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Optimization of IT-Based Remedial Test to Improve the Economic Ability of OSN-K Students at SMAN 1 Sumberpucung

Adrian Hartanto Darma Sanputra¹, Tatas Ridho Nugroho², Eliza Silviana Miftakh³, Shynta Nuril Rahmawati Ahyar⁴, Venni Ayunda Pratiwi⁵

¹Universitas Negeri Malang, Malang, Indonesia, adrianhartanto.feb@um.ac.id.

²Universitas Negeri Malang, Malang, Indonesia, tatasridho.feb@um.ac.id.

³Universitas Negeri Malang, Malang, Indonesia, elizasilviana.feb@um.ac.id.

⁴Universitas Negeri Malang, Malang, Indonesia, shynta.nuril.2204226@students.um.ac.id.

⁵Universitas Negeri Malang, Malang, Indonesia, venni.ayunda.2204226@students.um.ac.id.

Corresponding Author: adrianhartanto.feb@um.ac.id¹

Abstract: This article discusses efforts to improve the understanding and competence of SMAN 1 Sumberpucung students who will take part in the National Science Olympiad (OSN) at the district level in the field of economics. SMAN 1 Sumberpucung is a school with "A" accreditation in Malang Regency that has received many awards, especially in the non-academic field. Over the past two years, donations about OSN in the economic sector will help them in participating in the district-level OSN event. Student achievement in the academic field is still minimal, one of which is in the OSN event. For the past five years, the students who were appointed to take part in the district-level OSN (OSN-K) in the economic field have not made it to the next stage. The facilities and infrastructure provided by the school are quite adequate, but they still do not take advantage of the use of technology. Therefore, the implementation of an IT-based Remedial Test website is a solution that can be used to deal with these problems. This service was carried out to implement the website in the learning system of students who will take part in OSN-K in the field of economics. Service activities include observation, discussion, website creation, implementation and handover of the website. The results of this service activity show an increase in students' understanding of various forms.

Keyword: Remedial Test, Website, OSN-K, Economics.

INTRODUCTION

Education is an effort made by a person in order to gain knowledge and skills through teaching. The teaching provided can be carried out in the form of formal education as well as education carried out by families and the community so that it can increase understanding (Pristiwanti et al, 2022). The existence of academic competitions can encourage student learning achievement and can increase focus in learning. One form of academic competition is the National Science Olympiad (OSN) which is held once a year. By participating in the Olympics, students can improve their critical thinking and problem solving skills. One of the

fields contested in the OSN event is the economy. Economics subjects cover basic concepts that are complex for many students. In studying economic materials, in-depth understanding and analysis are needed because the concept includes microeconomics and macroeconomics. Therefore, learning methods and media that suit the needs of students are needed. One of the media that can be used is by making technological innovations in the field of education.

Technological developments can be used in the field of education to help the implementation of learning. In the world of education, technology plays a role as a supporting tool used by teachers in teaching students (Maritsa et al, 2021). The technology can be in the form of using a website that functions as e-learning and includes learning materials and the collection of assignments that can be accessed by students. In addition, various supporting equipment such as smartphones, laptops, and gadgets are also widely used today. Based on this, the form of technological innovation in the field of education that can be developed is the Remedial Test website.

The Remedial Test website is designed using the concept of remedial learning, which is a learning process that provides educational support for students who aim to improve their academic results in order to meet the specified completeness criteria (Lidi, 2018). By using this concept, the Remedial Test website can help students in understanding the material, moreover the field of economics is a fairly broad field and can develop along with the renewal of rules and policies. Therefore, this website can play an important role in the learning process of students in economics subjects, both in improving their competence in school and in preparing for academic competitions, such as OSN.

The existence of the Remedial Test website is very suitable for schools that want to improve their students' competence in the field of economics, especially to help them prepare for OSN. SMAN 1 Sumberpucung is a school that can apply this website in preparing its students to take part in OSN in the economic field. Based on data collected through the official website of SMAN 1 Sumberpucung, the students have won many awards. However, during 2022-2023 the majority of the awards won were non-academic achievements, such as debate competitions, storytelling, and sports tournaments, while in the academic field such as the Olympics and scientific papers were still lacking. Every year, there are always representatives of SMAN 1 Sumberpucung who are sent to take part in OSN at the district level, but based on data obtained from the National Achievement Center (Puspresnas) during 2019-2023, there are still no representatives who have managed to qualify for the next level.

SMAN 1 Sumberpucung has provided various facilities and infrastructure facilities that are quite adequate to support the learning activities of its students. The school has also provided special extracurricular activities for its students who are interested in participating in the National Science Olympiad. However, all of these things are still not able to optimally support the preparation of students in participating in OSN-K. There are three problem factors that cause the failure of SMAN 1 Sumberpucung students in the OSN-K in the field of economics. The first problem is less intensive coaching, so that students only study the material in general, even though each topic in the field of economics has a different complexity. The second problem is that the majority of students are still learning questions and materials independently, so the evaluation of answer results is still lacking. The last problem is that the number of economic material topics presented in OSN is very large and from one topic can be developed into various types of questions with easy to difficult levels that students must do in OSN. This causes the students to find it difficult to understand the material in depth.

Various problems faced by SMAN 1 Sumberpucung can be overcome well through the integration of intensive coaching with optimal evaluation of learning outcomes. Both of these can be found through the Remedial Test website which will be developed. Therefore, the implementation of the Remedial Test website is very appropriate and important to be applied

at SMAN 1 Sumberpucung in order to help its students prepare themselves to participate in the OSN-K event in the economic field.

METHOD

Service activities were carried out at SMAN 1 Sumberpucung. This school was chosen because of several things that were taken into consideration, namely the problems faced by the school in line with the purpose of creating the Remedial Test website. The main problem is that no student has passed the district-level OSN event in the economic field for the last 5 years. In addition, this school has high academic potential. This is shown by the existence of extracurriculars or special study clubs to prepare students to take part in OSN. This activity aims to improve students' competence and understanding in the field of economics which is contested in the OSN event. The focus of this service is students who are preparing to take part in the OSN at the district level in the economic sector. SMAN 1 Sumberpucung as a partner, is actively involved in this service, so that their contribution will support the successful development and implementation of the Remedial Test website.

In order to achieve optimal results, the implementation of this service uses several methods, including observation, discussion, website creation, socialization of website use, and implementation and handover of the Remedial Test website.

Observation

The first stage carried out in this service activity is observation. Observation was carried out by coming directly to SMAN 1 Sumberpucung. The observation was carried out with the aim of finding out an overview of the situation and learning conditions of SMAN 1 Sumberpudung students. In addition, this activity was carried out to explore information and data about the obstacles experienced by students in the learning process to prepare for OSN-K. So that solutions to these problems can be found and formulated.

Discussion

The second stage is a discussion between the service team and the school, namely teachers and some students based on information and data obtained from the observation results. This activity was carried out in the form of FGD (Focus Group Discussion). The purpose of the activity was to discuss the potential, problems that occurred, and input so that an agreement was reached on the solutions offered. The solution is in the form of creating and implementing a Remedial Test website to help students in the learning process to prepare for OSN-K. The results of the discussion were in the form of a final decision which was used as a reference in the creation of the Remedial Test website.

Website Creation

Tahapan ketiga adalah pembuatan website Remedial Test. Pembuatan website ini bertuj to make it easier for students to work on questions and evaluate answers. The Remedial Test website is designed with relevant features that take advantage of advances in digital technology and a stable internet connection so that students can use it anywhere and anytime. This website is created according to the needs of partners and is designed to make it easier for teachers and students to understand and use it. It is hoped that with the creation of the Remedial Test website, students can more easily understand the material and be ready to face OSN-K questions, especially in the field of economics.

Socialization of Web Use

The next stage is the implementation of socialization regarding the use of the Remedial Test website. This activity was carried out to introduce the website to students and teachers at SMAN 1 Sumberpucung. The purpose of this activity is so that students and teachers at school

can understand well the features and how to use the website. Socialization is carried out directly at the school so that they can interact directly with the users of the website, so that both students and teachers there can understand well each feature and how to use the Remedial Test website.

Implementation and Handover

The final stage is the implementation and handover of the Remedial Test website to SMAN 1 Sumberpucung. This activity is carried out in order to optimize the features of the website and help partners overcome problems in using the website, so that both students and teachers as users can understand the use of the website well. Furthermore, an evaluation is carried out to find out whether the website developed is in accordance with the needs and then submitted to the partner. Through this activity, it is hoped that the website can be used for the benefit of student learning in preparing to take part in OSN in the economic sector.

RESULTS AND DISCUSSION

The service activities carried out at SMAN 1 Sumberpucung aim to help students who will take part in the National Science Olympiad (OSN) improve their understanding and skills in the field of economics. This activity was carried out by developing special learning media for economic material in OSN. This activity is packaged with a method that focuses on the development and implementation of the Remedial Test website which will be used as a learning medium for students in the OSN event in the field of economics. The website is supported by various features that are tailored to the needs of students and teachers in the desired learning process. The service activity is carried out through five main stages, namely observation, discussion, website creation, socialization of use, implementation and handover. The following is presented about the image display of the Remedial Test SMAN 1 Sumberpudung website:

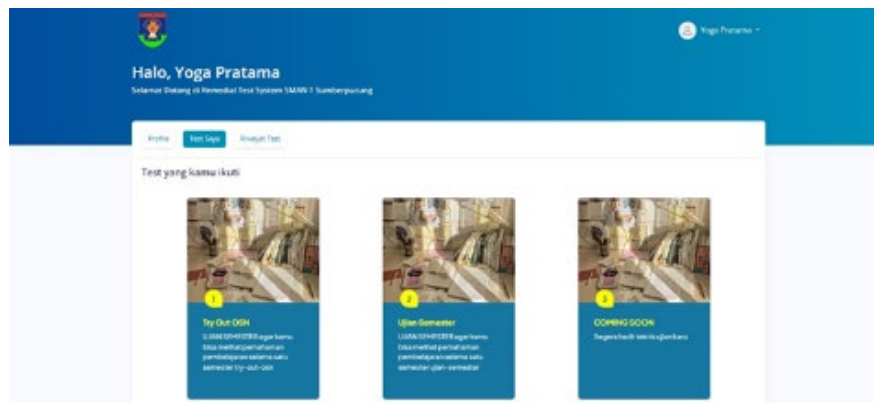


Figure 1. Remedial Test website display of SMAN 1 Sumberpucung

Observation

The first stage of this service activity is an observation that has been carried out on Thursday, June 13, 2024, an observation was made to SMAN 1 Sumberpucung which was welcomed by the principal and teachers. The observation process aims to find out an overview of students' learning conditions, supporting factors, and obstacles experienced during preparing for OSN-K at SMAN 1 Sumberpucung. In this activity, it is known that SMAN 1 Sumberpucung has the potential to encourage students to win the Olympiad, because the school has provided special extracurricular activities for students who are interested in participating in the National Science Olympiad. During the implementation of observation activities, deliberations were held with the principal and teachers to discuss the purpose of service and the problems experienced by SMAN 1 Sumberpucung in guiding its students to advance in the OSN event. From the results of the deliberations, it is known that there are several problems,

namely (1) the coaching carried out is not intensive so that students only learn the material in general, (2) most students still study questions and materials independently so that there is a lack of evaluation of the answer results, and (3) the topics of the material presented in OSN-K are so many that students must understand the material in depth in order to be able to work on topics with various types of questions.



Figure 2. Deliberation with the Principal and Teachers at SMAN 1 Sumberpucung

The observation results show that a solution is needed that can help the implementation of students' learning in preparation for OSN-K. By taking advantage of technological advances, a Remedial Test website was created and developed that functions as a learning medium and practice questions for students. The website is expected to help supervisors and students in learning the material, assessing and evaluating the level of errors so that they can be corrected in the future. The next activity was in the form of a Focus Group Discussion which was carried out with supervisors and prospective students of OSN-K participants, especially those who participated in OSN-K in the field of economics.

Discussion

The next stage is a discussion activity which will also be held on Thursday, June 13, 2024. Discussions were held with students and teachers who were companions in Olympic learning. The discussion was held in the form of a focus group discussion (FGD) which aimed to explore and collect opinions from both students and teachers related to the creation of the Remedial Test website and what things need to be included in the website. In addition, this discussion also discussed the advantages and differences of the Remedial Test website compared to other websites, how to use the Remedial Test website for both teachers and students, and the composition of questions entered on the website as preparation for student learning.



Figure 3. Discussion activities with the supervisor and several students

The discussion activity took place interactively between teachers, students, and the service team. The FGD session discussed the use of the website by teachers where in addition to being used to assess the results of student work, it also allows teachers to create and add questions according to student needs. The results of the discussion show that collaboration between teachers and students is very important in using this learning platform as part of the learning strategy ahead of the OSN-K competition. With the integration of technology in the learning process, it is hoped that students will be better prepared to face the exam and can minimize errors in working on OSN-K questions.

Website Creation

After observation and discussion activities, the next stage is the creation of a Remedial Test website. The website was created based on the results of observations and discussions with teachers and students regarding learning needs in preparing for OSN-K. The website is designed where teachers and students can access relevant teaching materials, practice questions, and exam simulations. This website also provides a variety of question bank features and is tailored to OSN-K questions a few years ago. With this feature, students can practice independently and in a structured manner so that students can measure the extent of understanding and working on OSN-K questions.

On the Remedial Test website, there is a login feature where students can enter their NISN and password so that they can enter the Remedial Test website. This section consists of three features, namely my profile, my tests, and test history. My profile contains the student's full name, place & date of birth, NISN, and where the student attended. Furthermore, for the test feature, I consist of two parts, namely, OSN try out and semester exam which is an exam simulation to measure the level of understanding in learning. As well as one feature that is still under development regarding the technical aspects of the new exam. Then, the test history feature which is a history of working on questions and access to material on the Remedial Test website. With this website, it is hoped that students will be better prepared to face OSN-K through learning and working on various types of OSN-K questions, especially for the economic field.

Socialization of Website Use

The socialization activity at SMAN 1 Sumberpucung was held on August 6, 2024 with several students and teachers. This activity is one part of the service efforts at SMAN 1 Sumberpucung to help improve the understanding and competence of its students in the field of economics. The implementation of socialization also involves a website development team so that the delivery of material can be more effective and optimal in accordance with the purpose of the activity. In this activity, the students were introduced to how to access the Remedial Test website and the features in it, such as profile features, tryouts, exams, and test history. In addition, the teachers as supervisors were given an introduction to how to access as teachers, question management features, and student work result monitoring features. The purpose of this activity is to provide initial provisions for prospective users of the website before the implementation process. Collaboration between students, teachers, and the service team is very important so that the goals of service activities can be achieved optimally through each method implemented.

Implementation and Handover

Implementation and handover activities will be carried out simultaneously on September 26, 2024. The implementation process of the Remedial Test website involves students and

teachers who are OSN supervisors. Through this activity, students can gain an understanding of how to use and feature the website directly. In addition, through this implementation process, teachers as student supervisors can also gain a direct understanding of how the website operation system works.



Figure 4. Working on Exam Questions by Students Through the Remedial Test Website

The Remedial Test website is an interactive evaluation platform that allows students to work on OSN-standard economic problems and get direct feedback on their work. From the implementation process, students get a clear picture of the material that still needs to be studied more deeply in the field of economics. In addition, with the Remedial Test website, the supervisor can supervise student development in a structured manner through the results of data analysis on the website. Through the use of the website, students not only get results in the form of final grades for working on questions, but also get an in-depth analysis of the mistakes made and explanations related to the material that is still lacking mastery. The results of the analysis are provided by the teacher through his access as an administrator.

The Remedial Test website has an important function as an interactive learning medium, because students can learn independently through the website by repeating the material and doing other questions according to their wishes. Through the use of this website, teachers can play an active role in monitoring test results and provide direct guidance to students based on weaknesses in errors detected in the system, so that the learning process can be more directed and on target. Through this website, students are faced with scenarios similar to OSN, including time limits and complexity of the questions. Therefore, with the existence of the Remedial Test website, students can get used to managing time, understanding question patterns, and honing their analytical skills in answering critical questions.

After the implementation of the implementation, the Remedial Test website was handed over to SMAN 1 Sumberpucung. The handover activity is a marker of the achievement of service activities carried out at SMAN 1 Sumberpucung. This achievement is in the form of the output of the Remedial Test website which has been implemented as a learning medium for students in preparing to take part in OSN. With this website, it is hoped that students in the future can be more prepared to compete in OSN events and their understanding and skills in the economic field will increase.



Figure 5. Handover of the Remedial Test Website to SMAN 1 Sumberpucung

Through the handover process, SMAN 1 Sumberpucung has full control over the Remedial Test website and can use the website as an interactive learning medium. The success of this activity is judged from the feedback given by students and teachers as users of the website. With the use of the website at the implementation stage, students become easier to access and learn OSN questions. Meanwhile, teachers feel helped in analyzing student performance through the results of their work on the website. The Remedial Test website provides great benefits in improving the quality of learning and preparing students to compete in OSN events. The website can also be an interactive media that supports technology-based economic learning at SMAN 1 Sumberpucung.

CONCLUSION

The service activities carried out at SMAN 1 Sumberpucung have the aim of improving students' abilities and competencies in facing the OSN-K competition, especially in the economic field. With the potential that SMAN 1 Sumberpucung has in the form of a study club for students who are preparing for OSN, it is a driver to carry out service that focuses on improving student competence in the form of creating a Remedial Test website. The result of this service activity is an increase in the enthusiasm of students in learning because this website can be accessed anywhere and anytime using a laptop or computer. In addition, it becomes easier for teachers to monitor student progress and evaluate learning outcomes in OSN-K preparation. Through this activity, it is hoped that it can help students excel in the academic field, especially in the field of the National Science Olympiad.

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