



Comprehensive Evaluation of E-learning System Using EUCS Method at SMPN 1 Tangerang Selatan

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Abstract

E_Learning as a distance learning system that is very supportive of learning during the Covid 19 era has been used at SMPN 1 Tangerang Selatan schools to this day. So far, the E_learning system that has been used has not carried out research related to the performance of the e-learning itself, so it cannot be known whether this e-learning as a learning system has provided benefits to students and teachers. For this reason, an evaluation has been carried out regarding the use of E-learning. The research was conducted at SMPN 1 which is located in South Tangerang. Data and data sources for research were obtained using a questionnaire technique. Given the limited number of study population, the side technique uses the saturated sampling method. The analytical method for obtaining the e-learning evaluation results at SMPN 1 has used the EUCS (Method End User Computing Statistics) approach. Based on the calculation results of data analysis, and the results of the discussion on the research that has been carried out, the variables are tested on all students and teachers. The evaluation results show that the satisfaction of E-learning users at SMPN 1 Tangerang Selatan, obtained a score of 4.01 which is equivalent to 95% and is classified as high because it is in the standard interval of 3.40 – 4.20. Furthermore, to improve the performance of supporting applications, these applications need to be updated to make them more attractive and the school management is also required to be serious so that the development of E-learning at SMPN 1 South Tangerang will be even better in the future

Keyword: E_Learning, Evaluation, Student Teacher, EUCS Method, SMPN 1 Tangsel

Abstrak

E_Learning sebagai sebuah sistem pembelajaran jarak jauh yang sangat pendukung pembelajaran di masa covid 19 telah digunakan pada sekolah SMPN 1 Tangerang Selatan hingga hari ini. Selama ini sistem E_learning yang sudah digunakan belum dilakukan penelitian yang terkait dengan performa e-learning itu sendiri sehingga belum dapat diketahui apakah e-learning ini sebagai suatu sistem pembelajaran telah memberikan manfaat kepada para siswa dan guru. Untuk itu telah dilakukan evaluasi terkait penggunaan E-learning tersebut. Penelitian dilakukan di SMPN 1 tersebut yang berlokasi di Tangerang Selatan. Data dan sumber data untuk penelitian diperoleh dengan menggunakan teknik kuisioner. Mengingat jumlah populasi penelitian terbatas, maka teknik sampling menggunakan metode sampling jenuh. Metode analisis untuk memperoleh hasil evaluasi e-learning pada SMPN 1 tersebut telah digunakan pendekatan EUCS (Method End User Computing Satisfication). Berdasarkan hasil perhitungan analisis data, dan hasil pembahasan pada penelitian yang telah dilakukan variabel yang diujikan kepada seluruh pelajar dan guru. Hasil evaluasi menunjukkan bahwa kepuasan pengguna E-learning di SMPN 1 Tangerang Selatan, memperoleh nilai 4,01 setara dengan 95% dan tergolong tinggi karena berada pada

interval standard 3,40 – 4,20. Selanjutnya, untuk meningkatkan performansi aplikasi pendukung, aplikasi tersebut perlu diperbaharui agar lebih menarik serta diperlukan juga keseriusan pihak manajemen sekolah sehingga pengembangan E-learning SMPN 1 Tangerang Selatan menjadi lebih baik di waktu yang akan datang

Kata kunci: E_Learning, Evaluasi, Siswa Guru, Metode EUCS, SMPN 1 Tangsel

PENDAHULUAN

At this time, almost all of our life activities are inseparable from technology, because by utilizing technology we will always be one step ahead in getting information. The application of technology is not only for companies, government agencies are also expected to apply advances in information technology to facilitate services to the community. The rapid development of information technology has greatly influenced various fields, including the field of education. Technological developments in education are now affecting learning media, which previously only used blackboards, or what could be called blackboards/whiteboards, now use LCDs, the Internet, and even distance learning. The rapid development of technology and informatics has touched all aspects of life, especially how the use of internet media in improving the quality of education. The internet has become an unavoidable part of everyday life, especially in the world of education, which is closely related to the needs of information technology-based concepts and teaching and learning mechanisms.

SMPN 1 Tangerang Selatan is one of the government agencies that takes advantage of technological and information developments by implementing an e-learning learning system that is useful as a means of supporting learning activities. The use of e-learning in learning must really be monitored for its implementation, not only that the implementation of the use of this technology has not been carried out optimally by schools and students. The disadvantages of implementing e-learning at SMP Negeri 1 South Tangerang are seen from the interactions between teachers and students or even between students themselves are still lacking. This lack of interaction can slow down the formation of values in the teaching and learning process, because apart from that the teacher's role in implementing e-learning-based learning is still just using it as additional learning, not as an application in everyday learning. Supporting infrastructure as a support for e-learning activities also found several shortcomings, such as the e-learning server is not strong if all students log in to e-learning. Based on the problems above, the researcher wants to evaluate e-learning at SMPN 1 Tangerang Selatan to measure the satisfaction level of users of the e-learning system. To understand this, research has been carried out to find information and evaluate e-learning services that are run by SMPN 1 Tangerang Selatan. The method used in evaluating e-learning has used the End Using Computer Statistics (EUCS) method, including the satisfaction of computer users [1-10].

KAJIAN LITERATUR

E-learning is an extension of electronic learning, which is an application created to connect educators with students in a virtual space on the internet for distance learning. E-learning was created to overcome the limitations of distance, time and circumstances between educators and students. In general, eLearning is defined as distance learning using computer technology or usually called the internet. In addition, E-Learning is also Web-based learning that can be accessed from the internet and E-Learning is also any learning that uses electronic circuits (LAN, WAN, or the internet) to convey learning content, interaction or guidance. Another opinion is that, E-learning is a process of instruction that involves users of electronic equipment in creating, assisting development, conveying information and facilitating the teaching and learning process where students are the center and is carried out interactively anytime and anywhere. Furthermore, E-Learning is a form of the concept of Distance Learning and the form of e-Learning itself is quite broad and is defined as a portal containing scientific information which can be said to be an e-Learning site. Electronic learning or eLearning began in the 1970s and various terms were used to express opinions/ideas about electronic learning, including: on-line learning, internet-enabled learning, virtual learning, or web-based learning. Based on these various definitions, it can be concluded that e-Learning is a process of instruction or learning that

involves the use of electronic equipment in creating, fostering, delivering, assessing and facilitating a teaching and learning process where the learner is the center and is carried out interactively whenever and wherever

Based on the technology used, e-learning is divided on the basis of technology, namely Computer Based Training (CBT). The content is in the form of material in the form of writing or multimedia (video and audio) in MOV, MPEG-1 or AVI format. By using the tools provided, users have the opportunity to try practice questions without limiting the number and level of difficulty. However, in e-learning with this concept, communication occurs only in one direction. People then use LMS (Learning Management System) along with the development of internet technology in the world. The need for information that is quickly obtained is absolute, and distance and location are no longer obstacles. This is where a Learning Management System or commonly abbreviated as LMS appears. The rapid development of LMS creates new ideas for overcoming interoperability problems between existing LMSs with a standard. Standards that emerge, for example, are standards issued by AICC (Airline Industry CBT Committee), IMS, IEEE LOM, ARIADNE, etc. Examples of these applications are Author and web-based e-learning applications. The development of LMS leads to a total Web-based e-learning application, both for students (learners) and teaching and learning administration. LMS began to be combined with portal sites which at this time became a barometer of information sites, magazines and world newspapers. The content is also getting richer with a combination of multimedia, video streaming, and interactive appearance in a variety of data format options that are more standard, small in size and stable.

E-learning functions have at least three functions of electronic learning for learning activities in the classroom (classroom instruction), namely as a supplement that is optional, complementary or substitute. First, it functions as a supplement, if students have the freedom to choose whether to use electronic learning materials or not. In this case, there is no obligation/requirement for students to access electronic learning materials. Even if it is optional, students who use it will certainly have additional knowledge or insight. Second, it is said to function as a complement (complementary) if electronic learning materials are programmed to complement the learning materials received by students in class. As a complement, it means that electronic learning material is programmed to become enrichment or remedial material for students in participating in conventional learning activities. The goal is to further strengthen the level of student mastery of the subject matter presented by the teacher in class. Third, as a substitute and several universities in developed countries provide several alternative models of learning activities to their students. The goal is that students can flexibly manage learning activities according to the time and other daily activities of students.

In general, the benefits of E-Learning can be seen from 2 angles, namely from the point of view of students and teachers. From a student's point of view, it is possible for e-Learning to develop high learning flexibility. That is, students can access learning materials at any time and repeatedly. Students can also communicate with teachers at any time. Under these conditions, students can further strengthen their mastery of the learning material. From the teacher's point of view, with the existence of e-Learning activities, some of the benefits that teachers get include that teachers can more easily update learning materials that are their responsibility in accordance with the demands of scientific developments that occur, Develop themselves or conduct research to increase insight and control student learning activities. Even teachers can also find out when their students study, what topics are studied, how long a topic is studied, and how many times certain topics are studied again. Finally, checking whether students have done practice questions after studying a certain topic, and checking student answers and informing students of the results

EUCS is a method for measuring the decision level of users of an application system by comparing the expectations and reality of an information system. The definition of EUCS is an overall evaluation of information system users based on their experiences in using the system. Evaluation using this model emphasizes end user satisfaction with technological aspects, with content, accuracy, format, ease of use and timeliness. This model has been tested by many other researchers to test its reliability and the results showed no significant differences even though this instrument was translated into different languages. The following is an explanation of

each dimension measured by the EUCS method [11-22], including the content dimension, which measures user satisfaction in terms of the contents of a system. The accuracy dimension measures user satisfaction in terms of data accuracy and the format dimension measures user satisfaction in terms of appearance and aesthetics of the system interface. The dimension of ease of use measures user satisfaction in terms of user convenience or user friendliness in using the system such as the process of entering data, processing data and finding the information needed. Finally, the Timeliness dimension measures user satisfaction in terms of the timeliness of the system in presenting or providing the data and information needed by the user.

METODOLOGI PENELITIAN

Within this framework, the authors describe a series of research activities starting from the initial stage to the final stage, and this can be seen in Figure 1. The research was conducted using a Likert scale in data collection and EUCS variables in evaluating the use of e-learning at SMPN 1 Tangerang Selatan. This research is analytic observational, namely research that explains the relationship between variables through hypothesis testing. Research with an analytic observational model is also carried out by observing or measuring the variables studied without providing treatment or intervention. The design includes a needs analysis which is a detailed explanation of the needs in the process of collecting data needed to be used as reference material. From the results of this needs analysis, results are obtained after going through several stages with predetermined variables, so that the process of identifying between stages in the EUCS method can produce more accurate results. In addition to needs analysis, there are also functional requirements which are statements of system services that must be provided, as well as how the system must react to certain inputs and how the system must behave in certain situations. An example is how the system operates on input, and what output should be displayed, and so on. Following are some of the functional requirements that must be met by the system, in this case e-learning users at SMPN 1 South Tangerang, including personal computers (PCs), laptops, hand phones (HP) and the internet network. Next is the sample selection method, namely determining the author's research sample using the Slovin formula

HASIL DAN PEMBAHASAN

In this study, a questionnaire was utilized to determine the level of satisfaction of e-learning users at SMPN 1 Tangerang Selatan using indicators or variables from EUCS. In the questionnaire used using points 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree), for assessment. Of the 5 EUCS variables, that have been distributed to respondents using a questionnaire with the help of google form and all the results are obtained as shown in Figure 2. With regard to content and based on the diagram above the sub-variable content (content), it can be seen that the highest indicator is the statement 2 namely "The e-learning system provides useful content for learning" with a total value of 4.35 in the content sub-variable diagram. While the lowest statement is statement 4, namely "The e-learning system provides up-to-date learning content"

Accuracy, based on the diagram above the accuracy sub-variable, it can be seen that the highest indicator is statement 2, namely "E-learning can show the value of the test being done" with a total value of 4.28 in the sub-variable diagram Accuracy while the lowest statement is statement 3, namely "E-learning produces interesting learning" with a value of 3.9 in the accuracy sub-variable diagram. Furthermore, format and based on the diagram above the sub-variable form (format), it can be seen that the highest indicator is statement 3, namely "Information on e-learning is easy to read" with a total value of 4.17 in the sub-variable format diagram. While the lowest statement is statement 1, namely "The e-learning system is interesting so it is easy to remember" with a value of 3.9 in the sub-variable format diagram. Furthermore, Use and based on the diagram above the sub variable ease of use (Ease of Use), it can be seen that the highest indicator is statement 5 namely "You can access e-learning online both inside school and outside school" with a total a value of 4.34 in the Ease of Use sub-variable diagram while the lowest statement is statement 2, namely "e-learning provides usage guidelines" with a value of 4 in the Ease of Use sub-variable diagram.

Furthermore, the diagram above shows the results of the sub-variable timelines (timelines), so it can be seen that the highest indicator is statement 5 namely "Availability of subject information is useful for users" with a total value of 4.22 in the Timeliness sub-variable diagram (timeliness). Finally, based on the diagram above the user satisfaction sub-variable, it can be seen that the highest indicator is statement 1, namely "You are satisfied with the information/content provided by e-learning" with a total value of 4.05 in the user satisfaction sub-variable diagram while the statement the lowest is statement 6 namely "You are satisfied with the speed of e-learning in displaying the information you need." with a total value of 3.87 on the sub-variable diagram of user satisfaction

After all have been assessed, the results recapitulation of all surveys using EUCS can be seen in all six Tables (Table 1 to Table 6) which show all information based on 6-point variables, namely content, accuracy, format, convenience, timeliness and user satisfaction. The final results of the calculations were obtained from a minimum of 387 research samples, while the number of respondents used was 91 obtained from 1022 students and teachers

Based on the analysis theory of System Analysis in E-Learning Student Learning with the EUCS Method on the Content Dimension sub-variable, an average value of 4.15 is obtained in the High category because it is in the interval 3.40-4.20. It is the facts that although there is a mark of 3.92 but still high, the final mark, which counts all scores divided by 4 question items, is 4.15, a classified high mark

Meanwhile, The sub-variable dimension of accuracy obtained an average value of 3.49 in the high category because it is in the interval 3.40-4.20. It is still acceptable since the marks for questions 3 and 4 are below 4.0, fortunately, the two marks of 4.20 and 4.28 for questions 1 and 2 compensate the 2 previous marks. Indeed, mark of 3.49 still becomes the final mark for the accuracy dimension

Third, all marks show the results for the format dimension sub variable (Format) and it obtained an average value of 4.00 in the high category in which the final mark is in the interval 3.40-4.20 classified high. It is logically acceptable since marks for questions 1 and 5 are respectively 3.80 and 3.89. However, marks for question 2, 3 and 4 are all more than 4.0 and hence compensating the other 2 marks less than 4.0. Finally, the final mark for the Format dimension sub variable is 4.00 which is in the interval 3.40-4.20

Fourth stage, the final mark obtained is 4.11 which in the high category because it is in the interval 3.40-4.20. From the Table, it is very obvious that the marks of 4.16 and 4.34 dominate other three marks which are 4.01, 4.00 and 4.05, respectively. Logically, the final mark is still above 4.00 or exactly 4.11

For the results of the sub-variable Timeliness dimension obtained an average value 3.90 in the high category because it is in the 3.40-4.20 interval. It is still lucky that the final mark of the sub variable Timeliness is still 3.90 because the marks for questions 1 and 2 give a not good enough mark. It is noted that the questions 1 and 2 are classified as strong values and hence giving good enough point to the final mark. However, the points of 3.93 and 3.10 are not strong enough to finally give the final mark of 4.0.

Finally, the User Satisfaction sub-variable obtained an average value of 3.9 in the high category because it is in the 3.40-4.20 interval. Based on the research above as seen in Table 1 to Table 6, the authors conclude that System Analysis in Student Learning E-learning with the EUCS Method at SMPN 1 Tangerang Selatan and based on the theory of user satisfaction, score of 4.01 expresses the final mark taking into account user satisfaction based on dimension of content, accuracy, format, ease of use, timeliness and user satisfaction itself. The final mark of 4.01 is classified as high because the mark is again in the interval 3.40 – 4.20.

KESIMPULAN DAN SARAN

Based on the calculation results of data analysis, and the results of the discussion on the research that has been carried out, the variables tested can be well received, with the conclusion that by applying the EUCS method to measure user satisfaction with E-learning at SMPN 1 Tangerang Selatan, a score of 4.01 is obtained which is classified as high because it is in the interval 3.40 – 4.20. To improve the performance of supporting applications, applications need to be updated to make them more attractive and require the seriousness of school management, to

manage and develop e-learning at SMPN 1 South Tangerang for the better in the future. As a suggestion that based on the research that has been done, the authors suggest that the speed of access to e-learning needs to be increased because more and more users are using it simultaneously so that users experience problems in accessing the e-learning. Future studies are expected to be able to add other variables beyond the original EUCS model so that the results better explain the more complex conditions of the E-learning application at SMPN 1 Tangerang Selatan

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