatively Develop Learning Media. Jakarta Reference, 2012.
- [12] Nina Ikhwati Wahidah. Nurdin Ibrahim. Suyitno Muslim. E-Module: Design A Learning Material With Rowntree and Hannafin Model For Higher Education. International Journal of Scientific&Technology Research Volume 8, Issue 12, December 2019. ISSN 2277-8616.
- [13] Januszewski. A. Educational Technology Development of A Concept. United States of America: Unlimited Libraries. 2001.
- [14] Jonassen, DH. Handbook of Research on Educational Communications and Technology, Second Edition. London: Lawrence Erlbaum Associates Publishers.
- [15] Dere. R. Preparing Materials for Open Distance and Flexible Learning and Action Guide for Teachers and Trainers. London: Koga Page. 1994.
- [16] Salma Dewi Prawiradilaga. Instructional Design Principles. Jakarta: Kencana Prenanda Media Group. 2008.
- [17] Hayati Nufus. Susilawati. Reza Linda. Implementation of E-Module Stoichiometry Baased on Kvisoft Flipbook Maker for Increasing Understanding Study Learning Concepts of Class X Senior High School. *Journal of Educational Sciences Vol.4 No.2 (April, 2020) 261-272*. E-ISSN 2581-2203.
- [18] Sendari, S. Ratnaningrum, R. Ningrum, M. L. Ratnawati, Y. Rahmawati, H. Matsumoto & Rachman. Developing E-Module of Environmental Health for Gaining Environmental Hygiene Awareness. IOP Conference Series: Earth and

Environmental Science, 245(1), 12023. IOP Publishing.

- [19] Darmaji, D. Kurniawan, D.A. Astalini, A. Kurniawan, W. Anwar, K. & Lumbantoruan, A. Students Perceptions of Electronics Module in Physics Praktikum. *Journal of Educational and Learning*, 13(2), 288-294. 2019.
- [20] Murai, A. S, Vijayragavan, K, Singh, P & Balakrishnan, R. Designing and Validating an e-learning Module for Agricultural Research. *International Journal of Research in Social Sciences*, 6(4), 124-140. 2016.