International Journal of Engineering & Technology, 7 (4.33) (2018) 134-137

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

Edmodo Based E-Learning as a Media of Construction Building Learning

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Abstract

Edmodo based E-Learning is a social learning platform for teachers/lecturers, students or for parents that developed in late 2008 by Nic Borg and Jeff O "Hara Edmodo based E-Learning developed based on the principles of group based on class management and also social media. Edmodo based E-Learning is very comprehensive because access is faster and easier to use by using some of the features that function like course management systems. The learning process using teaching materials with Edmodo based E-Learning can be used as a reference in developing appropriate teaching materials for other materials to increase the level of thinking probabilistic learners. Edmodo is certainly a good choice for learning in the fourth industrial revolution era. This study is a literature that tries to express the ideas associated with the use of Edmodo based E-Learning in Building Construction Learning. This study has the following objectives: (1). Describe criteria of Edmodo based E-Learning that good. (2). Describe the material in accordance with the Edmodo based E-Learning in Building Construction learning. (3). Describing the use of Edmodo based E-Learning in Building Construction learning.

Keywords: *E-Learning; Edmodo; Building Construction.*

1. Introduction

The development of science and technology to this day continues to experience significant improvement, one of which is the medium of learning. Indonesia has entered the 21st century where technology is nothing new in the world of education. Learning materials are present, not only in the form of printed books, but also can be downloaded (journal or an e-book) which can be found using search engines. On the other hand, not only learning material, now there's even a school, the course or university that uses the tools so that the learning process can be done without any face to face process between teachers and students. Learning tool that is widely used is commonly called the E-Learning. Use of information technology aims to encourage the implementation of effective learning as listed in the content of Education and Culture Minister Regulation No. 65, 2013 on the use of information technology to improve the efficiency and effectiveness of learning by E-Learning or Online Learning is a system and learning process conducted online using Internet technology [1]. Various online learning system created and many agencies or educational institutions are beginning to apply and add a system of E-Learning in Formal and regular learning. One of the E-Learning learning is Edmodo [2]. Edmodo is a free service that allows lecturers/teachers can create and maintain their own class community with a safe and comfortable. Edmodo is a social media platform that is often described as Facebook to school and be able to work more according to need [3]. This study is a literature that tries to express the ideas associated with the use of Edmodo based E-Learning in Building Construction learning. The problems are about to be assessed in this study were (1). How the criteria of the Edmodo based E-Learning that good? (2). How to determine the appropriate materials with Edmodo based E-Learning in Building Construction learning? (3) How the use of Edmodo based E-Learning in Building Construction learning? This study has the following objectives: (1). Describe criteria of Edmodo based E-Learning that good. (2). Describe the material in accordance with the Edmodo based E-Learning in Building Construction learning. (3). Describing the use of Edmodo based E-Learning in Building Construction learning. E-Learning can be interpreted "as instruction delivered on a computer by way of CD-ROM, Internet, Intranet or ..." [4]. According to The American Society for training and together". This means that this type is the type of learning that takes place at the same time when teachers are teaching and the students are learning. While type Asynchronous means "not at the same Development (ASTD) "E-Learning is a process and activities of the implementation of web-based learning, computer based learning, virtual classroom and or digital classroom. Materials in electronic learning activities are mostly conducted through the internet, intranet, video or audio tape, broadcast via satellite, interactive television and CD-ROM "[5]. Based E-Learning type is divided into two: Synchronous and Asynchronous. Synchronous mode means "at the time together". This means that this type is the type of learning that takes place at the same time when teachers are teaching and the students are learning. While type Asynchronous means "not at the same time". So one can take lessons at different times with the instructor provides lessons. Edmodo is a platform of social learning for teachers/lecturers, students or for parents that developed in late 2008 by Nic Borg and Jeff O 'Hara

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who feel the need to grow in the school/college to reflect that the world is increasingly global and connected, then they create a tool/application that can close the gap between how students live their lives and how they learn at school/college, for that was the Edmodo there [6]. Edmodo created as a learning platform for social networking teachers/lecturers, students, and parents. Edmodo is developed based on the principles of group-based class management and also social media. Edmodo is very comprehensive as course management systems such as Moodle, the difference is the access faster and easier to use by using some of the features that function like course management systems.

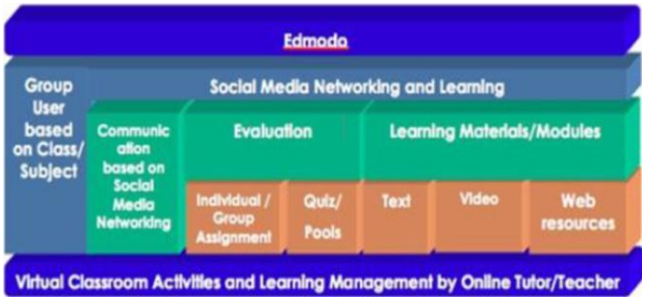

Fig. 1: Edmodo's Media

In accordance with the figure 1, Edmodo is developed on the basis of principles-based classroom management group and also social media. The main features of Edmodo is the active support of the communication model of online social media, supplemented with online features and online learning material evaluation. In fact the process of learning in the classroom are still many who do not take advantage of Edmodo based E-Learning with a variety of reasons, including reasons do not want to because it's too hard, cannot utilize or infrastructure reasons that do not support. Particularly on the subjects of building construction which was never put on Edmodo based E-Learning. The learning process is still manual makes less active students in the classroom. Though based learning such as Edmodo web page is very good and memorable to the students because they are able to develop new knowledge and be useful to themselves, here is a picture of learning process by E-Learning is Edmodo. It required Edmodo's media learning highly functioning than can be used for students and teachers, can also be used by parents to monitor their learning progress by signing up for an account as a parent. Parents of students who already have an account of the Edmodo can join in a group where children enrolled in the group to seek approval from the teacher first. So that the learning and teaching of the building construction learning in the classroom that was once just a conventional classroom into classes more varied and interactive

2. Methodology

The research method used was a literature review by reviewing the literature related to the research topic. Theories and ideas contained in literature sources used as a basis for researchers to describe, analyze and bring new ideas in answer to the problems surrounding the use of instructional E-Learning's media in Building Construction learning.

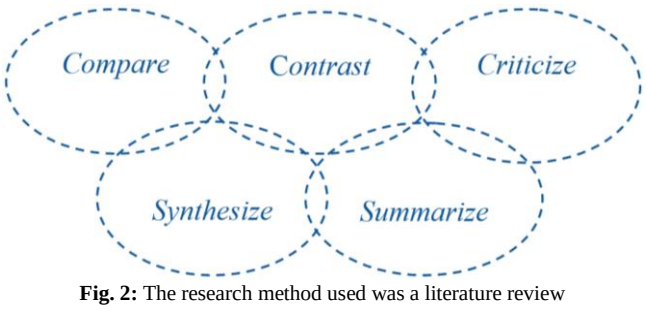

Fig. 2: The research method used was a literature review

3. Results and Discussion

E-learning is a learning process carried out through a network so that it allows the delivery of teaching materials to students using ICT media in the form of computers and internet or intranet networks, with thus learning can be carried out anytime, anywhere, through any pathway and the learning process can take place efficiently and effectively [7]. Flexible Design for E-Learning Programs Will Survive and Grow in E-Learning courses provide opportunities for professionals to analyze how learners get information and can predict which is best for them in terms of content and delivery helping in designing high quality modules to meet individual student needs. Flexible Design helps to succeed in this growing digital landscape. Changes in previous learning will offer new career opportunities for students in the latest trends. Large data analysis analyzes which eLearning strategies function and provides which strategies do not help in terms of achieving eLearning goals [8]. The current development is generally E-Learning widely adopted are web based. That is because it is supported progress and spread of the Internet. In class E-Learning can be applied according to the learning model used and the subject of learners in the classroom. One example on E-Learning learning can be applied to visualize the subject matter of Building Construction learning in interactive video about the simulation bricklaying, roofing installation, or the introduction of building materials. Before that, to achieve learning using Edmodo based E-Learning, needs to be known in advance about the criteria of E-Learning's media is good, determines the media content suitable for E-Learning in the learning of Building Construction.

3.1. The Media's Criteria of the Edmodo based E-Learning

The media's criteria of the E-Learning are good according to [9] are as follows:

1. Template interesting
2. Have Features Communications
3. Have Features Post
4. Having Library
5. Have Features assignment and Quiz
6. Have Features Polling
7. Have Features Progress Report
8. Have Features Student Profile

In addition to the 8 criteria, according to [10] in the learning process the content plays an important role because it is directly related to the learning process of learners. Content is learning objects that became one of the parameters of the success of E-Learning through type, content and weight of the content. E-Learning system should be able to:

1. Provide content that is i.e. teacher-centered instructional content that is procedural, declarative and well-defined and clear;
2. Provide content that is learner-centered content that presents the results (outcomes) of instructional focused on the development of creativity;
3. Provide a working example on the material content for ease of understanding and backing given the opportunity to practice;
4. Adding content of educational games as media practice questions making tool.

Meanwhile, according to [11] speed, link structure and browser compatibility is also an important aspect of E-Learning's media criteria were good. Some other woods principles in making learning website or the website of E-Learning by [7, 10], among others:

1. Formulate learning objectives;
2. Introduce learning materials;
3. Provide assistance and convenience for learners to study the learning materials;

4. Provide assistance and convenience for learners to do the tasks with clear directions and instructions;
5. Learning materials are delivered according to prevailing standards in general, and in accordance with the level of development of the learner;
6. Delivered with a systematic learning materials and capable of providing motivation to learn, and at the end of each learning material made the summary;
7. Learning materials delivered in accordance with reality, so easily understood, absorbed and practiced directly by the learner;
8. Explanation method is effective, clear, and easily understood by the learner with accompanying illustrations, examples and demonstrations;
9. As a means to determine the finish learning for sustainability, then it can be evaluated and request feedback from the learner.

3.2. The Material Accordance with the Edmodo Based E-Learning in Building Construction Learning

Implementation of learning through E-Learning, not all of the subject matter can or should be presented electronically [12]. To understand this can be used philosophy of E-Learning by Cisco [5] as follows. First, E-Learning is the delivery of information, communication, education and training on-line. Second, E-Learning provides a set of tools that can enrich the learning value in the conventional so that it can respond to the challenges of globalization. Third, E-Learning does not mean replacing the conventional model in the classroom, but reinforce the learning models through the enrichment of content and the development of educational technology. The use of E-Learning as a complement to the learning media in Building Construction subject matter can be seen from the plan of activities listed in Learning Implementation Plan (RPP). RPP listed on the preliminary plan of activities, core activities and cover. So that in the discussion of the application of E-Learning as a complementary media will be discussed on learning scenarios listed in the Learning Implementation Plan (RPP). At its core activities made the draft as follows: (1) The teacher called on students to open the site www.edmodo.com or download via mobile phones with google play; (2) Teachers lead student's usability features that exist in the site; (3) Teachers guide students to understand the material construction of buildings; (4) Teachers engage students in using simulation introduction of building materials or test of wood, brick, tile, slump; (5) Students pay attention and active discussions. In the closing activity created the design as follows: (1) The teacher gives awards to groups that have a good performance and cooperation; (2) Teachers together students to make conclusions about the matter under discussion; (3) The teacher gives a task associated with the material.

3.3. Utilization of E-Learning in the Building Construction Learning

Misunderstanding is happening now is the E-Learning is projected as a substitute for conventional teaching methods, but it turns out the E-Learning cannot replace the role and benefits of conventional teaching methods. This happens because the teaching methods used in E-Learning cannot compete with conventional methods of face to face interaction. As a result, up to this time, E-Learning with different strengths more suitable role as a complement to conventional teaching methods. By applying the RPP have been made, both qualitatively expected to represent the E-Learning, which serves as a supplementary learning materials. The goal is that further strengthen the learners' level of mastery of the subject matter that has been received in the classroom, as well as demanding the liveliness and creativity of learners [13, 18]. Construction material is large enough and dense with a number of meetings was deemed less then contributed background for the use Edmodo in this matter in order to provide sufficient time for student learning. Suppose this meeting four times students do a major learning process in the classroom and outside the classroom using Edmodo. At the first meeting for the introduction of material building materials organizes teachers in the classroom with method of constructivist method of discussion, and PBL. Each finished learning process, teacher do post updates related to the material presented at the first meeting. Update this post could be a summary of the teacher's explanations are easy to understand associated with explanations or results of the analysis of the material. This is important because not all students are able to capture the full explanation of the teacher while in class. Through this feature will give the advantage that the students' understanding of the explanation the teacher in the classroom and outside the classroom will be the same. Therefore, at each end of the course teachers need to remind students to use Edmodo. Teachers through Edmodo provides a topic for discussion online. As supporting material discussion teacher provides another source that has been stored in the library of Edmodo, or students seeking other sources that are still relevant to the topic. The findings of the discussion then brought back into the classroom to discuss with the teacher. To maximize building construction learning, when the lecturer in class discussion should be open Edmodo and displays the results of discussions that the students do on Edmodo, it is important to reward students who are active and motivated students who have little or no active discussion on Edmodo. Teachers also must be ready to respond to questions from students that are sent through Edmodo, in order to avoid delays which led to the declining interest of students. Teachers also need to pay attention to students with learning speeds above average by facilitating them, which gives a new problem/enrichment with customized format associated with the material. Because one of the advantages Edmodo is able to provide an enrichment program. In addition, the learning process using teaching materials with Edmodo can be used as a reference in developing appropriate teaching materials for other materials to increase the level of thinking probabilistic learners [14]. In the results of research conducted by [15] who studied Edmodo by senior lecturer mentioned that senior lecturers who are not accustomed to working with computers in this study recognize the social network Edmodo for learning through tutorials glimpse given by peers. Furthermore, the lecturer taught himself to use intuition and knowledge of the Internet (www.etiktutor.org). To understand the functions and apply them in the learning group he had created with Edmodo. The senior lecturers have the perception that position on Edmodo to learning where the lecturer stated that the technical aspects and features of Edmodo is easy to understand and use for assisted E-Learning learning. Students have a positive perception of Edmodo where they stated 'agree' to most statements with respect to the ease in the technical aspects Edmodo and 'agreed' with some statement that says A student of the features of Edmodo. Edmodo so very good when applied and used by teachers and students in learning construction. This statement is also supported by the research of [16] which discusses about Development E-Learning to Improve Student Activity with Technological Pedagogical and Content Knowledge, from the results of the research shows that during the study, it appears that students are interested and enthusiastic to learn to use Edmodo, although a small percentage (25%) of students have technical difficulties in the early use of Edmodo. It appears as the result of observation during the learning process. The effect of a view of student learning activity before and after learning using Edmodo as Figure 3 that there are differences learning activity between before and after the student learns with the approach of online learning in teaching media course. Most of the student can learn independently with Edmodo in this course. Most of the student act downloading material, performing tasks and quizzes as well as other learning activities increases. The results are appropriate that in learning that integrates technology, students always play an active role to continually use technology to explore and gather information and to communicate their findings. This leads to a better synergy between their previous learning experience and new concepts or principles being taught.

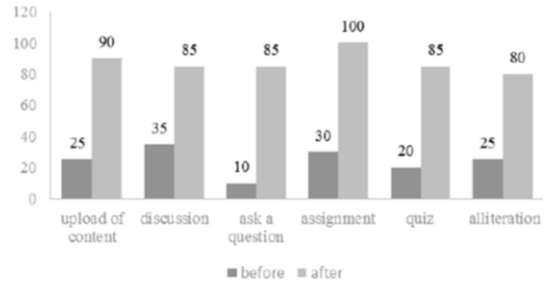

Fig. 3: Histogram of the observation result of a learning activity

From the results of these studies that Edmodo was chosen because this application in addition to the smooth operation is management and facilities that are more complete and preferred by students, because students and teachers do not need to come to class, they can study anywhere and anytime. In this stage the teacher makes a class with subjects that will be followed by students, formulates competencies, teaching materials, evaluation of learning and simultaneously to conduct polls for online learning activities. Edmodo is certainly a good choice for learning in the fourth industrial revolution era. Meanwhile, according to the results of research conducted by [17] which examined about Interaction Behavior on Edmodo in Biology: Integrating UTAUT Model, throughout the semester, some of the students reluctant to use Edmodo as subsidiary tool in learning Biology. This implies the lack of awareness among them on the advantages provided by Edmodo or they were not influenced by the educators, seniors and peers to keep on track with Edmodo. Referring to the demographic results, majority of students only spent less than one-hour surfing Edmodo per weekly. It is suggested that developing countries such as in Perak, Malaysia by which the technology diffusion and responsiveness is in moderately to low, students need to be influenced and motivated by educators, family, peers, group, communities or even authorities to adopt and use Edmodo educational plat-form. Similarly, in FC result and previous study, the lack of significant relationship to the IB suggests that availability of all resources does not necessarily scrutinize the interaction behavior of students towards the adoption of Edmodo. Nevertheless, Edmodo-based E-learning will facilitate learning of Building Construction because E-Learning can be a tool in the learning process. But it should be noted that social influence and facilitation conditions are very important. Because if it is not supported by this, Edmodo-based E-learning will be very difficult to run smoothly. To summarize, students hope to interact with social networks because their efficacy in improving their performance in building construction and surfing site learning is easy to use.

4. Conclusion

Edmodo based E-Learning as an alternative based learning offers many benefits. The use of Edmodo based E-Learning still have limitations to be reckoned with by any party wishing to participate in the learning process using E-Learning. E-Learning's media good is determined by templates and other features. This media can be likened to a virtual classroom which will be attended by learners. This class will appeal or not first determined by the visual comfort of the E-Learning-related. The media became a key element of the first to demand by learners. It is based on the principle that the media has a function to draw the attention of learners who lack interest in learning. Besides speed, link structure and browser compatibility is also an important aspect of E-Learning's media criteria were good. E-Learning system should be able to: (1) Provide content that is teacher-centered instructional content that is procedural, declarative and well-defined and clear; (2) Provide content that is learner-centered content that presents the results (outcomes) of instructional focused on the development of creativity and maximizing independence; (3) Provide examples of work on the material content for ease of understanding and backing given the opportunity to practice; (4) Add the content of educational games as media practice questions making tool. The subject matter is not all of them can be applied in Edmodo based E-Learning, the material that can be applied is material that is relatively difficult to be understand and material that is quite a lot. This condition requires more learning time than the time provided in class example of Building Construction material is large enough and dense with the number of meetings was deemed less. Besides, learners in this case requires more time to ask them to understand the difficulties associated with temporary materials for students who have studied at top speed on average require a faster means of developing States. This problem can be overcome by using an Edmodo based E-Learning, because the media is not bound by space and time, so students can ask and studied everywhere and everytime. In this study, the author uses a literature review research method, where the method used can be further developed to maximize the results obtained, so that the usefulness of this journal writing can be better with research methods in addition to literature review. Besides that, the teacher's advice is that the learning process using teaching materials with Edmodo can be used as a reference in developing appropriate teaching materials for other materials to increase the level of students' probabilistic thinking.

References

[1] Menteri Pendidikan dan Kebudayaan Republik Indonesia. (2013). Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia. https://luk.staff.ugm.ac.id/atur/bsnp/Permendikbud65-2013SI.pdf.
[2] Dharmawati. (2017). Penggunaan media e-learning berbasis edmodo dalam pembelajaran English for Business. Jurnal Penelitian USD, 18(2), 102-112.
[3] Seamolec. (2013). Buku sumber simulasi digital. Seamolec.
[4] Clark, R. C., & Mayer, R. E. (2008). E-learning and the science of instruction: Proven guidelines for consumers and designer of multimedia learning. Pfeiffer.
[5] Rusman. (2012). Seri Manajemen sekolah bermutu model-model pembelajaran mengembangkan profesionalitas guru. PT Rajagrafindo Persada
[6] Nu'man, A. Z. (2014). Efektifitas penerapan e-learning model Edmodo dalam pembelajaran Pendidikan Agama Islam terhadap hasil belajar siswa (Studi kasus: SMK Muhammadiyah 1 Sukoharjo). Jurnal Duta.com, 7(1), 1-13.
[7] Munir. (2010). Kurikulum berbasis teknologi informasi dan komunikasi. Alfabeta.
[8] Kusuma, S., & Viswanath, D. K. (2018). IOT and big data analytics in e-learning: A technological perspective and review. International Journal of Engineering andTechnology, 7 (1.8), 164-167.
[9] Yulius, D. C. (2015). E-learning (EDMODO) sebagai media pembelajaran sejarah. Jurnal Penelitian, 18(2), 102-112.
[10] Hanum, N. S. (2013). Keefektifan e-learning sebagai media pembelajaran (studi evaluasi model pembelajaran e-learning SMK Telkom Sandhy Putra Purwokerto). Jurnal Pendidikan Vokasi, 3(1), 90-102.
[11] Susanti, E., & Sholeh, M. (2008). Rancang bangun aplikasi e-learning. Jurnal Teknologi, 54(1), 53-57.
[12] Anitah, S. (2011). Media pembelajaran. UNS Press.
[13] Utami, R D., Akbar, M., & Megawaty. (2016). Analisis implementasi e-learning dengan Edmodo pada SMA Negeri 2 Lahat. http://if.binadarma.ac.id/sipi/jurnal/Jurnal-JURNAL2017_Rizky%20Dinung%20Utami_14142014P.pdf.
[14] Kurniasih, K., Sujadi, I., & Subanti, S. (2016). Pengembangan bahan ajar dengan Edmodo untuk meningkatkan level berpikir probabilistik siswa kelas VIII SMP Negeri 12 Surakarta. Jurnal Elektronik Pembelajaran Matematika, 4(10), 961-972.
[15] Mazal, J. (2014). Studi penggunaan jejaring sosial Edmodo sebagai media e-learning oleh dosen senior yang tidak terbiasa bekerja dengan komputer. Jurnal Edumatica. 4(1), 37-43.
[16] Setuju, S., Setiadi, B. R., Ratnawati, D., Widowati, A., Wijayanti, A., Johan, A, B., Robiasih, H., & Nurdiyanto, H. (2018). Development e-learning to improve student activity with technological pedagogical and content knowledge. International Journal of Engineering and Technology, 7(2.5), 100-103.
[17] Ashari, Z. S. M., Azmi., Yaacob, N. Y., Alshurdin, S. H. N., & Kim-Fatt, L. (2018). Interaction behavior on Edmodo in biology: Integrating UTAUT model. International Journal of Engineering and Technology, 7(3,7), 104-108.
[18] Ramdani, R., & Murdani E. (2014). E-learning sebagai media pelengkap pembelajaran konvensional pada pokok bahasan besaran dan satuan. Prosiding Pertemuan Ilmiah XXVIII HFI Jateng & DIY, pp. 396-399.