



Application of E-Learning to Support Teacher and Student Productivity During the Pandemic

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Abstract– One of the schools that has not implemented the concept of online learning is SDN 1 Bandar Dalam, located in South Lampung Regency, which was established in 1977 with 258 students and 13 teachers. problems in the form of the learning process carried out through whatsapp media are still considered less than optimal. The difficulty in using it is that the material presented is not explained clearly which affects students who do not understand it. The next problem is the attendance process based on the given task so that it is not in accordance with the concept of learning. Parents are so worried about information about seeds and students attending the recitation, because the results of the assignments and comings given have not been recorded as a form of livelihood. The system development method used is an extreme program with the concept of object orientation. The result of the research is that the concept of online learning is built using a website so that the learning process during the pandemic can still be productive when teaching teachers to students. The resulting learning system applications such as being able to manage data for teachers, students, subjects, classes, the teacher section can provide material and questions, the student section can participate in discussions about the material by displaying information such as material files, links to streaming media and displaying material info via videos.

Keywords: E-Learning; Productivity; Teachers and Students; Pandemic

1. INTRODUCING

E-learning is a learning concept with the use of information technology with activities to manage, create and use to communicate in the internet network-[1], [2]. The application of technology in the learning process, especially in educational institutions, can have a positive effect on the presentation of a more interactive learning, especially during the Covid-19 pandemic, which has an impact on hampering the student learning process. Based on the decision of the Ministry of Education and Culture Number 15 of 2020 concerning guidelines for learning at home during the emergency period of the spread of Covid-19, it is revealed that the learning process is carried out by distance learning methods in the network or distance learning outside the network. Of course, this is a special concern for teachers and students so that the learning process is still carried out in accordance with the target and curriculum.

The concept or strategy in an effort to productivity teachers and students in the learning process is required to use information technology media as a means or medium of delivering material. One of the schools that has not implemented the concept of online learning is SDN 1 Bandar Dalam located in South Lampung Regency which was established in 1977 which has a total of 258 students and 13 teaching staff. With the number of students and teaching staff, the learning process carried out during the pandemic is only carried out using whatsapp media by sending assignments to students and students will send the results of answers to the teacher. The student attendance recap process is based on the assignments done and sent to the teacher according to the subject[3], [4].

Based on the results of interviews conducted with the school and observations of students, problems in the form of the learning process carried out through whatsapp media are still considered less than optimal. The difficulty in using it is that the material presented is not clearly explained which has an impact on students who do not understand. The next problem is the attendance process which is based on the submitted assignments so that it is felt that it is not in accordance with the learning concept. So that this is a concern for parents of students on information about students' grades and attendance while studying, from the results of attendance and assignments given, re-recording must still be done as a form of data recapitulation.

Based on these problems, a solution is needed to increase teacher and student productivity through the concept of e-learning by implementing online learning strategies. The strategy is an online

learning concept or called e-learning, namely learning with the use of information technology which includes virtual or virtual teaching rooms with interactive content in the form of images, videos, text and files [5]. So that researchers provide solutions by implementing web-based online learning features with the codeigniter framework, namely in the form of material delivery, assignments, attendance and discussion rooms with the aim that students can be more creative and innovative, with the codeigniter framework can help make it easier for researchers to be able to create a website-based application easily and quickly consisting of model concepts, view and controller [6]. The advantages of web-based systems are easy system development, easy maintenance and easy and fast access.

2. RESEARCH METHODOLOGY

2.1 Research Stage

The stages of research are used as a form of elaboration of the framework of thought[5]–[7] which can be seen in Figure 1.

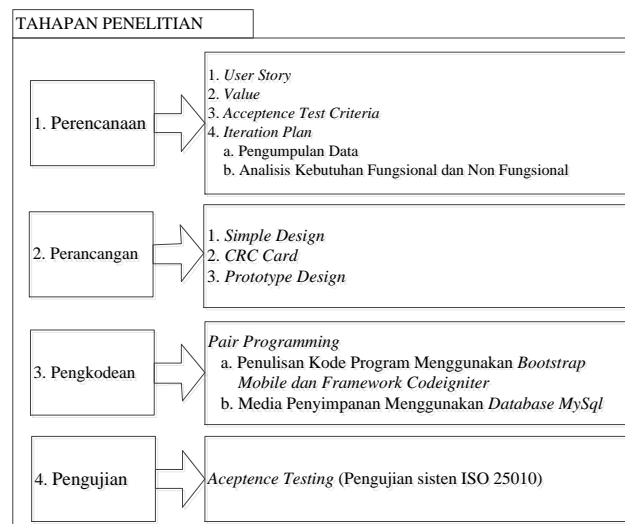


Figure 1. Research Stage

2.2 Simple Design

Use case describes an interaction between one or more actors with the information system to be created[8], [9]. Use cases are used to find out what functions exist in an information system and who has the right to use these functions[10]–[15], based on use case description, it is known that there are two actors, namely admin, teacher and student which can be seen in Figure 2.

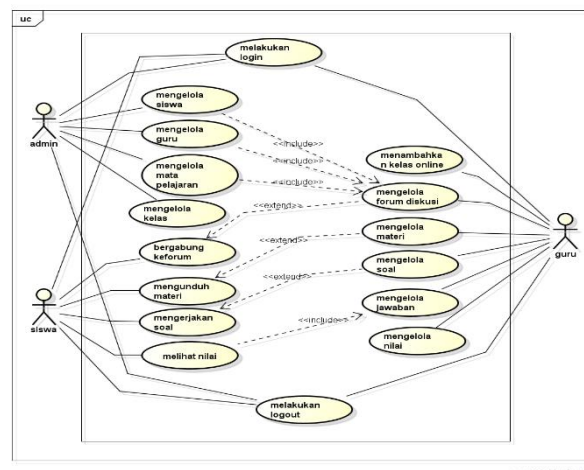


Figure 2. Usecase Diagram

3. RESULT AND DISCUSSION

The implementation of the student page is a view used to add, change, delete and display data, here is the student view in Figure 3 below:

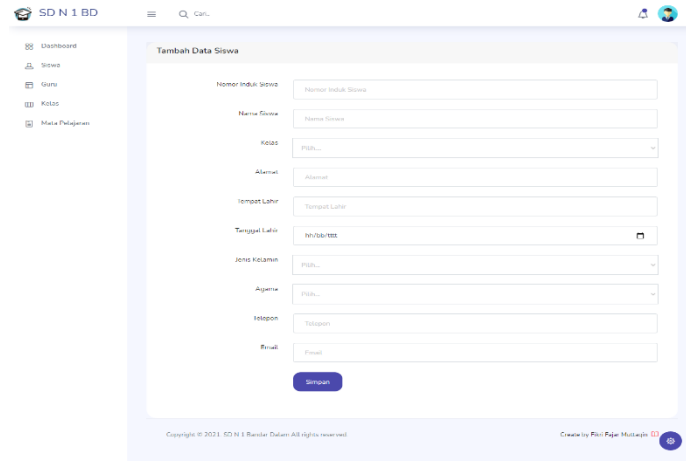


Figure 3. Student Page implementation

The implementation of the teacher page is a view used to add, change, delete and display data, here is the teacher's view in Figure 4 below:

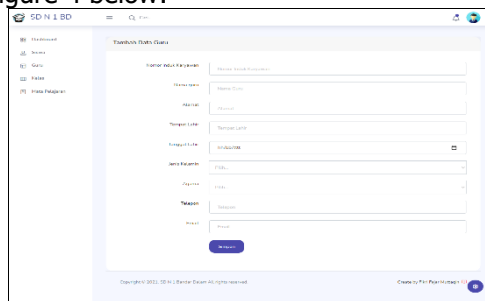


Figure 4. Teacher Page Implementation

The implementation of the subject page is a view used to add, change, delete and display data, here is the teacher's view in Figure 5 below:

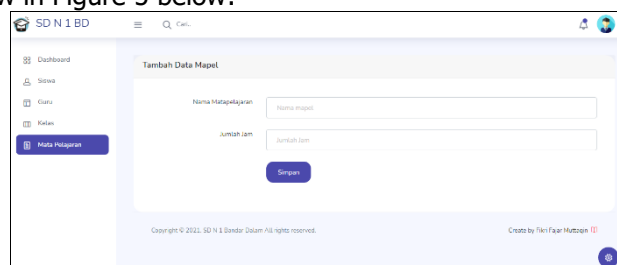


Figure 5. Implementation of the Subject Page

The implementation of the forum page is a display used to add, change, delete and display data related to learning discussions, here is the forum view in Figure 6 below:

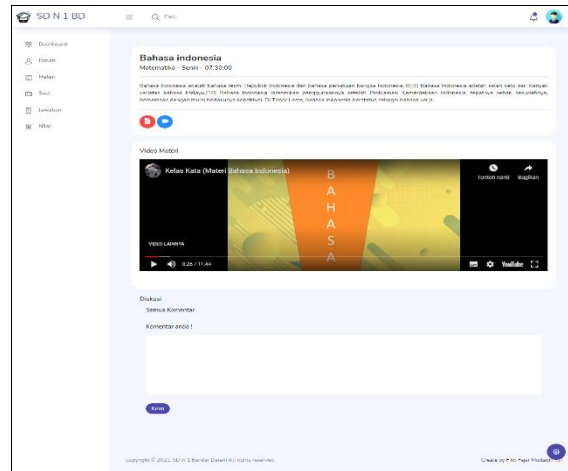


Figure 6. Forum Page Implementation

The implementation of the material page is a display used to add, change, delete and display data, here is the display of material in Figure 7 below:

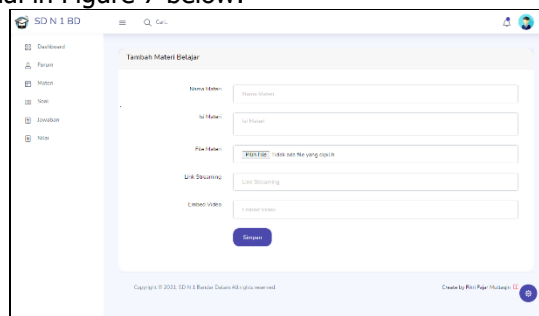


Figure 7. Material Page Implementation

The implementation of the question page is a view used to add, change, delete and display data, here is the display of the question in Figure 8 below:

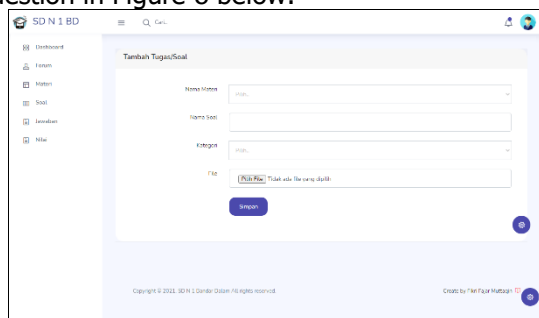


Figure 8. Problem Page Implementation

The implementation of the answer page is the display used to check the questions given, here is the answer display in Figure 9 below:

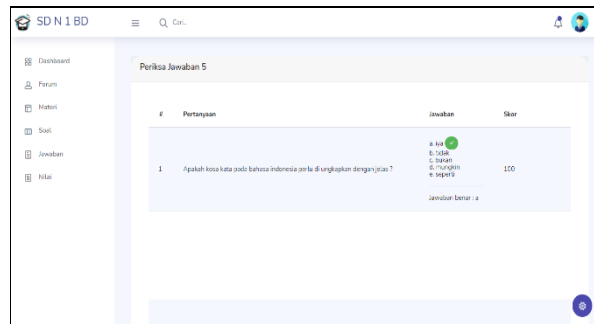


Figure 9. Answer Page Implementation

The implementation of the student main page is the view used as access rights to the menu page in the admin, here is the main view of students in Figure 10 below:

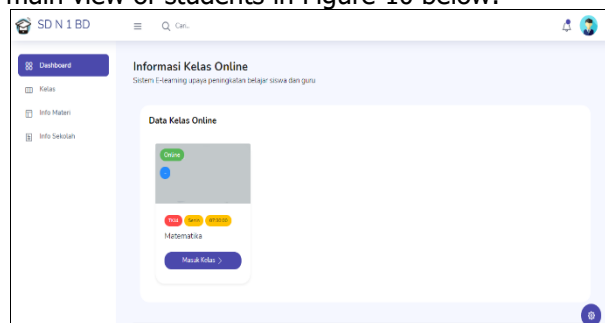


Figure 10. Student Home Implementation

The implementation of the forum page is a display used to follow discussions based on the material presented, here is the appearance of the discussion forum in Figure 11 below:

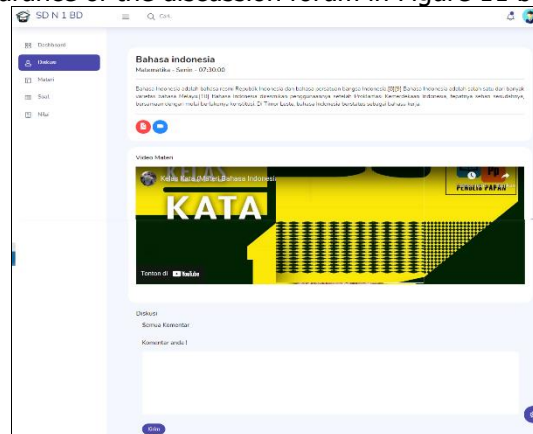


Figure 11. Forum Page Implementation

The implementation of the material download page is a display used to display data, here is the material download display in Figure 12 below:

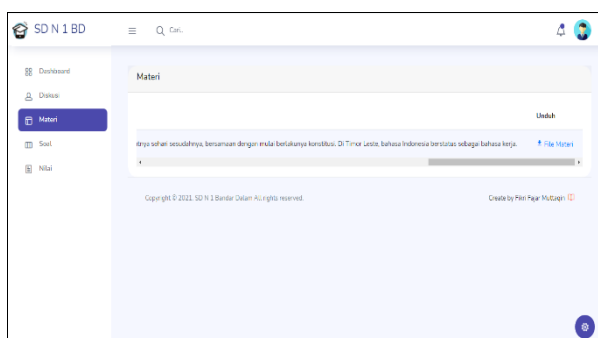


Figure 12. Implementation of the Material Download Page

The implementation of the question viewing page is a view used to display data, here is the question display in Figure 13 below:

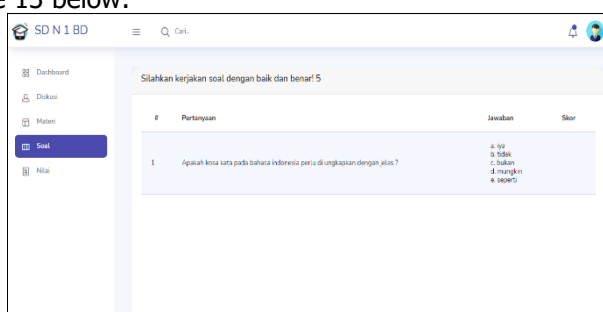


Figure 13. Implementation of the Problem View Page

From the total percentage score obtained 92.44%, it can be concluded using the table that the results are in the number 1 order so that it can be concluded that the results of usability testing are concluded according to respondents, namely Strongly Agree that the development is appropriate.

4. CONCLUSION

The results of the research obtained are in the process of building and applying the concept of online learning built using a website so that the learning process during the pandemic can still be productive in teacher learning to students. The application of the resulting learning system such as being able to manage teacher data, students, subjects, classes, the teacher section can provide material and questions, the student section can follow discussions on the material by displaying information such as material files, links to streaming media and displaying material info in the form of videos. In an effort to increase student learning productivity, there is information on a collection of material that students can easily download and the process of working on questions directly in the application can facilitate the process of assessing students

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