The Development of Learning Material of Hybrid Learnings Based to Improve Students Learning Outcomes of Introduction to Microeconomics

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Abstract. One of the implementations of information and communication technology (ICT) in teaching & learning is through hybrid learning which is a combination of face-to-face instructional methods and online learning to answer the challenges of the fourth industrial revolution. This study aims to determine the effectiveness of learning outcomes Introduction to microeconomics with hybrid learning. This research uses a research and development method. Data collection was carried out by conducting one to one formative evaluation and limited trials and tests after the learning process. The results of this study indicate that hybrid learning teaching materials effectively used in introductory learning in microeconomics.The t-test at α 0.05 stated that the learning outcomes of introduction to microeconomics were taught by hybrid learning is higher than the group of students who were taught by direct learning

1. Introduction

Introduction to microeconomics courses is part of the curriculum which is a subject of compulsory study in the Unimed economic education department with 3 credits weight. This course is very important considering that this course is a basic economic course that competence must be mastered by students as professional candidates for SMA / MA / SMK (high school and vocational school) economic teachers.

In an effort to maximize the introduction to microeconomics learning, teaching materials are available in the form of textbooks compiled by the KDBK team, but these teaching materials have not been packaged in module form and have not gone through the research and development (R & D) process, have been validated, analyzed and developed before. Besides that the introduction to microeconomics teaching materials have not been packaged in a hybrid learning network or so that students can learn anytime and anywhere using their computers and smart phones.

The consequences of this condition have an impact on student competence that is less satisfying. This condition can be seen from the data of student learning 2017/2018 odd semester which shows that class A with 44 students only 3 people (0.06%) get the maximum grade A. For class B with the number of students 37 people only 2 people (0.05%) who get the maximum value of A. Other phenomena can be seen through discussions with lecturers of KDBK micro teaching, one of the weaknesses is the lack of students' ability to master the material to be taught. This condition is

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suspected that when students attend introduction to microeconomics courses, they do not have optimal competence.

Based on in-depth interviews with 10 students from different classes, information was obtained that one of the causes of this condition was the teaching materials used in lectures that had not been standardized and were not attractive because they were still conventional and had not utilized information technology. Students also said that they wanted the need for IT-based module teaching materials in the form of hybrid learning. The need for teaching materials with hybrid learning is because the competence in this course is in the form of skills in calculating, analyzing and describing curves. In order for students to master this competency to the fullest, students must learn independently about the procedures for calculating, analyzing and describing curves on microeconomic problems.

This phenomenon certainly cannot be left behind, because it is feared that as prospective teachers they do not have professional competence that is capable when becoming an economics teacher, so that the profile of economic education department alumni become professional economics teachers in SMA / MA / SMK cannot be realized.

The effort that can be done to overcome the above problem is by developing teaching materials for introduction to microeconomics learning on hybrid learning. Hybrid learning is a combination of face-to-face learning strategies and online learning strategies that students will use independently to repeat their learning whenever and wherever students are.

In the 21st century, today's students represent the first generation who grew up with new technology and are regarded as Z-generation digital natives. They spend their entire lives surrounded by and using computers, videogames, digital music players, video cameras, cell phones, and all toys and other tools from the digital age. Today, college graduates spend an average of less than 5,000 hours reading in their lives, but more than 10,000 hours of playing video game (not to mention 20,000 hours of watching TV) [1]

It was further explained that computer games, e-mail, the Internet, cell phones, and instant messaging are integral parts of their lives. Under these circumstances, policy makers of the school system must carry out renovations to educate a new generation. In connection with this phenomenon, if it is associated with learning, the teaching materials used in learning should be in line with the development of the 21st century.

Teaching materials are a set of material that is systematically arranged that allows students to learn and adapt to the existing curriculum. Teaching materials are devices that contain material or content of learning to achieve learning objectives. A teaching material contains material or content in the form of ideas, facts, concepts, principles, rules, or theories that cover the subjects according to their discipline and other information in learning.

One of the many type of teaching material is module. Module is all forms of independent learning units designed for use by participants without the need to be guided by instructors / lecturers. So, the module is an independent learning material specifically designed so that it can be studied by itself anytime, anywhere, by participants without the presence of instructors / lecturers. [2]. Usually the module is packaged in print, otherwise known as a print module. But, in online learning, the module can be packaged in the form of an online or hybrid module. "Hybrid" or "mix" is a name commonly used to describe courses that combine face-to-face classroom instruction with online learning. Hybrid learning based modules are learning that combines strategies for delivering learning using face-to-face activities and online (discussion / chat forums). Through hybrid learning based learning students are expected to be able to learn independently, sustainably, and develop throughout life so that learning will be more effective, more efficient, and more interesting [3]. Furthermore, Shea, Joaquin and Gorzycki [4] state that hybrid learning, which combines face-to-face and online activities, is the fastest growing course in higher education.

Learning through this hybrid module has the advantage for students: (1) having greater time flexibility, freedom, and comfort by working part-time online from home (2). tend to interact more with lecturers and fellow students because there are many opportunities to do it both in class and online. (3) has access to the latest unlimited resources available via the Web. (4). can participate more in class discussions because they can choose an online or face-to-face environment where they feel more comfortable. (5). usually receive more feedback, and more frequent feedback from lecturers. (6). can acquire useful skills from using the Internet and computer technology.

Furthermore, Shea and Bidjerano [5] explained that by using hybrid learning students have the opportunity to interact with lecturers, students with students and this interaction significantly influences learning outcomes. Online learning through hybrid is a fast-growing component of education (Means et al. 2009). Today many experts agree that mixed or hybrid learning, namely learning that combines face-to-face and online learning, is the most promising approach to increasing access to higher education and student learning outcomes [6]. In fact, the number of universities that use mixed courses is growing rapidly. Some estimate that between 80 and 90 percent of college and university programs will someday become hybrids and show that the number of integrated learning classrooms has increased 30 percent each year [7].

This hybrid module element is the same as the print module, but because it will be presented online, the elements of this module are presented in online media. These elements are: (1). Preliminary Section; contains a brief description, relevance, learning instructions and learning outcomes. All components are presented in the form of fragments of digital material such as descriptive text on the web, presentation slides (ppt), text (pdf), video, animation and others. (2) Core Section; contains a description or explanation of the material, examples, illustrations, exercises and others. The material is presented in the form of fragments of digital material such as descriptive text on the web, presentation slides (ppt), text (pdf), video, animation and others. (3) Closing Section; contains summaries / conclusions, tests, assignments, answer keys, reference lists and others. These components are presented in the form of fragments of digital material such as descriptive text on the web, presentation slides (ppt), text (pdf), video, animation and others. [2]. This hybrid module will be arranged in e-learning Moodle platform.

Method

This research uses development research methods. The purpose of development research according to Borg & Gall [8] is to develop and validate educational products.

According to the opinion, this study uses a development model adopted from Dick & Carey [9]. The stages of implementing the development consist of 1). Pre-Development 2). Early Development, 3). Development of teaching materials and field trial validation and 4). Field trials and application of teaching materials.

The research subjects in this study were lecturers and students of economic education study programs. The study was conducted for six months in the Economic Education Study Program, Universitas Negeri Medan

3. Result and Discussion

Based on the requirement analysis, it is known that the competencies that must be mastered by students are: 1) able to distinguish the basic concepts related to micro and macroeconomics as well as the problem, 2) able to analyze demand and supply, 3) able to analyze equilibrium prices on the market, 4) Able to analyze the concepts of elasticity of demand and supply, 5) able to analyze consumer behavior theory, 6) able to analyze production costs of a company, 7) able to analyze production to plan maximum profit, 8) able to distinguish market structures, and 9) able to analyze the production factor market.

Modules are said to be practical based on analysis using the Likert scale according to the Table 1.

Table 1. Practical classification of teaching materials

| Skor	Level of Validity
4,2 s/d 5.0	Very practical
3,4 s/d 4,1	Practical
2,6 s/d 3,3	Less practical
1,8 s/d 2,5	Not practical
1,0 s/d 1,7	Very Unpractical

The next step is to analyze the requirement analysis development of teaching materials. The complete score for the analysis of the needs of teaching materials is in Figure 1.
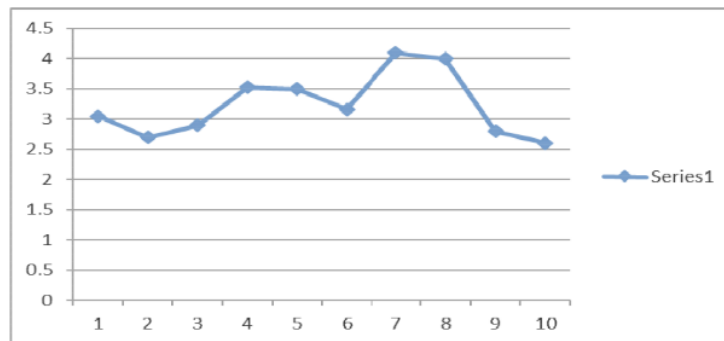
Figure 1. Mean Score Requirement Analysis of Teaching

Teaching materials are also validated by involving three experts, namely experts in the field of economic education, experts in the field of learning design, and experts in IT-based media. Based on the evaluation, the average score given by the material expert validator was 3.55, for design experts gave an average score of 3.7, and media experts gave a score of 3.66..

Then one to one evaluation is conducted. Students who are assigned as subjects are three people. These three people with the criteria of one student who has abilities above average, one with average ability and one person with abilities below average. The average score of the instrument filled in by three respondents can be seen in Figure 2.
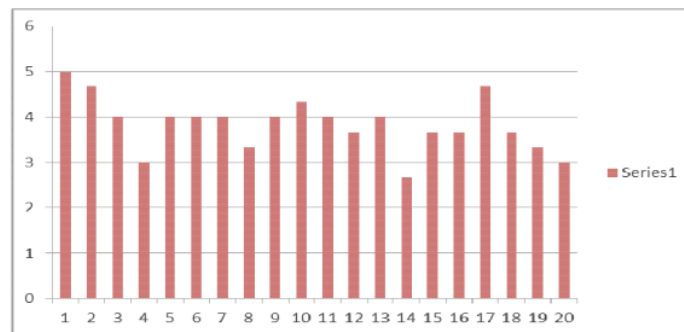
Figure 2. Mean Score of One to One Evaluation

To test the effectiveness of hybrid learning teaching materials, teaching materials were tested in two classes, namely class A as the experimental class and class B as the control class. At the end of the experiment, it was found that the average student learning outcomes using hybrid learning was higher than the average learning outcomes of class B students who did not use microeconomic introductory teaching materials

Table 2. Descriptive Statistics on Learning Outcomes of Students in Experimental Class and Control Class

Statistic	HYBRID LEARNING (Experimental class)	Direct Learning (Control Class)
Mean	76,37	71,80
Minimum	55,86	55,86
Maximum	94,08	85,26
Std.Deviation	10,89	7,612

To be more convinced of the differences between classes, t-test for equality of means were conducted. The complete statistical test can be seen in table 2.

Table 3. T-Test for Equality of Means

		t	Df	Sig	Mean Differrence	95% Interval		Confidence
						Lower	Upper	
Learning outcomes	EquaVariances not assu	2,31	78,9	0,023	4,57	.645	8.50	

From the statistical test, it can be seen the results of the calculation of differences in learning outcomes for the introduction to microeconomics students taught by hybrid learning and direct learning strategies having a sig value = 0.024 with a significance level of 5%. This result means that the results of introduction to microeconomics learning between control groups with direct learning and experimental groups with hybrid learning are significantly different, so the application of hybrid learning has an effect on students' introduction to microeconomic learning outcomes..

4. Conclusion

Based on the results and discussion can be summarized as follows:

1. Hybrid learning teaching materials effectively used ini introduction to microeconomics.
2. Learning outcomes of introduction to microeconomics were taugh by hybrid learning is higher than the group of students who were taught by direct learning

5. Acknowledgments

References

[1]   Ceylan, Veysel Karani and Ayşe Elitok Kesici. 2017. "Effect of Blended Learning to Academic Achievement*." Journal of Human Sciences* **14**.

[2]   Dirjen Belmawa 2018. Petunjuk Teknis Pengembangan Modul Hybrid Learning PPG dalam Jabatan, Jakarta, Direktorat Pembelajaran Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kemristek Dikti

[3]   Tuapattinaya (2017) Pengembangan Media Pembelajaran Biologi Berbasis Hybrid Learning Untuk Meningkatakan Hasil Belajar Siswa Pada SMP Negeri 6 Ambon. *Jurnal Biology Science & Education*, **1** edisi jul-des.

[4]   Shea J. Joaquin M. E. Gorzycki M. (2015). Hybrid course design: Promoting student engagement and success. *Journal of Public Affairs Education, 21*, 539–556

[5]   Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, selfregulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education, 55*

[6]   Means, B. (2010). Technology and education change: Focus on student learning. *Journal of research on technology in education, 42*(3), 285-307

[7}   Horn, M. B., & Staker, H. (2011). The rise of K-12 blended learning. *Innosight institute, 5.*

[8]   Borg, Walter R., & Gall, M.D. (1983). *Educational research: An introduction (4ed)*. New York & London: Longman.

[9]   Dick, W., Carey, L., & Carey, J.O. (2001). *The systematic design of instruction (5th ed.)*. New York: Longman

Appendix

Requirement analysis of teaching material

No	Question	Mean Score
1	Have you been able to follow the introduction to microeconomics learning well and pleasantly?	3,05
2	Do you think that the competencies or abilities possessed by students after participating in the introduction to microeconomics courses are right?	2,7
3	In my opinion, introduction to microeconomics lecture material is difficult to understand!	2,9
4	What do you think about teaching materials for introduction to microeconomics during this time?	3,53
5	I am happy in using textbooks, modules, or textbooks to understand lecture material.	3,5
6	What do you think about the contents of the introduction to microeconomic material that you have been participating in so far?	3,16
7	Do you like and need an e-learning (hybrid learning) based teaching materials?	4,1
8	How do you think about e-learning (hybrid learning) based learning?	4
9	What competencies do you get after participating in introduction microeconomics courses according to the needs of stakeholders?	2,8
10	Are the competencies that you have acquired after attending the introduction to microeconomics course is satisfying?	2,6

One to one evaluation

No	Aspek yang ditanyakan	Skor rata-rata
1	I enjoy and feel happy in the Introduction to microeconomics lectures	5
2	I enjoy learning new information	4,66
3	Learning materials for hybrid learning based on the introduction to microeconomics make it very easy for me to learn because the readability is very clear and easy to understand	4
4	I took the initiative rather than before	3
5	I feel comfortable expressing ideas and thoughts in my team	4
6	Through learning with teaching materials, it makes me more	4

	interested in learning Introduction to microeconomics because it is equipped with teaching materials based on hybrid learning	
7	I am easier to interpret and use information effectively	4
8	If I face a problem that I cannot solve, I still try to find a solution by referring to this teaching material	3,33
9	I feel that I am not confined in learning because I get many free sources of information in a way that I like	4
10	In learning, I am more systematic both in managing study time, learning resources and learning processes	4,33
11.	The material in introduction to microeconomics is a competency that stake holders really need	4
12. .	I became more confident in learning by using this introduction to microeconomics teaching material	3,66
13.	I am more understanding and be able to measure the effectiveness of the solution with this teaching material	4
14	I am very easy to know the standards that I want to get from students through introduction to microeconomic teaching materials	2,66
15	You often get a clear idea of where you want to go and what is expected of you in this course using this teaching material	3,66
16	It is very difficult to find what is expected from this course	3,66
17	The objectives and expectations of this course are unclear	4,66
18	By applying this teaching material, I am more critical of identifying issues concerning introduction to microeconomics	3.66
19	I have been able to engineer ideas to find solutions to problems in introduction to microeconomics	3,33
20	I have obtained a holistic competence about Introduction to microeconomics by using this teaching material	3

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