



Mixed Training Program: Helping Seesaw to Develop Blended Learning at the Community Learning Center

Ruhyat Wulan Sari^{1*}, Khaerudin², Dwi Kusumawardani³ 

^{1,2,3}Department of Educational Technology, Postgraduate Program, State University of Jakarta, Jakarta, Indonesia

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ABSTRAK

Semua tutor bekerja dari rumah dan hanya satu hari dalam seminggu dari kantor, sehingga diperlukan pendekatan pembelajaran yang inovatif. Penelitian ini bertujuan untuk menghasilkan program blended training menggunakan jungkat-jungkit untuk mengembangkan desain blended learning. Jenis penelitian yang digunakan adalah penelitian dan pengembangan dengan pendekatan sistem yang mengacu pada model ADDIE dan PEDATI. Metode pengumpulan data dengan angket, wawancara, observasi, studi dokumentasi dan tes. Uji kelayakan terdiri dari expert review, one to one trial dan small group trial. Berdasarkan hasil uji kelayakan pada tahap expert review, program pelatihan ini memerlukan perbaikan pada aspek desain pembelajaran seperti model dan metode pembelajaran yang digunakan, materi diskusi, materi tugas, dan kompetensi prasyarat. Perbaikan aspek materi seperti non contoh lengkap dan materi disusun dari yang paling mudah sampai yang paling sulit. Perbaikan pada aspek media pembelajaran adalah penggunaan warna pada background slide. Hasil uji kelayakan tahap one to one adalah perbaikan dari segi waktu untuk mencapai prasyarat kompetensi, perlu ditambahkan sumber referensi berupa link atau qr code, dan sebaiknya memberikan non video tutorial saat menggunakan aplikasi jungkat-jungkit. Hasil uji kelayakan kelompok kecil masih perlu perbaikan, dengan menggunakan format pdf dalam slide presentasi. Hasil uji keefektifan menunjukkan adanya peningkatan hasil belajar ranah kognitif antara pretest dan posttest sehingga peserta pelatihan mampu mengembangkan desain blended learning. Nilai N-Gain peningkatannya sebesar 0,62 (61,70%) dengan kategori cukup efektif.

ABSTRACT

All tutors work from home and only one day a week from the office, so an innovative learning approach is required. This study aims to produce a blended training program using seesaw to develop a blended learning design. The type of research used is research and development with a system approach that refers to the ADDIE and PEDATI models. Methods of collecting data with questionnaires, interviews, observations, documentation studies and tests. The feasibility test consists of expert review, one to one trial and small group trial. Based on the results of the feasibility test in expert review phase, this training program needs improvements in learning design aspects such as the learning models and methods used, discussion materials, task materials, and prerequisite competencies. Improvements to material aspects such as complete non examples and materials are arranged from the easiest to the most difficult. Improvements in the aspects of learning media is using color in slide background. The results of the one to one phase of feasibility test is improvement regarding time to achieve competency prerequisites, it is necessary to add reference sources in the form of links or qr codes, and it's better to provide non video tutorials when on using the seesaw application. The results of the small group feasibility test still need improvement, using pdf format in presentation slide. The results of the effective test showed that there was an increase in cognitive domain learning outcomes between the pretest and posttest so that the trainees were able to develop blended learning designs. The N-Gain score of the increase is 0.62 (61.70%) with a fairly effective category.

1. INTRODUCTION

Competence in teaching systems is used to describe professional abilities, including the ability to perform certain functions and the ability to demonstrate acquired knowledge and conceptualization. Thus the quality of a person's competence can describe a person's professionalism (Kholis, 2019; Salmawati et al., 2017; Segantara et al., 2017). Teachers and lecturers are required to have academic qualifications, competencies, educator certificates, physically and mentally healthy, and have the ability to realize national education goals (Agustini et al., 2020; Supriyono, 2017). The competencies referred to in the regulation include professional competence, pedagogic competence, personality competence and social competence (Hartanti & Yuniarsih, 2018). All these competencies do not only apply to lecturers and teachers, but also

*Corresponding author.

E-mail addresses: RuhyatWulanSari_9901817025@mhs.uni.ac.id (Ruhyat Wulan Sari)

apply to tutors. These competencies need to be continuously fostered as a form of capacity development for more professional skills (Estrada et al., 2019; Siri et al., 2020). Pedagogical competence refers to educational and teaching qualifications. Pedagogic competence includes matters relating to the ability of teachers or tutors to manage learning, curriculum development, understanding of students, use of learning models, use of information and communication technology, and evaluation of learning. Teachers must develop pedagogic competence in a sustainable manner (Sappaile, 2017; Sumantri & Whardani, 2017; Wardoyo et al., 2020).

PKBM Negeri 16 Rawasari is a nonformal education unit which is the only PKBM Negeri located in Cempaka Putih District. The total of PKBM 16 Rawasari tutors has changed from 2015 to 2019. PKBM 16 Rawasari has never included tutors for competency tests from 2015 to 2019 so they use a self-assessment instrument to find out the competency profile of PKBM 16 Rawasari's tutors. Based on self-assessment, nonformal education tutors have weaknesses in developing curriculum, and they do not have experience in designing blended learning. The head of PKBM said that the curriculum tools in PKBM Negeri 16 Rawasari were not entirely ideal and still needed improvement. Based on the results of the documentation study, PKBM Negeri 16 Rawasari does not have a blended learning design and curriculum tools need to be improved according to the criteria. Based on the type of problem, the appropriate intervention is given through training.

Training is a systematic and organized activity to improve performance and increase skills to achieve organizational goals (Elfrianto, 2016; Hartoyo & Efendy, 2017; Haryati, 2019; Indriyani et al., 2019; Karim et al., 2019; Nursyahputri & Saragih, 2019). The training has several indicators including instructors, participants, materials, methods, training objectives, training facilities, targets, and training evaluation (Bolung et al., 2018; Nursyahputri & Saragih, 2019; Saluy et al., 2019). Based on several references, training has several types. The types of training that are generally held include skill training or skills training, re-training or retraining, cross functional training or cross-functional training, team training or team training, and creativity training or creativity training (Hartoyo & Efendy, 2017). A training has a significant effect on teacher performance (Asikin et al., 2019; Mustikawati & Qomariah, 2020). The existence of a significant relationship and influence between training on teacher performance, it is recommended that the training program become a routine agenda and need to be carried out continuously by the education unit. This is because training is a long-term investment to develop the skills and professionalism of teachers/tutors (Handayani & Amirullah, 2019; Surahman et al., 2018).

The nonformal education tutor of the Community Learning Activity Center has 24 hours of work for one week. However, every day, Monday to Friday, all tutors are required to attend in PKBM. From March 2020 until Juni 2021 all tutors work from home and only one day a week works from the office. Based on the training needs analysis, the implementation of the training is recommended with a blended learning approach. Commonly, the training offered is carried out in a blended manner. Blended learning is suitable for adult learners (Chien, 2020; Effendi & Hendriyani, 2020). For adults, collaborative learning is very important both face-to-face and online collaborative to build their knowledge (Krismadinata et al., 2020; Pitaloka et al., 2020). They are satisfied with material content that is practically useful and relevant to their needs. They consider the instructor and the platform used during learning to be very helpful for them. They consider assignments and quizzes in learning useful for their reflection. In addition, in other relevant research it was concluded that blended learning may be one of the most suitable solutions for Indonesian teachers who have not attended training and have not carried out training (Berga et al., 2021; Evans et al., 2020; Mulyanto et al., 2020). Using of blended learning can motivate them to learn and improve skills as well as provide flexibility and independent learning.

Applying of blended learning strategies in the teacher training process has several benefits. Previous research stated that these benefits include facilitating the use of various media tools and resources, optimizing learning time and reducing costs, allowing multiple options to access learning content both synchronously and asynchronously with or without an instructor, offering a variety of combinations of interaction patterns that meet the needs and learning styles of students, making it possible to take advantage of (online) resources and collaborative learning opportunities, and offering additional learning materials (Baragash & Al-Samarraie, 2018; Byrka, 2017). Some of these benefits reinforce the reason for the need for a blended learning strategy for tutor training. PEDATI is one of the blended learning designs that is widely recommended for designing blended learning designs both at the level of formal education units such as primary education, secondary education and higher education (Chaeruman, 2017; Wulandari et al., 2020). In addition, this model can also be used for educational and training institutions. PEDATI provides interrelated components.

Other research findings state that blended learning is effectively used in learning (Bordoloi et al., 2021; Krismadinata et al., 2020). Blended learning is suitable for use in learning (Berga et al., 2021; Evans et al., 2020). PEDATI and its components are relevant to learning theory and e-learning concepts, providing

a systematic, systemic, and easy-to-follow framework. The relevance of this research lies in the application of blended learning. The development of this blended training program is different from other blended training programs. This training program was developed in the context of setting up nonformal education institutions with equivalence education tutors as the target, preparing blended learning designs as the subject, learning strategies or learning activities applying the PEDATI flow (Learn, Explore, Apply and Evaluate), and the technology used is the seesaw application, which allows the head of PKBM to monitor the progress of this blended training program.

The ability to develop blended learning designs needs to be possessed by tutors because the learning process at the Community Learning Activity Center consists of face-to-face learning, tutorial learning and self-directed learning. Tutorial and self-directed learning can be carried out asynchronously, while face-to-face learning can be carried out offline face-to-face or online face-to-face. This study aims to produce a mixed (blended) training program using seesaw to develop blended learning design in Community Learning Activity Center, obtain data on feasibility test and effectiveness test of blended training programs.

2. METHODS

The type of research used is research and development. Gray, Mills & Airasian stated that research and development is a process for researching and developing a product so that it can be used in educational institutions (Jalinus et al., 2021). The development model used is the ADDIE and PEDATI models. Giannaka, Pappalouros, Kambourakis, & Gritzalis recommend the ADDIE model as one of the right IDMs (Integrated Databased Management System) to design online learning experiences so that students' skills improve (Serevina & Meyputri, 2021). The ADDIE model has five stages, namely analyze, design, develop, implement, and evaluate (Febliza & Okatariani, 2020). The PEDATI model also has five stages, including formulating learning outcomes, mapping and organizing learning materials, selecting and determining learning activities, designing asynchronous learning, and designing synchronous learning (Chaeruman et al., 2020). The PEDATI model is integrated at the ADDIE model design stage.

The research and development site are in PKBM Negeri 16 Rawasari. The targets of this research and development are nonformal education tutors with a total of 13 people at the analysis stage, 3 people at the one-to-one trial stage, 8 people at the small group trial stage, and 15 people at the implementation and evaluation stage. The tutors come from the equivalency education tutors of Package A equivalent to elementary school, Package B equivalent to junior high school, and Package C equivalent to high school. The data in this research and development were collected by several methods. Questionnaires, observations, interviews and documentation studies are use in analysis stage. At the development stage, the methods used were questionnaires, interviews and group discussion forums. Meanwhile, in the implementation and evaluation stage, the methods used are questionnaires and tests.

These methods and instruments produce quantitative and qualitative data. The data is then analyzed by two techniques of quantitative data analysis and qualitative data analysis techniques. The instruments produced in this research and development have been validated by expert evaluation. Data obtained from interviews, observations and study documentation, while the amount of data obtained from the results of questionnaires and tests. Drawing conclusions on instrument validation using several criteria (Aji & Winarno, 2016; Setiawan & Aden, 2020; Setyawan, 2021; Surapranata, 2017).

3. RESULT AND DISCUSSION

Results

Mixed (Blended) Training Program Using Seesaw to develop blended learning in the Community Learning Activity Center was designed and developed through several stages. This stage is in accordance with the development model used. Each stage in this research and development has a result. Here are the results of each of these stages. The analysis phase has several activities. The first activity of the analysis phase is to validate the performance gap. There is a gap in the pedagogic competence of equivalency education tutors in the dimensions of the ability to develop curriculum tools, tutors do not have experience in designing blended learning, curriculum tools are not ideal, and there are uneven opportunities to participate in tutor competency improvement training. Based on the problems found, then the next or second analytical activity is to determine learning outcomes and learning sub-achievements. The following are graduate learning outcomes, learning outcomes and learning sub-achievements are presented in Table 1.

Table 1. Learning Outcome and Sub Learning Outcomes

Learning Outcome	: The training participants can develop (C6) a blended learning design of one subject based on the PEDATI model format through project assignments.
Sub Learning Outcomes	<ol style="list-style-type: none"> 1. Through material compilation materials and presentation slides, training participants can explain (C1) the nature of PEDATI as a design model for blended learning systems correctly. 2. Through discussion forums, training participants can give examples (C2) of learning outcomes and learning sub-achievements based on the formulation variation model and meet the elements of the criteria for learning objectives. 3. Through discussion forums, training participants can determine (C3) the mapping and organization of learning materials properly and correctly. 4. Through discussion forums, training participants can. correctly analyze (C4) asynchronous and synchronous learning activities. 5. Through project assignments, trainees can design (C6) asynchronous learning activities using PEDATI models and flows properly and correctly. 6. Through project assignments, trainees can design (C6) synchronous learning activities using the PEDATI model and flow properly and correctly.

The results of the identification of the target characteristics in this study include: all PKBM Negeri 16 Rawasari tutors have an educational background of S1 education and S1 non-education. Most of them live in Jakarta and only one person lives outside Jakarta, namely in Bekasi, West Java. All tutors have smartphones and laptops. Of the total number of PKBM Negeri 16 Rawasari tutors, only two people do not have Wi-Fi facilities at their homes. All of these PKBM tutors are accustomed to reading through print and electronic media. All tutors are used to using the WhatsApp and Zoom Meeting applications as alternative online learning media. All tutors are familiar with the Seesaw application, but have not yet explored the application. All tutors have participated in In House Training "using e-learning media", and "setting learning outcomes instruments" and all tutors have participated in the socialization of mixed (blended) training program using seesaw.

The analysis stage, there are activities to identify the required sources. The learning resources used in this blended training program include: compilation of training program materials, presentation slides, articles relevant to the content of the training materials, and learning videos from YouTube. The last activity in the analysis stage of the ADDIE model is delivering the learning system. The learning delivery system in this blended training program uses the PEDATI flow. Training participants learn the material through compilation materials and presentation slides. Training participants explore the material through discussion forums. Training participants apply understanding of the material through assignments, and evaluation through reflection, quizzes and tests. The methods used include jigsaw, collaborative learning, case studies, question and answer, discussions, tutorials, self-reflection, and project-based learning.

The design stage in this research and development uses the PEDATI model. The PEDATI model has interrelated components. These components include: (a) formulating learning outcome and sub learning outcomes (2) mapping and organizing learning materials consisting of basic materials, core materials and supporting materials, (c) selecting and determining synchronous and asynchronous learning activities by combining face-to-face learning and online learning between 30%-79%, (d) designing asynchronous learning activities consisting of designing asynchronous learning activities and arranging asynchronous learning flows, and (e) designing synchronous learning activities that consists of compiling a synchronous learning activity plan and assembling a synchronous learning flow.

The development stage consists of several activities such as developing learning materials, selecting and developing supporting learning media, developing learning guides, carrying out formative evaluations, and developing test tools. The first activity in the development stage is developing learning materials (training programs). The learning materials for the training program were developed based on the formulation of learning outcomes and learning sub-achievements. The learning materials in this training program are packaged in material compilation materials that can be accessed via the following link <https://bit.ly/BAHAN-KOMPILASI-program-pelatihan>. The second activity of the development stage is selecting and developing supporting learning media. This training program uses learning media consisting of presentation slides or PowerPoint slides (by design), and learning videos (by utilization). A collection of PowerPoint slides can be accessed via the following link <https://bit.ly/SLIDE-PRESENTASI-PROGRAM-PELATIHAN>. Meanwhile, a collection of videos (by utilization) can be accessed via the following link <https://s.id/kumpulan-video-by-utilization-program-pelatihan-bauran>. The Learning Management System (LMS) used is seesaw. Seesaw can be accessed via the following link <https://web.seesaw.me/>. In addition,

the seesaw application can also be installed on both Android and IOS smartphone devices. To join the seesaw class requires the class code. The third activity of the development stage is developing a learning guide (training program). All designs produced from the design stage are then developed and compiled into a complete learning design for the training program. The learning design is used as a learning guide for the training program. The results of the blended learning design of this training program can be accessed via the following link: <https://bit.ly/DESAIN-program-pelatihan-blended>. The activities of the fourth stage of development are carrying out expert reviews, one to one trials and small group trials, and compiling formative improvements. The implementation of expert reviews, one to one trials and small group trials aims to obtain feedback and input on the training program products developed based on two elements of respondents, namely the expert element and the prospective user element. The results of expert reviews and trials are used for significant revisions. The products that were reviewed and tested consisted of products on aspects of learning design, learning materials and learning media. The results of the expert review based on aspects of learning design, learning materials and learning media are presented in Table 2.

Table 2. Expert Review Result

Learning Design				Learning Material				Learning Media			
R	\bar{X}	%	Category	R	\bar{X}	%	Category	R	\bar{X}	%	Category
R1	3,78	75,56%	Feasible								
R2	4,00	80,00%	Feasible	R1	4,67	93,33%	Very Feasible	R1	4,33	86,67%	Very Feasible
R3	4,22	84,44%	Very Feasible								
\bar{X}	4,00	80,00%	Feasible	\bar{X}	4,67	93,33%	Very Feasible	\bar{X}	4,33	86,67%	Very Feasible
Conclusion				Conclusion				Conclusion			

The inputs given by experts to improve the blended training program products are from learning design; first, use varied, interactive, and more student-centered learning models and methods. Second, in the prerequisite competence section, the 2nd achievement of the 2nd sub achievement should be placed in the 3rd achievement section so that it is more relevant to the achievement. Third, add a reference source column to the prerequisite table for learning outcomes and the learning achievement table. From learning materials, namely adding non-examples, Simplify the presentation, we recommend that you arrange the material from the easiest to the most difficult and add material from other digital sources for comparison. From the learning media, if you use an image as a slide background, you should change the color of the image, for example, to gray so that readers can still focus on the text.

After getting input from experts, the product was revised and continued with one-to-one trials. The following are the results of the one-to-one and small group trials for blended training program based on aspects of learning design, learning materials and learning media. After the one-to-one trial is complete, the next step is to revise the product based on the respondent's input and continue with the small group trial. The results of the small group trial become the basis for revising the product so that after this stage it can be continued to field trials. However, there are various limitations and weaknesses, in this study no field trials were carried out. The following are the results of the one to one trial and the small group trial, which are presented in the following Table 3 and Table 4.

Tabel 3. One to One Trial Result

Learning Design			Learning Material			Learning Media		
\bar{X}	%	Category	\bar{X}	%	Category	\bar{X}	%	Category
4,04	80,74%	Feasible	4,03	80,56%	feasible	4,44	88,77%	Very Feasible

Tabel 4. Small Group Trial Result

Learning Design			Learning Material			Learning Media		
\bar{X}	%	Category	\bar{X}	%	Category	\bar{X}	%	Category
4,24	84,72%	Very Feasible	4,34	86,88%	Very Feasible	4,53	90,66%	Very Feasible

The activity of the fifth stage of development is conducting initial tests. The result at this stage is a training program manual that is useful as an initial test plan. The manual can be accessed via the following link: <https://bit.ly/PEDOMAN-PROGRAM-PELATIHAN>.

The implementation phase is carried out by socializing the blended training program. Thus at this stage the readiness of resource persons and training participants to take part in the training program in accordance with the settings that have been prepared. At this implementation stage, the training participants complete the prerequisites for learning outcomes in the training program so that entry behavior can be met. After the entry behavior is met, the next step is the implementation of the blended training program into a real setting. The evaluation stage consists of three activities, namely determining the assessment criteria, selecting evaluation tools, and carrying out evaluations. The first activity of the evaluation stage is to determine the assessment criteria. Based on this activity, it was found that the evaluation of reactions and evaluation of learning outcomes became the evaluation criteria for this training program. The second activity of the evaluation stage is choosing an evaluation tool. Based on the assessment criteria, the evaluation tool for this training program consists of a questionnaire and a test. The third activity of the evaluation stage is to carry out the evaluation. The evaluation of the training program refers to the Kirkpatrick evaluation model. The results of the evaluation of Level 1 reaction are in the material and media aspects 90.55% (high positive reaction), resource persons 92.85% (high positive reaction), participation of training participants 85.67% (high positive reaction). The average result of level 1 evaluation is 89.69% (high positive reaction). Evaluation results of level 2 affective learning outcomes in aspects of discipline 85.83% (good), activeness 85.56% (good), responsibility 88.33% (very good), politeness 100.00% (very good), cooperation 100.00% (very good), commitment 90.00% (very good). The average result of the evaluation of level 2 affective learning outcomes is 91.62% (very good). The results of the evaluation of level 2 learning outcomes in the psychomotoric domain are aspects of the formulation of learning outcomes 70.56% (good), mapping and organizing learning materials 70.00% (good), selection and determination of asynchronous and synchronous learning activities 75.00% (good), the design of asynchronous learning activities is 72.67% (good), and the design of synchronous learning activities is 72.71% (good). Based on the N-Gain score, this training program was declared effective with a value of 0.62 or 61.70%.

Discussion

Blended learning is the approach used in this training program. Blended learning combines technologies, activities and types of activities to create an optimal training program (Akhmadi, 2021; Bordoloi et al., 2021; Effendi & Hendriyani, 2020). Based on research, blended learning has been proven effective to empower self-directed learning (Bahri et al., 2021; Krismadinata et al., 2020). An important component of blended learning is communication and feedback (Lashley, 2019; Le, 2021). High-quality teaching materials are very important in the delivery of learning materials. The learning materials for this blended training program consist of basic material, core material and supporting material. Basic materials such as identifying learning needs, conducting learning analysis, identifying the behavior and initial characteristics of students. The core material is designing a blended learning design using the PEDATI model.

The use of the seesaw application allows students to communicate more effectively and learning is more meaningful (Rou & Yunus, 2020). WhatsApp groups have a stronger sense of class community compared to face-to-face groups because interactions using this application can be carried out without any limitations of space and time (Kusuma & Hamidah, 2020; Rosmiati & Lestari, 2021; Suardika, 2020). In a study, it was suggested that the zoom meeting platform could be used in online learning because it can help students learn more efficiently and effectively in learning (Kasman & Hamdani, 2021; Sutikno et al., 2016). Experts and elements of prospective users stated that platforms such as seesaw, What'sApp, and zoom meetings are very good for implementing training programs because they are in accordance with the characteristics of equivalence education tutors.

Previous research findings also state that blended learning can help learning activities (Deshpande & Shesh, 2021; Mamahit, 2020). Based on the discussion above, it can be understood that mixed (blended) training program using seesaw to develop a blended learning design is declared effective. The findings indicate that the trainees have a high positive reaction to this training program. In addition, the trainees have good skills in preparing blended learning designs, have a very good attitude in participating in training programs and have increased knowledge about blended learning and blended learning designs. This research differs from previous studies, namely the application of a reflection strategy for training programs by optimizing the features of the seesaw application and social media. This research and development have limitations including, the implementation of the training only lasted for 8 meetings, and this research and development did not carry out field trials. Thus, it is recommended for future research to increase the number of meetings and carry out field trials to complete a series of formative evaluations according to the ADDIE model.

4. CONCLUSION

Mixed (Blended) Training Program Using Seesaw to Develop a Blended Learning Design at Community Learning Center is developed appropriately and effectively. This blended training program is also effectively implemented widely based on the results of the evaluation of the reaction level training program which shows that the trainees have a high positive reaction to the blended training program, and the results of the evaluation of the learning outcomes level which show that the trainees have a very good attitude towards the blended training program. have good blended learning design skills, and have increased knowledge in preparing blended learning designs.

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