The Role of SPADA as Instructional Media and Technologies to Utilize Learners’ Self-Regulated Learning

Welliam Hamer¹, Ledy Nur Lely²

¹English Education Study Program of Teacher Training and Education Faculty, Universitas Sultan Ageng Tirtayasa
²English Education Study Program of Teacher Training and Education Faculty, Universitas Sultan Ageng Tirtayasa

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ABSTRACT

The aim to be reached in writing this article is to inform the readers on how SPADA as one of instructional media based technologies today is effective to increase the quality of the learners in their self-regulated learning. In recent years, technology has increasingly developed with its widespread use in the economy, tourism and even education in the world. The existence of technology-based media in teaching and learning activities is needed to accompany the increasingly modern era of globalization. One of the technology-based media used in education is e-learning media. E-learning is a type of teaching and learning that allows the delivery of teaching materials to learners using the internet, intranet or other computer network media (Hartley, 2001). With this technology-based media, teaching and learning activities that previously only took place on campus or school, can be conducted anywhere and anytime, not limited by space and time. One of the e-learning media on campus is SPADA (Online Learning System). This system is developed to answer some of the challenges of higher education and organize learning without limits. The use of the SPADA website as a utilization of learners’ self-integration means how the use of SPADA can facilitate learners to practice their self-regulated learning. It means that by using SPADA, the learners are expected to increase their learning activities autonomously. By doing so, the lecturers/teachers only need to give their learners the lesson materials and perhaps some assignments then the rest of learning process will be left entirely to the learners, giving them freedom to pick their own learning pace. In this case, SPADA as one of instructional media based technologies is effective to improve the quality of the learners’ self-regulated learning.

INTRODUCTION

Education in the digital 4.0 era integrates technology with the world of education, educators (teachers/lecturers) and learners use technological devices as a means of supporting learning. This makes all segments of society both adults and children follow the trends that develop in the...
community, one of which is the development of technology. At present the application of technology is comprehensive in the educational environment which aims to help improve the quality of virtual learning that can be accessed through an internet connection for free by all its users. Current learners or millennial generation are more interested in learning using technology tools. The internet connection offers web-based features and application convenience through a specially designed computer program as an alternative to technology-based learning and teaching online instructional media.

Thus, referring to the information above, it can be said that the education sectors are expected to take good advantages of these technological developments. The efforts that can be made in education sectors are the use of instructional media in the learning-teaching process. Educators are required to be able to create learning media in accordance with the materials and be able to use the media that have been provided. With the presence of media, lecturers are easy to implement the materials and create the conditions that can encourage the learners to achieve their competence in learning that has been already provided by the lecturers.

Nowadays, utilizing Information, Communication, and Technologies (ICT) in learning and teaching activities becomes a habit formation in almost every educational institution all over the world including in Indonesia. In the process of learning and teaching in school/college context, ICT brings a very significant change toward the improvement of classroom management system to lead the learners to be an autonomous learner. When technology plays its role as a part of daily necessities, it is true to say that the learning and teaching process should optimize utilizing such kinds of technology devices until the sources of internet based learning system (Kenning, 2007).

SPADA is one of several instructional and learning devices based on information, communication and technology that is familiar in many Indonesian universities today by emphasizing the use of e-learning concepts to invite the learners to learn continuously and independently. It is clear to say that e-learning has grown rapidly in all educational areas, such as primary/ high schools, universities, government institution, and organizations. E-learning comes with an offer of a new mode of modern distance education, provides a dynamic, interactive and nonlinear learning environment for learners through a series of synchronous or asynchronous network communication technologies. As we move closer to a digital world, many platforms are taking over the old way of studying and now being used to learn individually. It breaks the limit of time and space and offers an opportunity for the learners’ self-regulated learning.

In e-learning environment, the learners are responsible for their own studies and have to actively take part in the management of learning process. They have to set their learning objectives, monitor and introspect their own learning processes as well as evaluate their learning outcomes. In other words, e-learning is one form of instructional media based technologies that is emphasized to be more implemented in the modern era today. E-learning is considered appropriate to facilitate the character of the learners in the millennial era. One of them is the independence of the learners in learning. The learners’ independence in learning or self-regulated learning becomes an emphasized aspect, so that learning is more centered on learners. Effective communication and relationships are very much needed in a learner-centered education model that is effective communication; the learners will be able to explore themselves, develop themselves and then "function" themselves optimally in society. Therefore, e-learning is considered appropriate in meeting aspects of the learners’ self-regulated learning.

SPADA is one of the e-learning media based technologies created by many Indonesian universities today with the purpose is to facilitate the effective and easy learners’ online learning and/or distance learning. SPADA as a form of technological development for educational purposes is believed to be assistance for the learners along with the lecturers in the learning and teaching activities. Therefore, SPADA is designed as practical as possible so that lecturers and learners are easy to use, for example, the use of the SPADA website at Sultan Ageng Tirtayasa University.
SPADA Untirta is Sultan Ageng Tirtayasa University Online Learning System, developed to answer some of the challenges of higher education, especially conventional learning, into unlimited learning. SPADA is a website that can be used by lecturers and all Untirta learners. In using SPADA, materials, practice questions, explanations from lecturers can be taken easily and independently by the learners. So, the learners can study on their own without having to attend class or meet face to face with the lecturers. To be able to access SPADA, the learners must fill in the NIM column and also the password that has been notified by the campus. Lecturers will give assignments to the learners through SPADA based on their respective courses. The learners can work on assignments in the form of discussion, file collection, or online text, based on references from books that have been given, as well as from the internet, using smartphone, computer, laptop, etc. There are deadlines that run automatically, so the learners know exactly what time they have left to work on assignments.

THE NATURE OF E-LEARNING

E-learning refers to a learning system that can be obtained through the internet using an electronic device. E-learning is also called online learning or online education. It is clear that the letter ‘e’ in e-learning stands for ‘electronic’. So, the original term of e-learning is ‘electronic learning. The main concepts of e-learning are hand phone and laptop. Every learner can access their e-learning from their gadgets which have internet connection. E-learning is easy to use. Everyone can access e-learning easily every time and everywhere. E-learning is created to every learner who cannot attend the school/campus, so this is an opportunity to every learner to keep learning every time and everywhere.

According to Pachler and Daly (2011) e-learning is defined as a learning-teaching process facilitated and supported by the utilization of Information, Communication, and Technologies (ICT). E-learning may cover utilization of some or all technological devices, such as: 1) desktop computer and laptop; 2) software, including additional software; 3) interactive whiteboard; 4) digital camera; 5) mobile devices and wireless, including smartphone; 6) electronic communication media, including email, discussion board, chat facilities and video conferencing; 7) Virtual Learning Environments (VLEs); and 8) learning management system.

Meanwhile, Riyana (2007) added that e-learning has its own characteristics: (1) Learners’ comprehension of learning material does not depend on the instructor/teacher, because learners construct their own knowledge through teaching materials delivered through the website interface; (2) Sources of knowledge are everywhere and can be easily accessed by everyone. This is due to the globalized nature of the internet media and can be accessed by anyone who is connected to it; (3) Lecturers/educational institutions function as mediators/mentors; (4) A restructuring of education system, curriculum and management policies is needed that can support the optimal use of Information and Communication Technology for education.

Referring to the four characteristics above, it can be seen that there are the differences between e-learning and conventional learning activities. In e-learning, the learners’ comprehension of learning material no longer depends on the lecturers, because learners build their own knowledge through teaching materials delivered through e-learning applications. In e-learning, the sources of knowledge are scattered everywhere and can be easily accessed by everyone as well.

Furthermore, it can be informed that there are also several models of e-learning that are usually found as follows:

1. Web-based Learning
   Web-based learning is "distance learning system based on information and communication technology with a web interface". In web-based learning, learners do online learning activities through a website. They can also communicate with colleagues or lecturers through the facilities provided by the website.
2. Computer-based Learning

Computer-based learning can be defined as an independent learning activity that can be carried out by learners using a computer system. Rusman (2018) suggests that computer-based learning is "... a learning program used in the learning process using computer software that contains the title, objectives, learning material and learning evaluation".

3. Virtual Education

Based on the definition from Jennifer (2009), the term virtual education refers to a learning activity that occurs in a learning environment in which the lecturers and learners are separated by distance and/or time. The instructor provides learning materials through the use of several methods such as LMS applications, multimedia materials, internet usage, or video conferencing. Learners receive these learning materials and communicate with their instructors by utilizing the same technology.

4. Digital Collaboration

Digital collaboration is an activity in which learners from different groups (class, school/campus or even country work) together in a project/ task, while sharing ideas and information to the best use of internet technology.

The Advantages of E-Learning

It is clear that e-learning gives learners easy access to education regardless of where they are. In addition, it also offers the promise of providing optimal learning process that suits every learner’s needs. In other words, it can be said that there are many advantages of using e-learning in the learning and teaching activities, for instance: lecturers and learners can communicate with each other through the internet without being limited by distance, space and time; learners can review learning materials at any time, because the learning material is on their computer; information related to the materials being studied will be easily obtained via the internet; lecturers and learners can have discussions via the internet with a large number of participants, so that knowledge and broad insights are obtained; the role of learners becomes active and independent.

In addition, e-learning can provide instructional content or learning experiences delivered or enabled by electronic technology, it provides efficiency in using a platform to learn. There have been many studies showing that e-learning learners retain the material to a significantly greater degree than face to face instructor led classes. The content delivery is consistent and can be easily repeated if needed to gain a better understanding. Each institution uses a specific system, but they are all similar in their ability to present course material including class syllabus, assignments, quizzes, and provide video and audio plus a whiteboard screen where the lesson is presented just like it would be on a classroom’s video screen or whiteboard. It can be used to interact with instructors, access course materials and stimulate debate among fellow learners when it fits the schedule. All specific course information such as how to reach the instructor, what work is expected, and deadlines to turn in assignments and take tests will be found within the course site.

Furthermore, there are some of the major benefits of e-learning that we need to know, for instance:

1. Easy and Fun Learning Experience

Classes can be boring and stressful for learners, making the learning materials delivered to learners ineffective. However, through e-learning, the learning-teaching process becomes more flexible and convenient, thus it can encourage learners to learn continuously. Learners can access their e-learning materials anytime and anywhere using the various types of mobile devices they have. They can repeat any subject as they are pleased whenever they struggle to comprehend it. They can also choose materials that suit their needs and preferences.

2. Personalized Learning and Support

We all know that it is difficult for a lecturer to meet each learner’s unique needs, especially when there are twenty or thirty of them in a classroom. E-learning enables lecturers to shift
from a “one size for all” learning model to a more focused one. With a systematic learning process and a range of content formats available, the lecturers can provide personalized learning experiences for the learners, which cannot be achieved in most traditional classes.

3. Learner Performance Tracking Made Simpler
E-learning provides the ability for lecturers to track learners’ progress and ensure that they fulfill their performance achievements. For example, if a learner fails to pass their online exams, the instructor can offer them learning methods that are more in line with their personalities so that they can absorb the learning materials more easily and ultimately improve their performance. Advanced e-learning systems provide reporting and analytic tools that allow lecturers to pinpoint areas of their e-learning courses that may be lacking, as well as where they excel. For example, if there are many learners who have difficulties in mastering certain learning materials, the lecturer can evaluate the content and make improvements if necessary.

4. Reduced Learning Costs
E-learning enables educational institutions to reduce the cost of learning, classroom equipment, online training site rentals, and book printing. Schools and colleges do not need to present different tutors for each class, print hundreds of books, and renovate classrooms.

5. Centralized Learner Database
All detailed information related to learners is safely stored in a centralized system. Schools/colleges can determine who can access the data. Learner personal details, completed assignments and exams, payment status, and various learning activities, can all be easily displayed on a single screen.

Thus, from the statements mentioned above, it can be summarized that e-learning basically provides the same materials of the knowledge and understanding with the conventional learning. However, e-learning is different from conventional learning on how the materials provided and environment are made. E-learning is used and delivered to the learner through digital resources where the lecturers and the learners are required to have an access to the electronic devices such as computers, tablets and even cellular phones and the most important is the internet connection. Furthermore, e-learning creates different environment from the conventional one. In this case, self-regulated learners are more likely to have a freedom to create their own environment of their learning process. It is important to have a suitable learning environment because in the e-learning, environment is designed to support the particular learning theory.

INSTRUCTIONAL MEDIA-BASED TECHNOLOGIES
In this modern era, the use of Information, Communication, and Technology (ICT) is growing rapidly in any field, including education. The learning system is also demanded to follow the era of technological development aimed at making it easier for all parties, especially lecturers and learners. Currently, the term deep learning which is called “instructional” is more popular which means the active role of the instructor to teach learners, compared with an initial concept called teaching synonymous with the activity of delivering subject matter from learners to lecturer. So, it seems that passive learners are less involved in the learning and teaching activities. Learning is an attempt to condition learners in order that the learning events occur. Therefore, distance learning system has become an alternative form of learning that is effective and easy.

In addition, it is necessary to know that media and technologies for learning have influenced education. Most recently, for example, the computer has invaded instructional settings. Such tools offer powerful possibilities for improving the learning process. The lecturer, however, will make the difference in the integration of media into this process. The roles of instructor and the learners are clearly changing because of the influence of media and technology in the classroom. It is essential that, as the guide for learning, the lecturer examines media and technology in the context of the instruction and its potential impact on the outcome for learners (Heinich et al, 1996).
Furthermore, they added that technology has also changed the face of education. Advances in telecommunications technology have opened up the possibility of personal and group interaction in distance education. Both computer and audio/video conferencing permit the introduction of class discussions without the group meeting face to face. Phone calls and electronic mail replaces personal office visits. The distance learner can now have almost the same instructional contact and interaction as the learner on campus. But remote access education does not need to eliminate all the benefits of human contact. In fact, the proliferation of the modern, teleconferencing, and the World Wide Web provide a rich expanse of both information and contacts that were previously unavailable.

Meanwhile, Garrison (2011) explained that the development of new technologies has promoted an astounding growth in distance education, both in the number of learners enrolling and in the number of universities adding education at a distance to their curriculum. While the application of modern technology may glamorize distance education, literature in the field reveals a conceptually fragmented framework lacking in both theoretical foundation and programmatic research. Without a strong base in research and theory, distance education has struggled for recognition by the traditional academic community.

Thus, it can be said that the use of technology in various fields has been so successful and beneficial for lecturers to reach some particular goals especially in education and for those who are practicing self-regulated learning. In every step of our lives, the significance of technology is seen and enjoyed in these days. The barrier of location for people in different parts of the world has been reduced by some of the latest technologies such as the website, internet, and mobile devices such as smart phones.

From the contexts above, it means that the learning-teaching process has become easier to learn more than ever before with the availability of many sources to help people learn very easily and enjoyable. According to Khan (2005), web-based learning is one of the fastest growing areas in education. It is widely accepted that advances in information technology and new developments in learning science provide opportunities to create well-designed, learner-centered, interactive, affordable, efficient, and flexible e-learning environments. For this reason, it could be suggested that; going through internet is an alternative way to increase self-regulated learning. Web-based technologies and powerful internet connections provide various new possibilities and latest trends for lecturers and learners.

**Process Technologies**

Heinich et al. (1996) stated that thoughtful reflection on the experiences of many generations of practice has led educators to understand that the magic of technology lies in the instructional design of the software, not in the hardware. A poorly designed instructional video does not deliver better results if it is shown on a fancier monitor or even converted to video disc. It produces better results if the pedagogical design is improved or if the using lecturer compensates for weaknesses in the program by his/her skillful utilization techniques.

The notion of technology being a process is highlighted in the definition of instructional technology given by Seels and Richey (1994) as “the theory and practice of design, development, utilization, management and evaluation of processes and resources of for learning”. They believed that what was really important was the process of analyzing learning tasks, breaking them down into their components, and then devising the steps necessary to help the learners master those tasks. In other words, it can be said that the term technologies for learning refers to both the products and the process of technology as they are applied to human learning.

Process technologies for learning, therefore, are specific learning-teaching patterns that serve reliably as templates for achieving demonstrably effective learning. It means that such an example, for those familiar with internet, the concept of an operating system might be a helpful analogy. An operating system consists of a package of rules and procedures that provides a standardized,
consistent pattern for using the internet. In a similar way, process technologies are packages of tested and proven procedures, ready to be loaded with some specific content and to lead learners through a particular kind of learning experience. Thus, from the example of utilizing the internet, it can be said that learning via the internet is a type of education where the instructional information is delivered to learners on the internet. In this method, the basic necessity for learners in the educational phase is to have a computer/smart phone that is linked to the internet. If we speak about the program support used for the learning over the internet, the most widely used resources are the so-called courseware resources, that allow the storing of educational material on the web server and their shared relation, the interaction between learners in the learning process, the management of the learning process and the control of knowledge by means of different self-assessments.

THE ROLE OF SPADA ON LEARNERS’ SELF-REGULATED LEARNING

According to Lombaerts et al. (2009), self regulation is a mechanism that involves observing, defining goals, evaluation of thought, making decisions, preparing, carrying out the plans, evaluating and controlling feelings that occur as a result of behavior shifts. It means that the mechanism by which people integrate behavioral changes into their daily lives. Self-regulated learners, in particular, are mindful of their intellectual strengths and limitations and have an arsenal to address the day to day challenges of universities. Finally, self-regulated learners think that incentives for difficult assignments, learning, a deep understanding of the subject and actions can give increase to academic achievement.

In line with the statement above, Zimmerman (2000) defined the concept of self-regulated learning as learners' beliefs about their capability to engage in appropriate actions, thoughts, feelings, and behaviors in order to pursue valuable academic goals. Similarly, self-regulated learning is a cycle where the learners plan for a task, monitor their performances, and reflect on the outcome. Therefore, self-regulated learning is the kind of learning where the whole process of learning is based on purely the learners’ motivation, and the learners are free to choose their own style of learning and their pace of learning. It means that in self-regulated learning, there is a little to none influence of a lecturer to the learners’ learning process. The lecturers only just give their learners about the lesson materials and perhaps some assignments then the rest of learning process will be left entirely to the learners, giving them freedom to pick their own learning pace.

From the definition above, it can be seen that self-regulated learning is all about how the learners make an activity based on their own point of view or thought. The self-regulated learning is likely to be required to be able to reach their academic goals with their own strategies made by themselves. In the self-regulated learning, learners have more freedom to be able to choose instructional learning media for themselves. There are so many kinds and types of instructional media that are suitable for the self-regulated learning activities, such as by utilizing the Online Learning System (SPADA). In other words, in this digital era today, self-regulated learning can be easily implemented. It means that by having access in SPADA, it will provide the learners to learn by themselves with gadget. They can download the application on their smartphone/netbook and learn the materials after having a lecture, in their house, or everywhere they want.

The Online Learning System (SPADA) in Untirta

It is clearly stated that SPADA is stand for “Sistem Pembelajaran Daring” or the Online Learning System. The Indonesian SPADA Program is basically the implementation of the Law of the Republic of Indonesia Number 20 of 2003 concerning with the National Education System, Law Number 12 of 2012 concerning with Higher Education, and Regulation of the Minister of Education and Culture Number 109 of 2013 concerning with the Implementation of Distance Education in Higher Education. Meanwhile, in Permendikbud Number 109 of 2013, it is stated that one of the scopes of distance education is the scope of subjects. One of the objectives of the SPADA Indonesia program is to improve equitable access to quality learning in tertiary institutions.
Through the online learning system, SPADA Indonesia provides opportunities for learners from one particular tertiary institution to be able to take a certain quality course from another tertiary institution and the learning outcomes can be recognized equally by the tertiary institution where the learner is enrolled.

SPADA Untirta is Sultan Ageng Tirtayasa University Online Learning System, developed to answer some of the challenges of higher education, especially conventional learning, into unlimited learning. In other words, it is life-long learning and/or regulated learning. SPADA Untirta facilitates the learners as well as the lecturers to learn online. In the portal of SPADA Untirta, it can be seen that there are some menu like the subjects/courses which are taken by the learners in the current semester, due assignments, and currently online people. Each subject is handled by its lecturer and the lecturer can serve or upload materials, assignments, and create discussion forum. SPADA Untirta is quite easy to use.

**How to Use SPADA Untirta**

SPADA Untirta is provided for the learners as well as the lecturers from Sultan Ageng Tirtayasa University. To enter the website, it requires username or ID and password that have been registered before. So, here is the sample of illustration or one by one step of using SPADA Untirta:

1. Open http://spada.untirta.ac.id/ on your browser.

2. Click “Log in”

3. Enter your student’s ID and password.
4. This is the display of the timeline; click the subject you want to discuss.

![Image of timeline display]

**Advantages of SPADA Untirta**

It is true to say that there are some strengths of SPADA Untirta website, such as the display of the subjects is clear and the learners can only see the subjects they are taking on the current semester. In utilizing SPADA Untirta, the materials, practice questions, explanations from lecturers can be taken easily and independently by the learners. So, the learners can study easily on their own without having to attend the class or meet face to face with the lecturer. Therefore, SPADA Untirta is also equipped by helpdesks and/or operators in every faculty as well as one or two staffs on each study program to offer help/assistance when the learners and the lecturers get difficulties in their process of learning and teaching.

Furthermore, practically, it can be said that SPADA Untirta has some benefits as follows:

1. **Practical and Easy to Use**
   
   One of the advantages of lectures with SPADA Untirta is learning is done remotely. It does not need to come to class and face to face with lecturers every day. By using digital technology facilities and internet connections, the learners can learn anywhere and anytime without being constrained by distance. This system also makes easier for the lecturers to deliver materials to the learners without having to attend the classroom. In this case, the learners have flexible time to practice their self-regulated learning monitored by the lecturers.

2. **Efficiency of Time and Energy Costs**
   
   Actually, it is no doubt that delivering subjects/courses and/or lectures with SPADA Untirta is very profitable in terms of cost efficiency, time, and energy. If the learners go to campus with this system, tuition fees are indeed more economical. The learners also do not need to
spend transportation and energy costs to go to campus. Funds, time and energy can be transferred for other matters that are more prioritized.

3. Lecture Schedule
SPADA Untirta allows the learners to set their own learning schedules easily and freely. Therefore, it also provides time when there is an online class meeting schedule through a web conference.

4. Learning Process
Another advantage that the learners will get during the learning and teaching process with Spada Untirta is by receiving quality time to concentrate and focus on learning in the most convenient conditions. Conducting a learning process when they are in a free time can make the learners optimize their learning skills in obtaining the learning materials.

CONCLUSION
Referring to the information as well as the illustration discussed above, it can be inferred that utilizing SPADA Untirta as one of the instructional media based technologies is effective to increase the quality of the learners’ self-regulated learning. The lecturers along with the learners enjoy making use of the product of technology effectively and efficiently as their responsibilities in the process of teaching and learning through e-learning and/or distance learning. In this activities, SPADA Untirta plays its necessary roles as facilities of the learning support system in Untirta, especially for the lecturers and the learners dealing with their quality improvements of the learning and teaching activities, such as in delivering and/or explaining materials, supervising the learners’ learning strategies, responding the learners when expressing their opinions as well as designing group discussions and individual presentations.

In addition to the practice of the learners’ self-regulated learning, it can be said that the learners are able to do their self-regulated learning at home successfully. The learners enthusiastically search for the lesson materials by themselves in the internet and learn it. They might learn it by utilizing their own preferred learning style and their preferred pace, which might improve their understanding of the materials since they are doing it comfortably. In this case, it is true to say that SPADA Untirta allows the learners to implement their self-regulated learning based on their needs and interest.

However, there is a chance where the learners might face trouble in their self-regulated learning. It might be that the learners are not able to understand the lesson properly or they lost track on their study and end up doing something else. Despite the fact that there is a little to none of lecturer’s influence during the self-regulated learning process, it does not mean that there is no need for the lecturer to do anything. In this case, it is suggested that the lecturer should keep monitoring the self-regulated learning process in case where the self-regulated learning process goes off the track or the learners need some help on their learning process.

Besides, it is also expected that before utilizing an e-learning for the learning-teaching activities, we should pay attention first about the factors that can affect the success of the learners’ self-regulated learning so that it occurs on target, i.e. the learning process becomes more effective and efficient. Although SPADA makes it very easy in learning, it must pay attention to all aspects so that the usage is effective, especially from the learners became not all learners are able to optimally absorb material from online. In this case, it is important for the lecturers to choose right and suitable materials to the self-regulated learners based on the learners’ background and characteristics; the lecturers should have to keep an eye on learners’ learning; the lecturers must still continue to supervise and guide the learners in learning.

Finally, in relation to SPADA Untirta as one of instructional media based technologies for the learning and teaching process, it is necessary to ensure that the lecturers along with the learners should realize the benefits of the online media and able to take good advantages of the technology
as the learning sources for the supports of the learning-teaching activities. In other words, the lecturers together with the learners should also collaboratively increase awareness that SPADA Untirta is used to seek knowledge as much as possible. By doing so, it is really recommended that the institution/campus officially must continue to improve the internet network system so that there are no difficulties in terms of obtaining access and solving the problems/errors. Then, especially for the (local) government and/or the stakeholders, it is also truly expected to support the e-learning/distance learning system, predominantly for the success of the learners’ self-regulated learning, for instance by providing free internet access network extensively and paying attention as a priority to some areas that cannot be reached by internet access.

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