Encouraging Student's Soft-Skill by Web-Based E-Colloquium Learning Approach to Enhance Advance Feedbacks

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Abstract—The use of information technology in learning has become a demand for the implementation of modern education. Various patterns of technology integration in learning are proposed to improve optimal learning outcomes. This study aims to develop learning media in the form of web-based e-colloquium to increase students' soft-skills. This development used research and development method with the ADDIE model (analyzing, designing, developing, implementing, and evaluating). This study found that web-based E-colloquium was feasible to be implemented. In addition, responses obtained from both students and the public show that product implementation provides broad opportunities to develop students' skills such as communication skills, mental readiness, and public presentation technique skills. This development product contributes to an alternative learning media that could be beneficial for higher education institutions in Indonesia.

1 Introduction

Recent advances in information technology have made very significant changes to the way of life, work, and activities [1], [2], especially in education [3]. The use of information and technology in education is one of the important keys in achieving global education targets as stated in the SDGs, education is one of the most powerful and transformative media in sustainable development [4]. In addition, the use and utilization of information and technology development products in the world significantly shifts the traditional educational paradigm [1] towards the internet of Thing [5], which is accessible to all [4], [6]–[8]. In other words, the paradigm of modern education that is close to the use of technology has become an inevitable part of today's universities [9], [10] as a transformative and innovative step that can help students easily and openly

[11]. Moreover, a culture developed with the integration of information system utilization in Education can also help improve the ability of users in leadership [12]–[16], and experiential expertise [17].

As part of the current 4.0 industrial revolution era [18], online learning platforms by utilizing technology products in education become a medium to provide opportunities and quality improvement in teaching and learning [11]. Through this platform, everyone has easy and wide access and not only involves people who only exist in one institutional environment, but goes beyond that, can also be widely used by those who have the same interests and needs in the implementation process of education [11].

Platform innovation as a medium in the teaching and learning process gives a very significant impact on the mastery of the material presented by educators [19], helps students become enthusiastic and motivated in following the learning process [20], and is able to make students effectively involved actively and attractively in class [21]. In addition, the learning process that is packaged with learning media integrated with technology can also make students responsible for all tasks given by educators [22].

A colloquium is a form of the scientific discussion forum that usually involves lecturers, students, experts, and experts in certain fields who discuss different topics at each meeting [23]. Like other scientific discussion forums, colloquium also provides a question-and-answer session after the presentation session has finished. The striking difference between this forum and seminars, symposiums, panel discussions, and other forums is that there are equal opportunities between presenters, listeners or participants in their involvement in providing two-way arguments related to the topic being discussed together [23]. As such, electronic colloquium (e-colloquium) refers to an online scientific discussion forum platform on certain topics [24]. In other words, the development of e-colloquium innovation product platforms is an effort to integrate technology in learning that aims to provide broad access to the public to be involved in the scientific discussion forum.

Minister of Research, Technology and Higher Education Regulation No. 44 of 2015 states that in order to obtain a Bachelor's degree whether it is an undergraduate, graduate, or doctoral degree, students are required to complete their final project, thesis, or dissertation [25]. This regulation indicates the obligation that must be passed by students before getting a bachelor's degree. To simplify and expedite the process of resolving these obligations, tertiary institutions, especially in the Social Studies Program, Faculty of Social Sciences, Universitas Negeri Malang, provides seminar courses that aim to provide opportunities for undergraduate students to make a systematic research proposal and presents the proposal verbally in a scientific discussion forum. In addition, this seminar course also aims to train students' abilities in presentations, discussions, and scientific arguments [26].

In practice, there are several obstacles that arise in the effectiveness and success of the seminar course. First, to complete the presentation individually, for all students (approximately 30-40 students in one class) who took the seminar course in 16 meetings was less proportional and not ideal. Second, the limitation of students in understanding all fields that are used as topics in research proposals causes the audience not to give significant feedback to the presenter. Third, the mental readiness of students in argumentation is less than optimal because it only involves classmates. In other words, the

constraints of time constraints, the significance of feedback, and the mental readiness of students need to be improved for the purpose of conducting the seminar can be achieved effectively and optimally. Therefore, there needs to be an alternative media that can be used as an accelerator in the effectiveness of the seminar.

E-colloquium or electronic colloquium is a scientific discussion forum platform that is presented online [23] which is intended to facilitate students to present their research proposals online in order to obtain broad feedback from various parties effectively. Specifically, e-colloquium was developed for seminar courses for lecturers and students, assisted in the efficiency of time in the implementation of learning. In addition, the development of e-colloquium that can be accessed by anyone and anywhere, provides a vast opportunity for other students from different majors to get involved in the seminar process and provide constructive questions or feedback to presenters.

The development of e-colloquium, in general, can not only be used for seminar courses, but can also be used for the implementation of thesis proposal hearings, or even thesis examinations conducted online. It also can be a solution to the constraints of space and time problems between supervisors or examiners who both have different preoccupations, making it difficult to determine the schedule for conducting hearings. With this platform, these classic problems are expected to be resolved well, without ignoring the substance of the holding of proposal seminars, thesis hearings, and others.

Some empirical literature indicates that the integration of technology in learning provides great opportunities for the effectiveness and success of the learning process. For example, learning can be increased its effectiveness through the use of e-learning with the Chamilo platform [27], with the use of mobile learning [28], [29], Moodle [30], web-based platform [31], [32], and Learning Management System [33]. In addition, Astuti [34] and Putri [35] research on the development of web-based learning media also indicated an increase in adversity quotient from students and potential efficiency for lecturers in preparing teaching materials for lectures in class. However, from those empirical studies did not focus on how the student advances feedback to get more valuable skills that needed to develop. Thus, the development of e-colloquium may fulfill this gap.

Technology products in learning were also developed by Kautsar [36] who tried to provide alternative solutions to the problems of scheduling seminars and thesis hearings. In addition, the study also offers reminder system application solutions for seminar schedules and student thesis sessions. Other research related to the development of instructional media was also carried out by Permadi [37] by utilizing video conferencing as a medium in the interactive learning process. Of the several products that have been developed previously, there is not yet any interactive platform in the learning process that is intended for online scientific discussion forums, especially for seminar subjects or thesis trial platforms. Thus, it is important to develop learning innovations using web-based c-colloquium for the Seminar course in the social studies program to encourage student's skills and enhance advance feedbacks.

2 Method

Research and Development (R&D) is one of the approaches used in research into the development of innovative learning or product development in education [38]. In the development of e-colloquium, an ADDIE model is used which includes five stages including analyze, design, develop, implement, and evaluate [39]. This model is one of the models in an interactive learning process through the basic stages of learning that is dynamic, effective, and efficient [40]. Using the ADDIE model in this development, it is assumed that this model is the only generic learning design model [39].

Some of the stages can be described respectively. Analysis; At this stage, the identification of problems, needs, and alternative solutions that can be used as a material in the development of e-colloquium is carried out. In addition, this section is important to tabulate various library resources that can be used as a reference for enriching content in the development of e-colloquium. Design; the second part is done in order to arrange the categories, facilities, and tools needed in the e-colloquium system in accordance with the alternative solutions obtained when tabulating problems, constraints, and various needs for seminar courses. Development; this stage is the stage of product development that is building a system in accordance with the results of the analysis and design that has been prepared previously. In this section validation will be carried out by learning technology experts and learning media to obtain input for further revision and improvement before being tested. Implementation; this fourth step is the implementation or trial of a product that has been created and validated by a team of experts. In this section, the product is tested directly in the learning process and thesis trials by students, lecturers, and the public at large. Evaluation; The last step is evaluating the steps taken previously. In this part of the evaluation phase, web-based e-colloquium development products can already be implemented fully or not.

The most decisive stage, from several stages in the development of the ADDIE model, is the process of collecting data as material in the study and basis in building a web-based e-colloquium system. Because the data collection stage becomes the basis and determines the results of the learning innovation product design that is developed. Therefore, the identification of needs, constraints, and alternative solutions in the data collection process is the main key to the effectiveness and broad benefits in the development of this e-colloquium system. Creswell [41] explained that collecting data becomes the most important stage because data accuracy must be obtained through various individual sources and locations. As for the evaluation phase, the model developed in this development research was adapted from Taylor dan Hamdy [42] who explained that refining understanding of the material and new ways included in the learning process are important things to do in the evaluation of development.

3 Result and Discussion

3.1 Analysis

The first part in this development is the needs analysis stage. Based on the current reality there are several difficulties and shortcomings that arise in the consultation process and obtaining criticism and suggestions for students, especially in the case of thesis proposal seminars and thesis examinations. Some of these difficulties include, but are not limited to; Limited time and space in the implementation of the consultation process, students find it difficult to get feedback on the results of research that has been done, supervisors I and II sometimes provide different inputs which cause students to be confused about which input, lecturers have difficulty in time management to provide consultation time with students, and the most important thing is that there is no interactive media that can bring the two parties together without being limited by space and time. Thus, the development of e-colloquium media here is expected to be able to overcome these problems.

3.2 Design

The product in this development is a web-based E-Colloquium learning platform. The product specifications in this development consist of:

- *E-colloquium platform:* This section is a form or pattern of learning through online scientific discussion forums that involve various parties, lecturers, students, and the public at large. Students who are taking seminar courses or want to prepare for a thesis trial can present their proposals or research results through this platform with the aim of getting suggestions and input from various parties. In addition, through this platform the student concerned can train mentally in scientifically arguing in front of the public at large.
- *E-colloquium website:* The website is a home that is used as space for the building of the E-colloquium system that can be accessed by anyone, anywhere, anytime without being limited by space and time. The website is built using the Java programming language which is in accordance with the website programming language developed by the State University of Malang. This was done in order to provide opportunities for possible integration of the E-colloquium system into the um.ac.id website.

Fig. 1. E-colloquium website

- *Menu and content:* The menu section is a part of the optional facilities presented on the Home section of the website which is tailored to the needs of E-colloquium development, namely as a platform for implementing seminar courses and thesis sessions. The menu consists of; register, log in, seminar, presenter, moderator, lecturer, participants, forum, schedule, archive, and user manual. The product can be seen in the following figures.
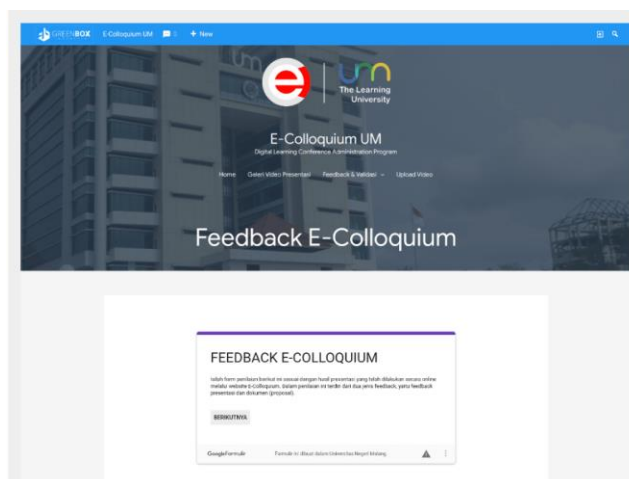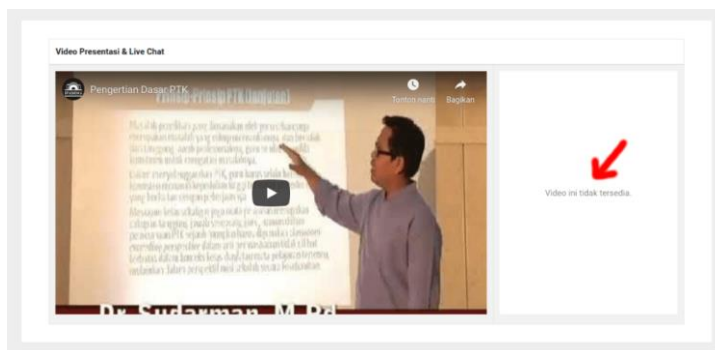

Fig. 2. Public Feedback

Fig. 3. Presentation channel

3.3 Development

Product validation: Product validation in this development was carried out by two learning media experts, namely; Wahyu Djoko Sulistyo, M. Pd (1), and Nurul Ratnawati, M. Pd (2). This validation aims to provide recommendations on whether the product developed is feasible to be implemented or not. The instruments used to measure the appropriateness of the product were tested including those related to the design and features, which included the display platform, layout design, supporting images, instructions for use, etc., and related to the appearance of video conferencing along with supporting instruments which included quality image, sound quality, video angel selection, and efficiency levels.

The results of product validation by experts, in general, it can be concluded that the product developed can be tested or implemented. The validation instrument was measured using a Likert four scale with a range of 1-4 (1= Very Bad, 2= Bad, 3 = Good, and 4 = very good).

Table 1. The result of the product validation

Validator	Indicators	Total	Average	Inf.
Learning Media	18	67	3.72	Good
Learning Material	18	69	3.83	Good

Based on the product validation, it shows that the first media experts generally assessed that the products developed in good criteria. This is indicated by an average value of 3.72. Of all the statements (18 statements) provided, media experts responded very well 13 times with a total of 52, the result of multiplication with the weight of each statement. Meanwhile, for statements with a weight of 3 as much as 5 times. The total number is 67 divided by the total number of statements equal to an average of 3.72.

Regarding the results of the validation of the second media expert explains that the product developed can be tested with the assumption that the average value given by the second expert reaches an average value of 3.83 with a good category. This indicates that the product that has been developed is feasible to be continued in the next phase or

process, namely the e-colloquium product trial phase in a seminar course in the Social studies program, Universitas Negeri Malang.

3.4 Implementation and evaluation

The assessment in the e-colloquium implementation test was conducted by involving students who directly used e-colloquium products in the process of presenting seminar proposals on the e-colloquium website. In addition, this trial also involved other students in the same course as part of colleagues who functioned as scientific partners who conduct scientific discussions online by providing feedback in the form of comments, input, criticism, and other constructive suggestions for the improvement of students who are doing trial the product by making an online presentation using the e-colloquium platform.

The implementation process not only includes the practice of using or utilizing e-colloquium as a new platform in student proposal seminars, but at this stage it is also used as a medium for dissemination of student work in the form of video conferences that have been carried out on the e-colloquium platform. In addition, the students involved were also asked to provide an overall assessment of e-colloquium products. The results of the feedback given by students both presentations and those who were indirectly involved in the product trial process can be seen in the picture as follows:

Table 2. The result of the implementation assessment on seminar course

Item	Respondent	Total	Average
19	24	1941	80.875

Table 2, in general, shows that the result of the implementation regarding the appropriateness of the use of the web-based e-colloquium platform in the seminar course is good, with an average score of 80.87, with a comparison of ≥ 80 values indicating criteria B (Good). Thus, it can be concluded that the e-colloquium platform is suitable for use as a medium for learning seminar material in the social studies program, Faculty of Social Sciences, Universitas Negeri Malang.

Evaluation as the next step in the development process conducted by revising the product based on the expert critics and inputs for a better performance of the e-colloquium product. Those inputs are such as language improvement, layout enhancement, and additional features such as forum chat in the presentation channel. All those features were completed in this final step.

Web-Based Learning (WBL) or e-colloquium in this study, is a learning activity that utilizes media sites that can be accessed through the internet network [43]. It is one type of application of electronic learning. Learning this style has characteristics that include; the first is interactive (the availability of more communication channels), either directly (synchronous), such as chat or messenger, or indirectly (asynchronously) such as forums, mailing lists or guest books [8], [44]. The second is independence, flexibility in aspects of providing time, place, teaching and teaching materials [6], [9]. This causes learning to be more centered on students (student centered learning) [7]. The third is

accessibility, namely learning resources become more accessible through internet networks with wider access than conventional learning sources [45]. Meanwhile, fourth, enrichment or enrichment, namely, learning activities, presentation of lecture material and training material as enrichment, allows the use of information technology devices such as video streaming, simulation and animation. The four characteristics above are the things that distinguish web-based learning from conventional learning activities [43].

Web-based learning media has advantages such as allowing everyone to access wherever and whenever. Learning is individualistic, the ability to create links so that students can access information from various sources, both inside and outside the learning environment. In addition, this learning process is also very potential as a learning resource for students who do not have enough time to learn. In this context, this method can encourage students to be more active and independent in learning, and provide additional learning resources that can be used to enrich learning material. In addition, this study also provides a search engine that can be used to find the information they need, and the contents of the subject matter can be updated easily [46].

The use of technology in the learning process has long been used to help improve the quality of teaching and learning. The use of technology in learning, especially information technology, makes it easy for teachers and lecturers to deliver material that is abstract and difficult to understand and reasoned by students to be easily understood and easily reasoned. With technology in learning, educational practitioners can easily provide learning simulations that can be adapted to the real conditions of abstract learning material. For example, the material on tectonic plate movements that cause many victims in an earthquake will be easily explained with the help of technology simulations. Simulation of tectonic plate movements with the help of animation will provide students with an understanding of abstract material about earthquake events.

The use of e-colloquium web-based learning in the seminar course makes the learning process not the same as conventional learning. Learning by using technology makes students more attentive and more interested [2]. It, in the learning process, can be implemented in the form of providing teaching materials online, computer-assisted learning programs, teaching aids or simulations, Moodle learning and other forms [17]. The provision of teaching materials in a timely and attractive manner will facilitate and help teachers and lecturers more easily understand the material comprehensively, so that learning runs as desired.

4 Conclusion

E-colloquium platform can be an alternative media for students, especially students who take seminar courses to be able to use it as part of the process of disseminating proposals that they have made by getting feedback from various parties to improve the proposals that have been made. Based on the results of the validation of media experts and enthusiastic responses from students who have been processed and analyzed based on the instruments that have been distributed, it can be concluded that e-colloquium is feasible to be used and utilized as a learning media in seminar courses at Social Studies

Faculty of Social Sciences, State University of Malang. In addition, substantively, it can improve communication skills, psychological readiness, and public presentation skills.

5   References

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