# ABDIMAS

## Revitalizing Distance Learning: MOOC For Improving The Quality of Training for Civil Servants

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**Abstract**

The COVID-19 pandemic has had a widespread impact on the education and training sector. Central Java, a province with training management resources, is experiencing a crisis in training management today. The large number of training participants from the state civil apparatus (SCA) who come from various regions in Indonesia requires innovation and change despite the various limitations of managers who do not have a special education base. Training managers at BPSDMD for SCA training need to be strengthened by developing distance learning through MOOCs because it can overcome the problems of distance, time, and financing to organize training that is usually done offline. This MOOCs will also increase the trust of other government agencies by making BPSDMD a pilot local government-based MOOCs developer. This service is carried out through mentoring and training that focuses on improving the resources of training managers at BPSDMD Central Java Province. This training and mentoring activity was attended by 38 BPSDMD employees with an In-House Training scheme for two days. As a result, there was an increased understanding of MOOCs and its application, designing training programs, presenting training materials, and evaluating training programs. The skills of the trainees can be seen from the portfolios collected. This service is useful in developing BPSDMD training programs for SCA in Central Java.

**Keywords:** state civil apparatus, BPSDMD, MOOCs, Training

## INTRODUCTION

The development of training innovation in Indonesia when referring to the growth graph of online training management is increasing very rapidly. In 2020, Pertamina has run training for employees, SMEs and umkm totaling 84 trainings with a training time of 120 hours per training course (Pertamina, 2020). Meanwhile, MOOC's have become part of the long-term innovation in training in higher education (Al-imarah & Shields, 2018; Crisp, 2014; Haq, Magoulas, Jamal, Majeed, & Sloan, 2018). This means that the age development of students in higher education is not far from the development of Pertamina employees as a whole, it can be concluded that MOOC's can be applied to employee training and state civil apparatus (ASN).

Public service tasks carried out by ASN by providing services for goods, services, and or administrative services. Currently, the character of ASN that prioritizes service to the community is still far from the expected standard. This is more due to the negative mindset that has long crystallized and become a habit. Another thing, which is a challenge at this time is the presence of the industrial revolution 4.0 which combines automation technology with cyber technology (Khalid, 2000). The challenge of the presence of the industrial revolution 4.0 (Devezas, Sarygulov, & Change, 2017), is an opportunity for BPSDMD Central Java province in innovating its functional duties, namely ASN competency development through MOOC's to be more effective, efficient and fast.

As a Techno Training Center institution (Education, 2009) in the development of ASN competencies, BPSDMD Central Java Province has three main factors in the application of e-learning, namely: Infrastructure, info structure and superstructure. The management of e-learning training in BPSDMD is very adequate. The teaching element with the potential of widyaswara education qualifications of strata 2 totaling 48 people and strata 3 totaling 5 people is adequate in terms of the application of pedagogy for e-learning path training. Meanwhile, in terms of technical system management, BPSDM is considered capable of implementing e-learning training because there are 13

people with undergraduate qualifications who are considered capable of understanding the theoretical application for electronic academic activities.

The concept of MOOC's success (Crisp, 2014) is not only supported by information technology tools, but also by adequate planning, administration, management, and economics. It is also necessary to consider the role of facilitators, teachers, and management on how to implement, how to adopt new technology, facilities, costs, and schedules. Conceptually, e-learning teachers must have the ability to understand the material they deliver, understand effective MOOC's strategies (Haq et al., 2018), be responsible for learning materials (Butcher, Davies, & Highton, 2006), learning preparation (Morton et al., 2016), making teaching materials (Jackson & Jackson, 2017), selecting supporting materials, delivering effective learning materials, determining interactions, selecting and evaluating electronic assignments (Drossel, Eickelmann, & Schulz-Zander, 2017).

Several studies have shown that MOOC's are effectively used in Blended Learning. The Blended Learning model using MOOC's has proven effective in improving learning outcomes, students respond positively to the use of the media and statistically can improve competence even in training for ASN and for employees in various companies. ASN plays a role in building a generation with competence, character, new literacy skills, and high-level thinking skills, therefore educators must become digital ASNs, computer savvy, and free from academic diseases. The goal is to realize a generation with high levels of competence, character and literacy to answer the challenges of the Industrial Revolution 4.0 era. Based on the analysis and problems in the management of training at BPSDMD Central Java Province, it is necessary to improve the quality of distance learning at BPSDMD Central Java Province through the application of MOOC's ASN Training. MOOC's that will be used is a laravel-based learning management system framework, because it is easy to use, there are interactions such as social media and learning content management.

## METHOD

The method of implementing this service is In-House Training. This community service training strategy includes the following:

1. Presentation of material on training databases, MOOC's basics and MOOC's applications, Designing training programs, Presenting Training Materials, and Designing Training Evaluations.
2. Working on training worksheets
3. Mentoring within the specified time period.

The training method for Improving the Quality of Distance Learning at BPSDMD Central Java Province through the Application of MOOC's for ASN Training includes the stages of the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) by Molenda including: (1) needs analysis includes analyzing participant characteristics, learning environment, and learning materials. (2) development of a design plan covering training. (3) module development. (4) Implementation stage,. (5) Evaluation. Evaluation of the implementation of the service is carried out in two parts, namely the evaluation of the process of implementing the training program, carried out during the ongoing training process. The second evaluation, namely the evaluation of results, is carried out on the achievement of the participants' work in participating in the training program. The participants of this training are employees of BPSDMD Central Java Province.

## RESULT AND DISCUSSION

The activity carried out is the presentation of material on the basis of improving the quality of distance learning at BPSDMD Central Java Province through the application of MOOC's ASN training. The presentation of the material was carried out using the Focus Group Discussion and In House Training models which were held for two days from September 15 to September 16, 2021. The dissemination of information about the FGD and IHT activities was conveyed through an official letter from BPSDMD Central Java Province numbered 1691/IX/SKRT-UK/2021.

The first day, Focus Group Discussion (FGD) activities were carried out virtually using zoom. The FGD discussed the needs analysis related to MOOC's. The FGD discussed the existence of MOOC's in education and training. In addition, the FGD also focused on analyzing the needs of MOOC's. Therefore, in the FGD participants were asked to fill out a google form to find out the needs of MOOC's in BPSDMD Central Java Province.

On the second day, In House Training activities were carried out online through zoom by providing material on the introduction of MOOC's application functions and designing training programs. The IHT activity began with an opening by Drs. Mohamad Arief Irwanto, M.Si. who is the Head of BPSDMD Central Java Province and continued with the provision of material by resource persons.
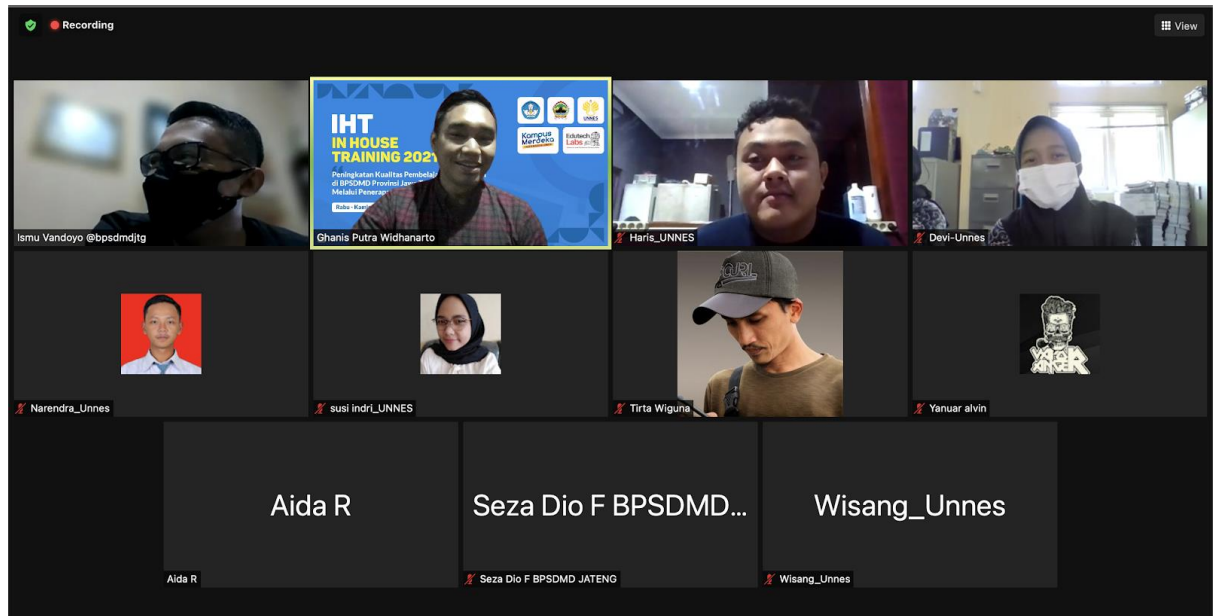


Figure 1. Delivery of Materials to Trainees

Figure 1 shows the process of delivering material by resource persons to IHT participants. The first material presented was related to the Development of Training Databases delivered by Ghanis Putra Widhanarto, S. Pd., M. Pd. The presentation of the material began with an introduction to the training database and an introduction to the Moodle application for managing MOOC-based online courses. Then continued with a discussion session where IHT participants conveyed how the management of the training database at BPSDMD Central Java Province and conveyed various obstacles related to the management of the training database. Then followed by providing some suggestions and input by the presenter as a solution to the problems faced in relation to the management of the training database at BPSDMD Central Java Province.

The next material is related to the Preparation of Training Programs which discusses the basics in preparing training programs. The training instructor delivered several topics that included the process of identifying the required competencies, determining participant requirements, compiling curriculum, compiling syllabus, and determining training resources. After the process of delivering the material was completed, it was then continued with a question and answer session to deepen the material delivered by the instructor. In addition, an explanation was also made regarding the portfolio as a bill for IHT activities.

The next material is about Planning the Presentation of Training Materials. This session provides an explanation and understanding to participants related to designing learning sessions, stages in presenting training materials, and preparing equipment and media used. Materials related to evaluating the quality of training programs were also provided to participants to provide an overview and understanding of conducting training evaluations. The material presented included an overview of evaluation, how to evaluate training programs, and evaluation models that can be used to determine the quality of training programs. After the material presentation process was completed, it was followed by a discussion process.
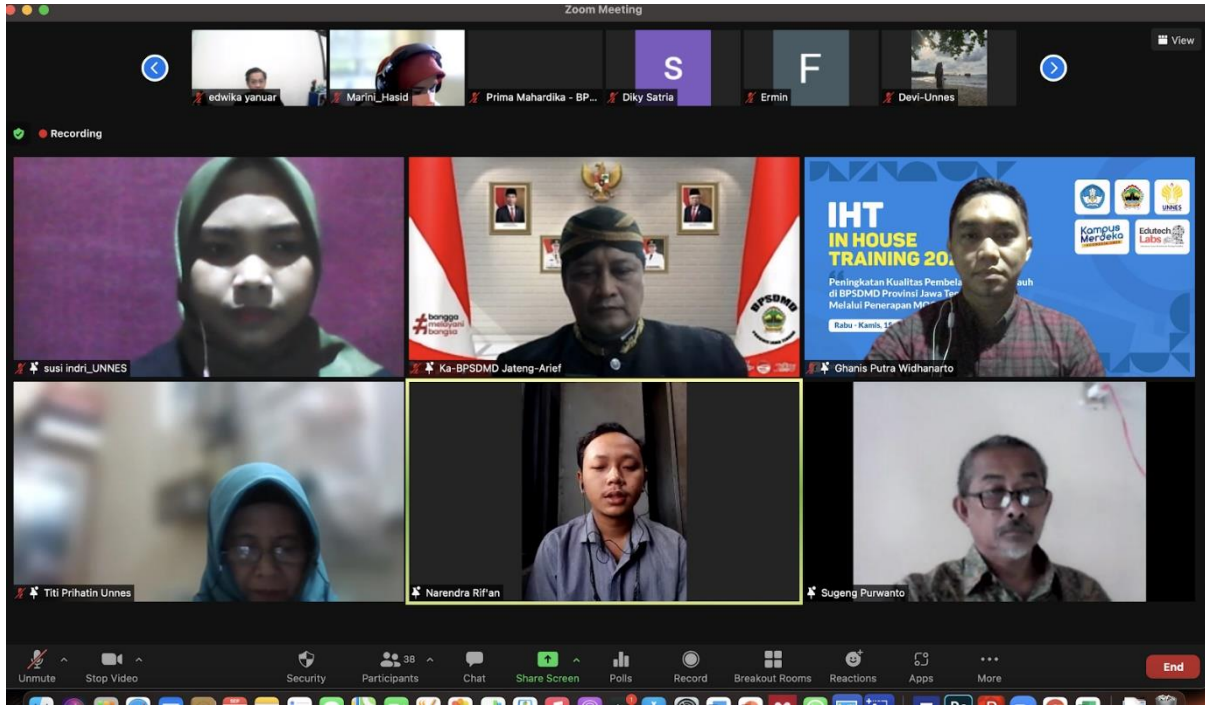
Figure 2. Discussion Session with Participants

The discussion process can be seen in Figure 2. In Figure 2, participants were given the opportunity to ask questions to deepen the material and determine the participants' understanding of the material presented. Participants were enthusiastic in asking questions related to the deepening of the material presented by the speakers. In addition, at the end of the presentation of the material, the speaker gave an overview of the portfolio that must be made by participants as the final bill of the training.

After participating in the FGD and IHT activities, participants were given the task of making a portfolio according to the type of IHT they participated in. The assignment of making a portfolio is done to measure the skills of the participants regarding the material presented. The portfolio task is that training participants are asked to design certain MOOC-based training programs, create training feedback forms, participants are also asked to Design the Presentation of the training program material made. In addition to the portfolio, measurement of participants' understanding was also carried out by providing several questions related to the training material through the provision of an online questionnaire.

The training program implemented through the IHT scheme has succeeded in providing participants with an understanding of preparing training programs, designing training materials, and evaluating training through the application of MOOCs. The trainees' understanding of training database management and MOOC's application functions also increased from before the training process took place. The increase in participants' understanding related to designing training programs, designing materials, and evaluating programs through the application of MOOC's can be seen in the following table:

Table 1. Improved Understanding of Trainees

| Measured Aspects | Initial Comprehension (The average) | Final Comprehension (Average) | Percentage Increase |
|---|---|---|---|
| Understand competency needs | 52 | 75 | 44% |
| Understand training goals and objectives | 61 | 69 | 13% |
| Understand training content and curriculum | 45 | 71 | 58% |
| Know learning methods and approaches | 54 | 68 | 26% |
| Understand the types and stages of evaluation | 57 | 76 | 33% |
| Understand the concept of learning | 48 | 62 | 29% |

| | | | |
|---|---|---|---|
| evaluation | | | |
| Able to design evaluation instruments | 63 | 79 | 25% |
| Able to analyze evaluation data | 41 | 57 | 39% |
| Understand learning equipment and media | 70 | 80 | 14% |
| Understand the content and structure of the material | 53 | 72 | 36% |
| Able to present material clearly and systematically | 49 | 66 | 35% |
| Able to explain concepts appropriately | 58 | 73 | 26% |

Table 1 shows the level of understanding of the trainees in various aspects related to training program planning, evaluation, and presentation of materials in MOOC's format. There are variations in the improvement of understanding, with some aspects experiencing significant increases. For example, the understanding of training content and curriculum increased by 58%, while the understanding of evaluation data analysis increased by 39%. Participants' understanding of the training goals and objectives also increased by 13%. Overall, there was an increase in participants' understanding in all aspects related to training program planning, material presentation, and training program evaluation before and after attending the IHT.

As for the participants' skills, which were assessed through the portfolios collected, showed quite high results in the skills of designing training programs, designing material presentation, and determining the evaluation of training programs after attending In House Training. This can be seen in the following table:

Table 2. Trainee Skills

| Skills | Average |
|---|---|
| Structuring a Training Program | 85 |
| Training Material presentation design | 83 |
| Designing Training Evaluations | 78 |

Table 2 shows participants' skills in developing training programs, presenting training materials, and designing training evaluations. The assessment is based on the portfolio collected by the trainees after the IHT session ends. Based on Table 2, it is known that the participants' skills in implementing the understanding of training materials are quite good with an average assessment of the skills in preparing training programs of 85, skills in designing material presentation with an average of 83, and designing training evaluations with an average of 78.

Participants' understanding of training database management and understanding of MOOC's application, namely Moodle, has also increased based on the completion of pretests and postests by training participants. The data is presented in the following table:

Table 3. Participants' Understanding of MOOC's Applications

| Aspects | Initial Comprehension (The average) | Final Comprehension (Average) | Increase (in percent) |
|---|---|---|---|
| Moodle navigation | 40 | 55 | 37.50% |
| Use of Forums | 45 | 50 | 11.11% |
| Assignments and Exams | 50 | 60 | 20.00% |
| Managing Materials | 35 | 40 | 14.29% |
| Online Interaction | 40 | 45 | 12.50% |
| Use of the Quiz Feature | 30 | 50 | 66.67% |
| Online Class Management | 55 | 60 | 9.09% |
| Utilization of Collaboration Tools | 50 | 55 | 10.00% |

Table 3 illustrates the results of the assessment of the trainees' understanding of the Moodle application for MOOCs in the eight aspects measured. Based on Table 3, it can be seen that the trainees showed an increase in understanding in some aspects, although within a limited range of numbers. The aspect of Moodle Navigation experienced an increase of 37.50%. The use of Forums and Online Interaction also showed an increase, although in a smaller range, namely by 11.11% and 12.50%. Online Class Management and Utilization of Collaboration Tools only showed an increase of 9.09% and 10.00%. A more significant increase was seen in the Use of Quiz Features, which increased by 66.67%. Overall, this training had a positive impact in improving participants' understanding of MOOC's applications, albeit within a limited range of numbers. Although there are variations in the level of

understanding improvement between the aspects measured, this training still provides benefits in improving participants' understanding and mastery of the use of MOOC's applications in the context of online-based training.

**CONCLUSION**

The implementation of the service to improve the quality of distance learning at BPSDMD Central Java Province through the application of Mooc's ASN training has been running according to the initial plan. The implementation of the service was attended by widyaiswara and employees at BPSDMD Central Java Province. The process of implementing the service carried out with the Forum Group Discussion and In House Training models is carried out virtually through zoom meetings. The process of implementing the service includes discussions packaged in FGDs, presentation of material packaged in IHT and giving assignments in the form of portfolios. As a result, there was an increase in participants' understanding related to MOOC's and MOOC's applications, designing training programs, designing the presentation of training materials, and designing training evaluations. On the other hand, the participants' skills in applying the material presented were also quite good as seen from the portfolios collected by the trainees.

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