

Human Resource Competency Enhancement in Agrarian and Spatial Planning by applying the Blended Learning Method

Kariyono, Deni SANTO, and Budi SATRIO, Indonesia

Key words: Human resource competency, agrarian and spatial planning, training, blended learning.

SUMMARY

In facing the industry era 4.0 and also in enhancing human resource competencies in agrarian and spatial planning, the Human Resource Development Centre (PPSDM) of Ministry of Agrarian Affairs and Spatial Planning/ National Land Agency (ATR/BPN) has developed blended learning methods. This study aims to determine the process of implementing blended learning methods in order to support the improvement of human resource competencies in agrarian and spatial planning. In addition, the authors want to identify the factors that support the process of implementing training with the blended learning method. Research data are primary and secondary data sourced from blended learning training activities. The research data were analyzed using quantitative descriptive methods. The parameter used to measure the level of success in implementing learning with the blended learning method is the formulation by Jared M. Carman (2005). He stated that the five keys to success in developing Blended Learning methods were: Live Events, Self-Paced Learning, Collaboration, Assessment and Performance Support Materials. In the process of implementing blended learning method training activity, participants have not yet implemented an independent learning process optimally. However, by maximizing the use of information and communication technology and collaboration with various parties, the blended learning method can be an appropriate solution and effective strategy for increasing human resource competencies in agrarian and spatial planning at the Ministry of ATR/BPN.

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1. INTRODUCTION

The Ministry of Agrarian and Spatial Planning/National Land Agency is one of the ministry with a quite large number of employees, there are a total of 19.098. This certainly has a big impact on managing human resources. One of them is developing employee competence. Based on the regulation of the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency Number 1 of 2019 concerning Amendment to the Regulation of the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency Number 8 of 2015 concerning the Organization and Work Procedure of the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency, in order to support the improvement of the quality of human resources in the field of agrarian and spatial planning, it is necessary to change the nomenclature, duties and functions of the Center for Education and Training to become the Human Resource Development Centre (PPSDM) (BPN, 2019).

PPSDM has the responsibility of carrying out human resource development in the field of agrarian and spatial planning. In supporting these policies in the field of improving the quality of human resources, PPSDM is faced with some problems including limited budgets to reach all Regional Offices of Land Offices in each Regency/City, classical technical training activities have limited participant capacity, the lecturers are limited to only 14 people with primary expertise in management and land, while for other technical training the need for lecturers is very high.

Based on the Decree of the Minister/Head of the National Land Agency No.333/SK.OT/03/VII/2019 concerning Competency Dictionary and Structural Position Competency Standards in the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency and the Human Capital Development Plan of the Agrarian Affairs and Spatial Planning/National Land Agency, it appears that the PPSDM only has curriculum that has not yet covered all technical training. Coupled with the acceleration of national strategic activities, the reality is that not all employees in the ministries have this competence. In order to develop employee competencies, each Government Agency must prepare an annual competency development plan as outlined in the work plan of the respective agency's annual budget. PPSDM is responsible for employee competency development programs in the Ministry of ATR / BPN.

In accordance with Article 70 paragraph (2) of Government Regulation No. 11 of 2017, it is stated that the development of competencies for each civil servant is carried out at least 20 (twenty) hours of study in 1 (one) year. Therefore, the Deputy for State Administration Innovation in the State Administration Agency (LAN), suggested that employee capacity and

competency development programs can run optimally, it is necessary to innovate in education and training for employees (<http://ppid.lan.go.id>). Innovation can be applied by using e-learning and blended learning methods.

The e-learning method is an online learning model (distance learning method), where learning material is provided in the form of more interactive visual media that can be accessed by trainees anytime and anywhere (Kusmana, 2011). For training that requires cognitive aspects of the C3 level (to apply) and above, conventional training methods cannot be completely replaced with e-learning methods. The training requires activities in class which are important for the achievement of competencies, especially aspects of skills. To achieve the expected competency standard, it is necessary to combine conventional methods where training participants can directly interact with teachers, and e-learning methods to deliver materials that are basic concepts, so-called blended learning methods (iNACOL 2015). Blended learning in general is a learning method that combines classical methods (face to face) with learning methods that use online media (e-learning). Blended learning practices will facilitate both 'same-time different-place' and 'different-time different-place' types of interactions (Aditya, 2019).

PPSDM in 2019 has begun to implement training with blended learning methods. During the implementation of e-learning the participants learned independently by accessing the Learning Management System (LMS) application as well as online discussions using the zoom application. During the face-to-face meeting participants receive material and assignments from the instructor. In addition, this training was combined with On The Job Training activities in collaboration between PPSDM, technical elements and the Land Office. Blended learning method as a new learning model applied in the ATR / BPN environment, its implementation is certainly not easy, there are many supporting facilities and infrastructure that must be prepared, as well as adequate support of resources to be able to organize training properly. For this reason, the author examines the process of organizing this training in both the independent learning process and the classical learning process.

The purpose of this study was to determine the process of implementing agrarian and spatial planning training using the blended learning method. The authors want to know the factors that influence the success of the training implementation process with the blended learning method. Through this study the authors want to provide advice to improve the successful implementation of training with blended learning methods. Knowing the factors that influence the successful implementation of blended learning will help ease the application of this model in further agrarian and spatial planning training programs.

2. BLENDED LEARNING

The definition of blended learning in some literature in general is a learning method that combines classical methods (face-to-face) with learning methods that use online media (e-learning). The University of Western Sydney (2013) defines blended learning as follows: "Blended learning refers to a strategic and systematic approach to combining times and modes of learning, integrating the best aspects of face-to-face and online interactions for each

discipline, using appropriate ICTs ". While blended learning according to iNACOL, "blended learning is also referred to as hybrid learning, combines the best features of traditional schooling with the disadvantages of online learning to deliver personalized, differentiated instruction across a group of learners".

According to Thorne (2003), blended learning is a combination of multimedia technology, CD-ROM, video streaming, virtual classes, voice mail, e-mail and teleconferences. Oliver and Trigwell (2005) define blended learning as a combination of web-based technology to achieve learning goals; a combination of various pedagogical approaches, outputs with or without teaching technology; a combination of learning with technology and face-to-face learning; a combination of technology teaching with assignment. According to Vernadakis, et al (2012) Blended Learning learning model is a method that is able to create a participant-centered learning process. Whitelock and Jelfs (2003) provide three definitions of blended learning, namely an integrated combination of traditional learning with web-based online learning; a combination of media and tools in an e-learning learning; and a combination of several pedagogic approaches. Kerres and De Witt (2003) define blended learning as a combination of several different learning methods. According to Singh (2003) the first definition from Whitelock and Jelfs revealed above is the most commonly used interpretation.

Related to the implementation of learning using the blended learning method, Jared M. Carman (2005), mentions five keys to success in developing blended learning. that is:

a. Live Event.

In general, this is an instructor-led activity in which all students participate at the same time. In organizing this training, a live event can be in the form of a classical class or an online event held at a specified time guided by an instructor.

b. Self-Paced Learning

The concept of independent learning is an important component that provides added value in blended learning.

c. Collaboration

The power of both live events or independent learning will complement each other when the two methods are collaborated. Between participants and instructors, as well as between participants who come from different places. Included in the part of the instructors are the administrators in the system at LMS. Collaboration is carried out by using communication tools in the form of chatrooms, discussion forums, e-mails, websites / web-blogs, mobile phones, or social media applications (Whatsapp, Line, etc.).

d. Assessment

In the learning process, learning outcomes must be measured. Measurement of learning outcomes is aimed at measuring the achievement of trainees' competencies.

e. Performance Support Materials

An equally important part in implementing blended learning is supporting resources. Learning materials are prepared in digital form and are easily accessed both online and offline.

3. BLENDED LEARNING IMPLEMENTATION

In order to improve the competency of human resource in ATR/BPN Ministry, PPSDM implementing blended learning methods in various training programs. The information about the training programs can be seen in table 1 below:

Tabel 1. Training using Blended Learning Method

No	Training	Credits (JP)
1	Measurement and Mapping	208
2	Agrarian Reform	118
3	Land Acquisition	110
4	Legal Counseling	153
5	Basic Level of Procurement of Goods and Services	55
6	Middle Level Detailed Spatial Planning	51
7	Basic Complete Systematic Land Registration (PTSL Tk I)	99

(Sources : PPSDM, 2019)

Training mechanism using blended learning methods can be seen in figure 1 below:

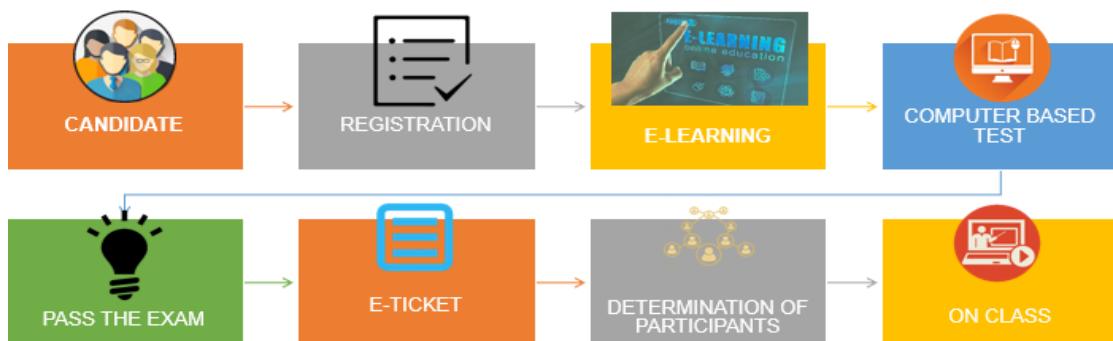


figure 1. Training Mechanisms using Blended Learning Methods (PPSDM, 2019)

3.1 E-Learning

E-learning that implemented in training in PPSDM using Learning Management System (LMS), with domain www.ppsdm.atrbpn.go.id. In classical learning process, PSDM formed classes that can contains up to 40 participants per class, also with the learning timeline that already been designed before. Each class will be lead by class officer choosen by official assignment letter. Participants can only follow Independent learning process if they are already registered in to the LMS. Based on the list of participants that registered into the LMS, each of the participants can have the access to download learning material. These learning material are

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in e-book format that contains of modul and learning video. During the independent learning process, each participants can interact with the instructors through chatroom facilities using whatsapp group and online discussion using zoom application.



Figure 2. E-learning activity (PPSDM, 2019)

3.2 On Class and On The Job Training

On class learning conducted with a full brief from instructors, assigments, and on fields practice. Furthermore training process in PPSDM ATR/BPN also done by collaborating with technical elemets and also land offices to carry on on job training (OJT). This activity aims to give a real working experiences as a implementation of al the learning process and concept that already been studied by participants.



Figure 3. On Class and OJT (PPSDM, 2019)

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4. FACTORS THAT SUPPORT OF IMPLEMENTING TRAINING WITH THE BLENDED LEARNING METHOD

4.1. Live Event

This variable explains factors that influence the effectiveness of live event implementation, therefore participants gain expected knowledge and skills. Live events training consists in two activities, there are classical and online event. To analyze this variable, we used Carman's 5 key factor (2005) that succeed the implementation of live event. (Table 2)

Table 2 Variabel Live Event Questions

No	Questions
1	Accessing PPSDM's LMS PPSDM after office hours
2	Leader's permission to do the training assignment during office hour
3	Learning method's that implemented in class is accordance to the needs
4	Feeling of acquired adequate knowledge
5	More ready to work and completing activities in the office

The results of questionnaires about live events can be seen in Figure 4 below:

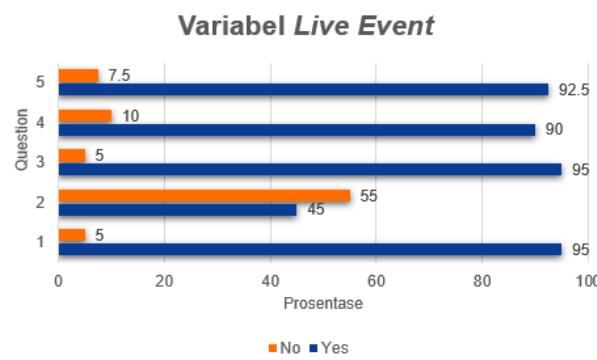


Figure 4. Results of live event variable questionnaire

Online's live event actually tends to be less organized. It is because the participants usually access the LMS after working hours, and they don't have their leader's support to develop their knowledge and skill through learning during work hours.

4.2. Self Paced Learning

This variable analyzed the independent learning process. Carman (2005) stated that independent learning is an important component of blended learning. Therefore, we formulated question to know how the implementation of their independent learning (self paced learning).

Table 3 Self Paced Learning Question

No	Questions
1	Participants have already studied the material before class
2	Participants studied independently according to schedule given
3	Participants study independently for 3 learning hours (2,15 hours) or more everyday
4	Participants study independently during office hour
5	Independent study helps participants during on class training

The results of questionnaire about self paced learning can be seen in figure 5 below:

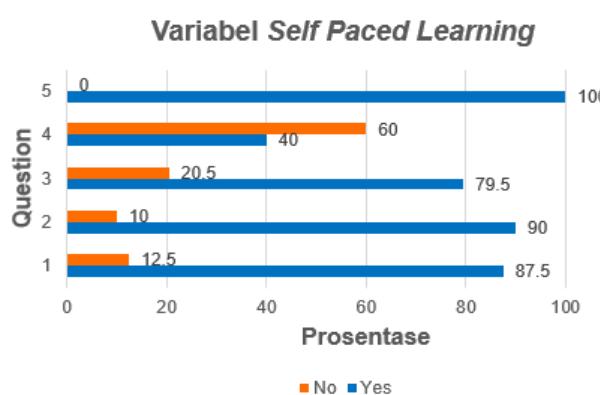


Figure 5. Results of self paced learning variable questionnaire

Based on the results above, the implementation has already went well, but the problem is 60% participants still didn't study independently during office hour.

4.3. Collaboration

If these 2 kinds of learning methods (classical and online) are combined, we can gained the advantages of live event/ independent learning (Carman, 2005). Collaboration's variable describing the interaction patterns of participants and the committee. This committee consists of training administrator and instructor. Based on this variable, we formulated these questions below:

Table 4 Collaboration Questions

No	Question
1	Administrator (PUPP) reminded me to study independently everyday
2	Administrator (PUPP) reminded me to collect the assignments in accordance with a predetermined time
3	Instructor provide a deep learning on the material that we discuss
4	Instructor are capable of answering questions and give a solutive answer
5	Instructors are implementing a solid team teaching in class

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The results of questionnaire of collaboration variable can be seen in figure below:

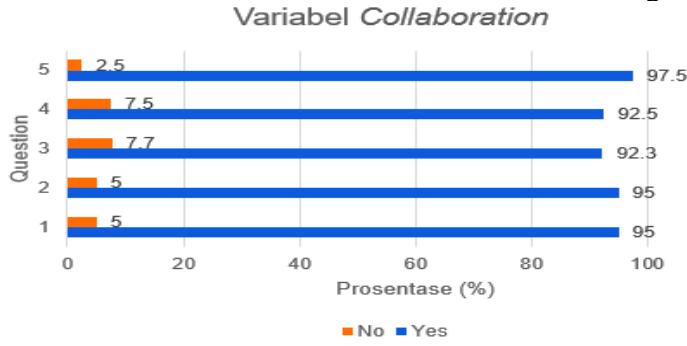


Figure 6. Result of collaboration variable questionnaire

Interaction between instructor and participants was done well. If training participant follow the independent learning program optimally, then they will gained the expected competency. This is happening because instructors are ready to help participants at this phase of learning. It is proven by the answer of 3rd question, most of the students answered yes on Instructor provide a deep learning on the material that we discuss. PPSDM of ATR/BPN Ministry has provide discussion forum fixture on Zoom Portal and Whatsapp Application.

4.4. Assesment

The training process in ATR/BPN Ministry has 3 kinds of test, there are pre test, post test, and competence evaluation. To analyzed this variable we formulated 3 questions that can be seen in tabel 5 below:

Table 5 Assesment Questions

No	Pertanyaan
1	Doing the assigments after already finished the material
2	Doing the assigments during office hour
3	Uploading/sending the assigment on time

The results of questionnaire on this variable can be seen in the figure below:

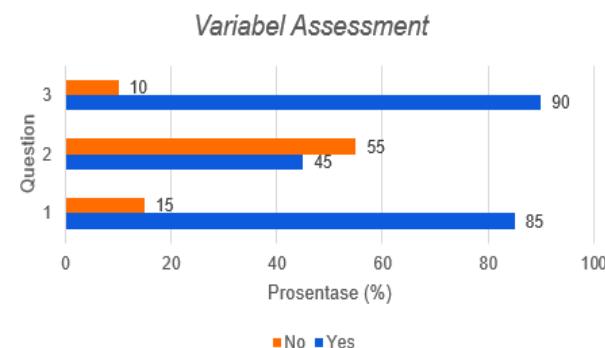


Figure 7. Results of assesment variabe questionnaire

From the figure above, it can be seen that question number 3 has the highest score. It means that most of the participants (85%) answered yes on Uploading/sending the assignment on time. From this results we are hoping that participants have already understand the materials, so they can finnish their assignments on time. But from the results we also can see that more than half of the participants (55%) didn't do their assignments during office hour.

4.5. Performance Support Material

Performance Support Material Variable is learning media that provided by the administrator for participants. Learning media is an important factor in learning process, especially in independent learning's phase. In this variable, we formulated 9 questions that can be seen in table 6 below:

Table 6 Performance Support Material Questions

No	Questions
1	It is easy to access LMS PPSDM
2	The display of LMS PPSDM is eye catching
3	It is easy to search the learning menu on LMS PPSDM
4	Instructions on LMS PPSDM are easy to follow
5	Learning material on LMS PPSDM are easy to access
6	Learning material on LMS PPSDM are easy to download
7	Internet network in my office support me to access LMS PPSDM
8	LMS PPSDM support independent learning process
9	The training material gives enough knowledge to facilitate independent learning

The results of performance support material's variable can be seen on the figure below:

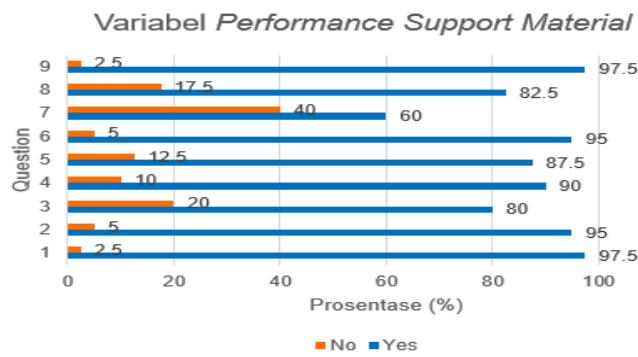


Figure 8. Result of performance support material variable questionnaire

From the figure 8 above we can see the reason on why participants still cannot fully follow the learning process as we discussed before (on 2 variables above). The answers on question number 7, it can be seen that office's internet facility didn't support them to access the LMS PPSM (40%).

5. ADVANTAGES AND DISADVANTAGES OF BLENDED LEARNING METHODS

5.1 Advantages of Blended Learning Method

- a. Can accomodate more participants
- b. Flexible learning hour and less training's time period
- c. Save budget
- d. Learning happen independent and konvventional at the same time, which both have advantages that complete each other
- e. Learning is mor effective and efficient
- f. Improve accessibility. Blended Learning makes easier to access the learning material
- g. Flexible and not rigid learning.

5.2 Disadvantage Blended Learning Method

- a. The learning media needed is diverse, therefore it is difficult to implemented if the facilitaties and infrastructure do not support
- b. The need of high quality internet access, if the internet network is indequete, it will make it difficult for the participants to follow the learning independently.
- c. To maximize the potential of blended learning needs the right learning strategy.

6. CONCLUSION

Blended learning's training is a part of PPSDM and ATR/BPN digital transformation in industry era 4.0. Blended Learning is a learning methods that combined classical and online learning. This method didn't replace the conventional learning model (in class), instead it is strengthen the conventional learning model through the development of instructional technology. Participants facing obstacle on optimized their independent learning, it is because they have a little leader's support, obstacle on LMS PPSDM maintenance, and poor internet connection. Therefore, PPSDM needs to make a mechanism for monitoring the task completion on independent learning process, improve LMS PPSDM facilities and implementing this blended learning for other training. By using and utilizing information technology and communication, also collaboration of various parties, this method has become a strategy to increasing human resource competencies in agrarian and spatial planning at the Ministry of ATR/BPN.

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BIOGRAPHICAL NOTES

Kariyono is Head of Program and Cooperation Sub Sector, Human Resource Development Centre, Ministry of Land Affairs and Spatial Planning/ National Land Agency, Indonesia. He holds a BAppSc in Land Administration from National Land College and M.Eng in Geomatic Engineering from Universitas Gadjah Mada.

Deni Santo is Director of Human Resource Development Centre, Ministry of Agrarian Affairs and Spatial Planning/National Land Agency Indonesia. He holds a BSc in Geodesy from Institut Teknologi Bandung and M.Sc in International Technology for Natural Management from Institut Pertanian Bogor.

Budi Satrio is Head of Sub Section of Cadastral Surveying and Mapping, Sanggau District Land Office, currently as student at Master of Public Administration Program Faculty of Administrative Science Universitas Brawijaya.

CONTACTS

Kariyono
Human Resource Development Centre
Ministry of Land Affairs and Spatial Planning / National Land Agency
Jl. Akses Tol Cimanggis Cikeas U dik, Gunung Putri, Bogor, Jawa Barat, 16966
INDONESIA

Telp (+621) 8674586 / +6281390516630

Email: kariyono.atrbpn@gmail.com

Web site: www.ppsdm.atrbpn.go.id

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