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## **E-EVALUATION: HOW TO BUILD AN EASY AND PAPERLESS EVALUATION SYSTEM WITH LIMITED RESOURCES (CASE STUDY AT EDUCATION AND TRAINING CENTER FOR BSSN)**

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### **Abstract**

*Evaluation as an important component in the implementation of a training should be done not only to measure the success of a training program but also as input and suggestion for the development of future training program. The usual method of training evaluation is to use paper that certainly cost and time, not to mention the process of data input and compilation. When the method is changed using softcopy that is sent via email, the constraint still continues. Not to mention when not all users have personal email. Development using online application tools would require a large resource, while in Education and Training Center of BSSN have limited resources both human resources and funds. However, this should be done for the success of paperless and e-Government programs in the government institutions carried by BSSN.*

*The author tries to make the evaluation design by using the available online tools, google forms, with elements of assessment that have been determined in the rules. This form link will be*

*dispersed through whatsapp application facility to each of the users from one of the training programs as the case study.*

*From the results of the distribution of the link obtained the e-evaluation design results not only facilitate the user but also able to save costs and time, facilitate the process of data input and compilation and control functions to the process of collecting the form again, especially for users from outside Education and Training Center of BSSN environment.*

### **Keywords**

E-Evaluation, E-Government, Googleforms, Paperless

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## **1. Introduction**

Education and Training Center in organizing its system of activities has three main functions, namely the function of planning, organizing, and evaluation. Evaluation of Education and Training is one important component in the Training system. Without an evaluation, we find it difficult to know the success rate of a training program. The evaluation result of this training is not only used as a measurement tool for the success of the training but also as input and consideration for the improvement of the training program in the future. Did not rule out the results of training evaluation can also be used to develop other training programs (Arikunto, 2009).

Evaluation of the training should be undertaken to determine whether the training is feasible to continue or not, to give confirmation to existing training and to obtain information for future improvement. Education and Training Center should conduct continuous and continuous evaluation of the training, to find out if the training that has been held has a useful and useful. The results of program evaluation and implementation are used to improve the implementation of education and training (Worthen, 1987).

Implementation of evaluation of training implementation at Education and Training Center BSSN done for each kind of training. The existing reality of data retrieval for each evaluation is still done in the conventional way, namely by distributing assessment questionnaires to be filled by respondents. Questionnaires are distributed using paper that has been filled with assessment elements in accordance with the evaluation object.

The use of this assessment questionnaire has cost a lot of money and time. Funds issued is to double the questionnaire assessment of a number of respondents multiplied by the number

of training undertaken. Financial savings have been tried to be done by sending a questionnaire evaluation in the form of softcopy to all respondents in the ongoing training. The completed questionnaire will be sent by organizer email. Nevertheless the organizers still need time to recap the results of the assessment one by one. The control function for checking the questionnaire return is also still done manually. Besides, the delivery of this questionnaire softcopy can not be done for the trainee because of limited facilities, so for the questionnaire trainees are distributed in the form of evaluation book containing all required questionnaires. The problem that often happens is when the return of the evaluation book at the end of the training implementation there are still many trainees who have not filled out several questionnaires in the evaluation book. All of these things cause the entire evaluation process to be hampered.

To overcome the above problems required a new evaluation system that is easy and requires a relatively fast time to apply. In 2018 Education and Training Center of BSSN was initiated by Evaluation and Quality Assurance Division which has duty in this field began to pioneer to make digital based evaluation system by starting to design e-evaluation. The system is paperless based, able to digitize the assessment in training evaluation and facilitate the control system in its implementation. It is hoped that this e-evaluation design can help overcome the problems in training evaluation at Education and Training Center BSSN.

## **2. Objective of the Study**

The purpose of this research is to obtain an online application-based e-evaluation design that supports paperless programs and can be applied in all types of training held at Education and Training Center for BSSN.

To facilitate the discussion in the research it is necessary to limit the problem as follows:

- The research was conducted at Education and Training Center of BSSN with application for Information Security Training Program of Generation 207 (DSD 207) Fiscal Year 2018.
- The object of evaluation discussed is limited to teacher evaluation and trainee evaluation of attitude and behavior aspects.
- Research is only done until the implementation phase of e-evaluation.

### **3. Research Methods**

Research methods with secondary data retrieval, author experience and data retrieval from various related sources. Followed by triangulation of data through interviews and observation.

### **4. Result and Discussion**

#### **4.1 Electronic Evaluation (e-evaluation)**

Electronic evaluation (e-evaluation) is a term used by the author to describe the evaluation process done online. Instruments used in the form of a questionnaire of value fields with elements of assessment that have been specified in the rules. E-evaluation utilizes online survey media, uses social media in the deployment to users, data is stored in online storage media and email delivery reports. Evaluation applied in e-evaluation in this research is evaluation of teacher and behavior attitude evaluation to trainee. This evaluation is the result of observation of teachers and trainees during the learning process at run time until the end of each learning materials. In the beginning, the learning evaluation was done manually, giving the questionnaires to the teacher and the trainees in the class. Along with the paperless and cost-saving programs promoted by BSSN it is necessary to adapt this evaluation system. With the e-evaluation is expected not only support the program but also the evaluation process can be faster when collecting data because it uses social media so that it can be done by respondents wherever and whenever (Wikipedia, 2018). For the organizers will be faster in the process of processing and data analysis because it no longer requires manual data input process again. All the results of questionnaires that have been filled by the respondent will be directly sent to the online storage media so that it can be processed anytime and anywhere (Imran, 2018).

#### **4.2 Design e-evaluation**

Based on Lemsaneg's rules on Evaluation Guidelines for Education and Training Evaluation design codes include 8 step steps from before to post evaluation (Lemsaneg, 2013). All these stages will be re-adjusted to the e-evaluation system to be built. New techniques and methods are continuously evolving in the areas of research and evaluation (ISAAC, 1981). It is thus expected to meet the demands of the digital age demanding the realization of paperless office tailored to the limited resources of the Education and Training Center BSSN. With these steps will be determined and prepared e-evaluation design includes:

a. Evaluation object

For the present study the object of evaluation is DSD 207 trainees in 2018 totaling 25 (twenty five) persons and all teaching materials in the class of 13 (thirteen) persons. Both trainees and teachers will also act as assessors or respondents. Established evaluator team to monitor the spread and collecting questionnaire later on.

b. The purpose of the evaluation

Evaluation of teachers aims to assess the quality and competence of teachers while teaching, from the point of view of trainees, with assessment indicators including:

- Mastery of Material
- Goal Achievement
- Quest Answers Ability
- Skills Delivering the Material
- Classroom Mastery
- Interaction with Trainees
- Media Usage
- Time Management
- Tightness Appearance
- Giving motivation

Evaluation of the trainees is aimed at assessing attitude and behavior aspects of the trainees with assessment indicators including:

- Integrity
- Cooperation
- Initiatives
- Professional
- Adaptation
- Service orientation

c. Evaluation instruments

The evaluation instrument is a questionnaire filled with the following criteria:

- Evaluation of Teachers scoring on a scale for each criterion, where the score is 1 for Very Poor rating up to 10 for Excellent rating.

- Evaluate attitudes and behaviors against Trainees with the terms of the assessment range:  
70 - 75: Relatively Good Enough  
76 - 81: Relatively Good  
82 - 87: Very Good Relative

The range of values is the accumulation and / or average of all assessment criteria. Values below 70 are possible to be filled in to the value of the trainees with the record of the trainee having violated the code of conduct of the trainee's conduct in accordance with the Training of Trainee's Life or committed a gross violation.

d. Data analysis techniques

Data analysis uses the average calculation technique performed by the evaluator team.

e. Preparation of evaluation reports

Preparation of evaluation report is done after all respondents in the training have sent the assessment results.

f. Interpretation of data

Interpretation of data is done by the evaluator team based on data analysis.

g. The type and form of the report

Reports are made in softcopy and hardcopy. The contents of the report contain the recapitulation value of the teacher and the value of the trainee's attitude behavior.

h. Reporting techniques

The evaluation report submitted to Head of Evaluation and Head of Education and Training Center for BSSN in the form of recapitulation report through email.

After the determination of e-evaluation design is completed with the preparation of activity stages from before until after evaluation, as follows:

#### **4.2.1. Pre e-evaluation**

Activities undertaken at the pre-evaluation stage are:

- Prepare the concept of learner assessment and trainee behavioral attitudes tailored to the rules and regulations and design that have been determined.

In this phase, all data of the faculty members and DSD 207 trainees are to be displayed and the mobile phone number of all DSD 207 teachers and trainees.

- Preparing the old questionnaire as a reference in the determination of assessment indicators. This is an adjustment in transition between conventional evaluation systems and e-evaluation systems.

- Create a questionnaire form through the Google Forms application.

This application is selected from the many online survey applications available because in addition to not paid is also relatively easy to use even for new users though. The Google Forms app can also connect directly with other Google apps that Google Drive is selected as an online storage medium. Google Forms also allows the addition of images or photos, where it is necessary to display the profiles of trainees to be assessed. Survey and data answers are automatically collected on Google Spreadsheets and can be stored directly in Google Drive, which is a much-needed convenience by the evaluator team in the process of collecting and processing the data later. Google Forms also provides 3 (three) means of distributing questionnaires in the form of survey links into emails, websites or social media (DSG, 2018).

- Create links from questionnaires that have been created in Google Forms and save them.

Google Forms views generated for teacher evaluation:

The image shows a Google Form titled "Form 2A DS/DSD" with the subtitle "Evaluasi Pengajar oleh Peserta". It includes a "Data Diklat" section with the following fields: "Jenis Diklat" (radio buttons for DS and DSD, with DSD selected), "Angkatan" (text input with "207"), "NIS" (text input with "4554"), "Nama Mata Diklat" (text input with "Kriptografi Dasar"), and "Nama Pengajar" (text input with "Anik Setyowati, SE, MM"). Below this is a "Petunjuk Penilaian" section with a rating scale from 1 to 10, where 1 is the lowest and 10 is the highest.

**Figure 4.2.1:** *Google Forms for teacher evaluation page 1*

**Aspek Penilaian**

Sangat Buruk <<<<<----->>>>> Sangat Baik

1. Penguasaan Materi \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

2. Pencapaian Tujuan Pembelajaran \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

3. Kemampuan Menjawab Pertanyaan \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

4. Keterampilan Menyampaikan Materi \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

5. Penguasaan Kelas \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

6. Interaksi dengan Peserta \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

7. Penggunaan Media Pembelajaran \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

8. Manajemen Waktu \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

9. Kerapian Penampilan \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

10. Pemberian Motivasi \*  
1 2 3 4 5 6 7 8 9 10  
Sangat Buruk           Sangat Baik

Catatan/Saran/Masukan  
Your answer

**SUBMIT**

Never submit passwords through Google Forms.

Figure 4.2.1: Google Forms for teacher evaluation page 2 and 3

Views of Google Forms generated for evaluation of attitudes and behavior of trainees:

**Form 1A**

\* Required

**Ketentuan Penilaian**

Tuliskan Angka antara 70 s.d. 87 dengan ketentuan sbb:  
70 - 75 : Relatif Cukup Baik  
76 - 81 : Relatif Baik  
82 - 87 : Relatif Baik Sekali

Nilai di atas adalah akumulasi dan/atau rata-rata dari Indikator Penilaian sbb:  
1. Integritas  
2. Kerjasama  
3. Prakarsa

Khusus untuk DSD, indikator Penilaian ditambahkan dengan:  
4. Profesional  
5. Adaptasi  
6. Berorientasi Pelayanan

Nilai di bawah 70 dimungkinkan untuk diisikan pada nilai peserta dengan catatan peserta diklat tersebut telah melanggar kode etik sikap perilaku peserta diklat sesuai Tata Tertib Kehidupan Peserta Diklat atau melakukan pelanggaran berat.

**Jenis Diklat \***

DSD  
 Dikjangfungsan Muda  
 Dikjangfungsan Pertama

**BACK** **NEXT**

Never submit passwords through Google Forms.

**Form 1A**

Evaluasi Peserta oleh Pengajar

\* Required

**Nama Penilai (Pengajar) \***

Choose

**NEXT**

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Google Forms



Figure 4.2.1: Google Forms for evaluation of attitudes and behavior of trainees page 1 and 2

The image shows two pages of a Google Form. The left page is titled 'Form 1A' and includes a purple header with 'DSD' and '25 orang'. Below this, there are dropdown menus for 'Angkatan' (set to 207) and 'Mata Diklat' (set to Kriptografi Dasar). A section titled 'FOTO PESERTA DIKLAT' displays eight photos of trainees in a 2x4 grid, with names: ABDUL HARIS, ABIDIN, Achmad Nasichin, Agung Pri, Agustinus Purba, Ali Bangkit R, Andilala, and Antho Rix. The right page shows a list of trainees with their scores: 22. Suharto \* (80), 23. Suryadi \* (80), 24. Susilo Bambang Yudhonedgara \* (81), and 25. Wisnu Brahma S. \* (82). There is a 'Catatan Khusus' field with the text 'well done' and 'BACK' and 'SUBMIT' buttons at the bottom.

Figure 4.2.1: Google Forms generated evaluation of attitudes and behavior of trainees page 3 and 4

#### 4.2.2. e-Evaluation

Activities undertaken during the evaluation are:

- Send Google Forms links that have been made to all teachers and trainees as respondents through social media in this case WhatsApp (WA) online message service. WA is selected because this app only uses mobile phone numbers and internet lines to exchange messages with fellow users (Andreas Kaplan, 2012). Where data cell phone numbers all teachers and trainees as respondents have been collected by the evaluator team. WA also allows sending messages to all teachers and trainees at a time so as to save time and cost in the process of sending e-evaluation questionnaires.

- The evaluator team will periodically check the responses of respondents through the Google Drive app to find out how far the respondent has filled out and return the results of the assessment in the questionnaire.
- The evaluator team will contact the teacher and trainees who have not submitted the results within the specified time limit.

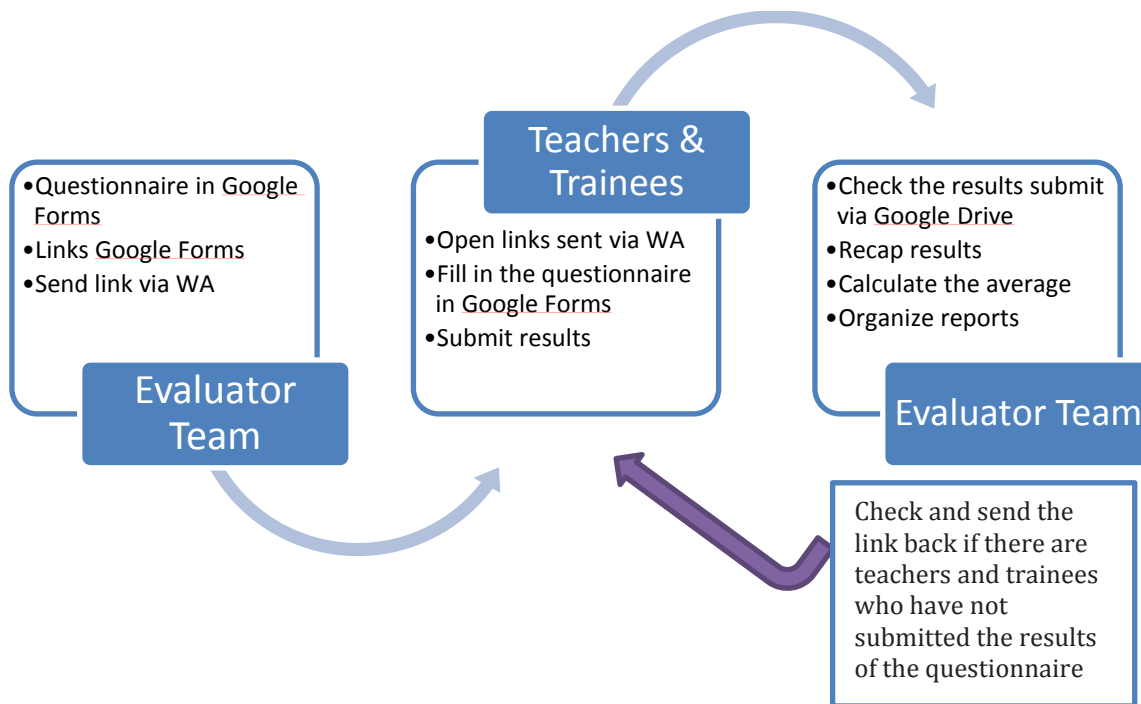


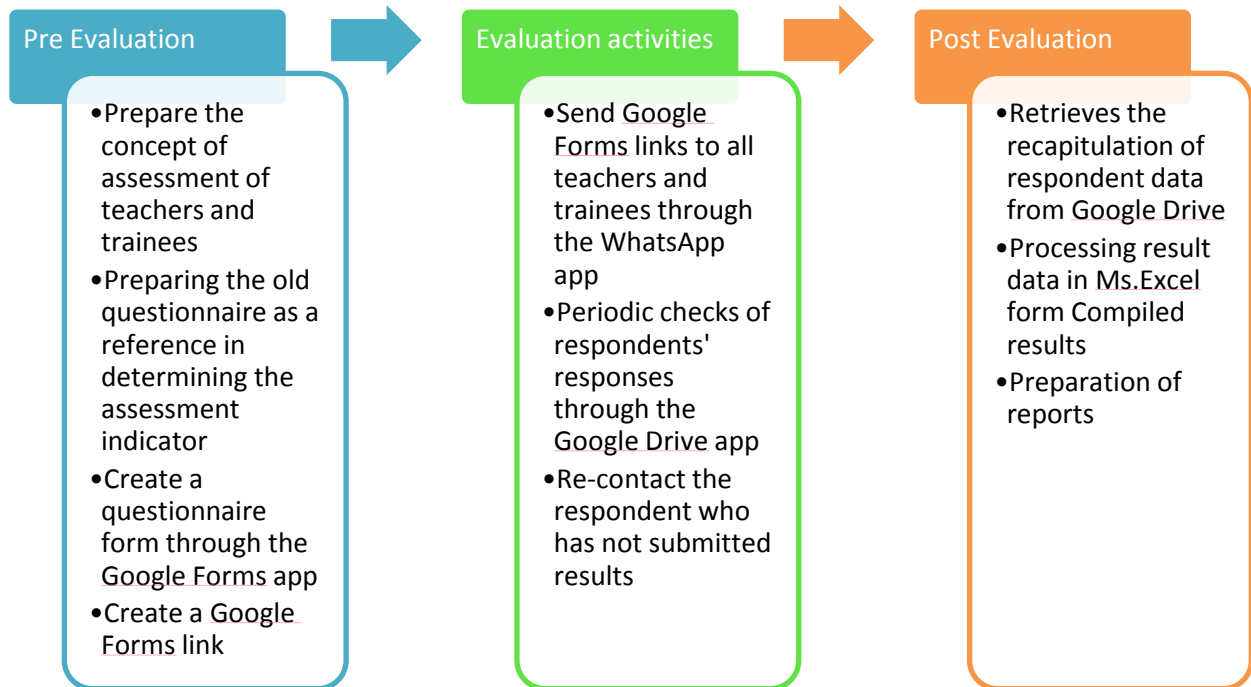
Figure 4.2.2: e-Evaluation Activities

#### 4.2.3. Post e-evaluation

- After all respondents submit the results then the evaluator team will take the results of recapitulation of respondents data from Google Drive.
- The results of the questionnaire will be processed in the form of Microsoft Excel and averaged so that the recap value of each teacher and the attitudes and behavior values of each trainee will be produced.
- The result of the evaluation of the lecturer will be used as the evaluation meeting of the training implementation at the end of DSD 207 training implementation.
- The results of the attitudes and behaviors of the trainees will then be compiled with other appraisers other than the instructor, the teacher and the supervisor / guardian. Furthermore, it

will be combined with the results of the assessment of elements of mastery of the material performed by other units.

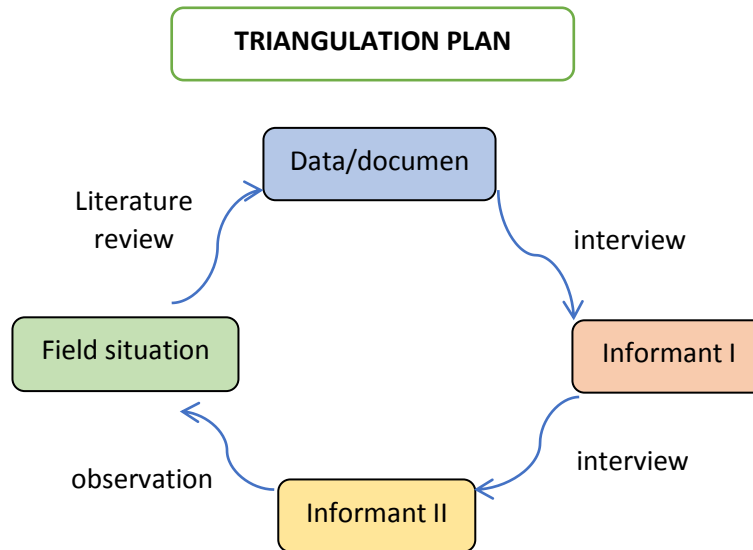
The overall stages of e-evaluation are more clearly seen in the following chart:



**Figure 4.2.3:** *The whole process of e-Evaluation*

### 4.3 Triangulation Process

After the design and e-evaluation phase is completed it will be seen how far this new system runs by doing some checking step through triangulation method.



**Figure 4.3:** *Triangulasi Plan Design for e-evaluation*

Checking of Google Forms delivery return data that has been deployed to all teachers and trainees is done through Google Drive. Of the 13 (thirteen) lecturers as respondents have successfully submitted assessments within the prescribed timeframe, as well as 25 (twenty five) trainees, thus the return rate of the form reaches 100%. The entire questionnaire is filled out with a complete assessment for all teachers and trainees with a range of assessments in accordance with predetermined requirements. Thus the required evaluation data with the e-evaluation system is 100% fulfilled.

Interviews were conducted with a team of evaluators, teachers and trainees as respondents. From the results of interviews with the evaluator team obtained information that the e-evaluation system provides convenience in terms of:

- Dissemination of evaluation forms
- Control of evaluation form returns
- Data recapitulation process
- Data processing
- Fulfillment of the evaluation process schedule
- Production of report results

From the results of interviews with teachers as respondents obtained information that respondents prefer this e-evaluation system than the previous evaluation system they ever did because it gives them convenience in terms of:

- Opens the evaluation link as it is sent via WA so it can be opened anytime and anywhere.
- Fill out the evaluation form through the Google Forms link at any time, even during the time lag so that the results of the assessment of the trainees are more accurate because it is done directly so as to reduce the risk of forgetting.
- Resubmit the completed form with just one click without waiting and search for the evaluator team officer.

Interviews with training trainees found that they did not encounter any obstacles in the e-evaluation process, and were helped in:

- Questionnaires are given in the form of links via WA so they do not have to save the dam carrying evaluation files in sheets or books each time will fill out the assessment of the teacher.
- Questionnaires can be completed shortly after the teacher finishes, so the assessment is easier.
- Resubmitting filled forms can be done per teacher without having to wait for the assessment of all the learners to complete so as to reduce the burden of the task.

Field observations were conducted in the evaluator's workroom and file duplication units. Observations in the evaluation team's workspace have found that with e-evaluation they have more free time to do other tasks in the field of evaluation, without having to be busy again pursuing teachers and reminding the trainees to collect evaluation files as in the previous evaluation system.

Observation in the file copying unit feels the same way as the lack of work for a copy of the file in the previous evaluation system should be shared with the teacher for each teaching instructor. From one DSD 207 training can be calculated paper savings from 13 lecturer's evaluation process and 325 sheets of trainee evaluation, so total paper saving is 338 sheets. This amount is the minimum amount if each type of evaluation uses only one sheet of paper. You can imagine how much savings can be done if in a year of similar type of training carried out as many as 10 activities. Not to mention for other types of training and for other types of evaluation.

It certainly supports the paperless office program as well as the effective and efficient improvement of the work (Prastowo, 2018).

## **5. Conclusion**

This e-evaluation design makes it easier for teachers and training trainees as respondents to fulfill evaluation tasks. The e-evaluation evaluation team facilitated the process of disseminating evaluation forms, data input, compilation and data processing as well as the control function of the re-collection process, especially for outside teachers of the Education and Training Center for BSSN.

Appropriate e-evaluation system is applied with limited resources owned by Education and Training Center for BSSN because it uses unpaid online application and internet network already available. For Education and Training Center for BSSN e-evaluation system not only helps to realize paperless office program but also can save cost and time, without reducing the function of evaluation itself.

Within the scope of the organization with this e-evaluation Education and Training Center for BSSN supports BSSN to realize government programs in the field of e-government, having previously launched digital signature program in government agencies.

## **5. Future Works**

When this paper was created the evaluator team has developed this e-evaluation design by using the looping function so it is more user friendly. It was also developed for evaluation of other evaluation object that is assessment of training implementation with training trainees as respondents. As for the curriculum and financing will be developed with different evaluation methods.

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