

Development of project based blended learning (PjB2L) model to increase pre-service primary teacher creativity

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Abstract

This research aims to develop project based blended learning model to grow pre-service primary teacher students' creativity in designing a lesson plan. This research was conducted due to the increasing needs in the 21st century. The method used in this research was R&D with ASSURE development model consisting of six stages. Product validation was done through an expert's assessment by using the expert's validation sheet. Product effectiveness was seen by implementing limited development testing to a particular class with a one group pretest-posttest design and the result was analyzed by using a Paired-Samples T-Test. The result of this research was in the form of a creative learning model based on project-based learning and blended learning to increase the creativity of pre-service primary teacher college students in designing a lesson plan. The validity of the learning model was proven by the result of the expert assessment in learning (face-to-face and online), material and instructional media. The effectiveness of the learning model was also proven on the basis of paired-samples t-test of students' pretest and posttest.

Keywords: *learning model; project based blended learning; students' creativity; lesson plan*

Introduction

The demand of the present age cannot only be satisfied by cognitive abilities, but also by skills and good attitudes in order to create a balance among the cognitive, psychomotor, and affective competencies. Such a demand has been clearly indicated in the 21st century, expecting humans to possess three kinds of skills, i.e., 1) life and career skills, 2) learning and innovation skills, and 3) information, media, and technology skills. These three skills will produce humans who have high creativity and ability to enable them to compete and even give a contribution to the prosperity of the community. This situation can be realized when one is well equipped with creative learning activities. Therefore, there is a need for an ability to create creative learning in order to provide an opportunity for the learners to develop his or her creativity in making something. Creativity is an integration of someone (Khairullina, Bakhtizin, Gaisina, Kosintseva, & Belonozhko, 2016). Widiana & Jampel (2016) said that learners were interested and happy with the creative teaching-learning process, such as implemented multiple intelligences using mind mapping. Widiana & Jampel

(2016) added that the teaching-learning process will implement multiple intelligence so that increasing learners' creativity.

In addition, technology has developed at an extraordinary rate. In the educational sector, for example, computer and internet have been used extensively as learning media. The computer and internet have made it easier to do assignments, to save time, and even to enrich information as learning sources. This has made students quicker in receiving and getting information on learning materials. Using technology in teaching learning process can improve students' accomplishment in understanding new knowledge and broaden the implementation of that knowledge in future professional activities (Krinityna, Nikitin, & Boyakova, 2016). The technology uses in learning by using visual media to increase students' attention, participation, and interaction. Moreover, technology in learning because of the limited students' participation, time management, motivation, and finding learners' need (Liu, 2016).

Such a phenomenon should be responded immediately by a teacher, thus the 21st-century demands, as well as technological advances, can be utilized properly to support teaching-learning processes. The teacher has to be able to collaborate between planning ability, pedagogic teaching, and material mastery with the technology in order to produce a creative learning which may cater student's needs for the present era demands. Today students have used laptops, iPads, tablets, and mobile phones in their campus activities so that learning should be made in such a way that it can provide facility to access learning needs with the gadgets more effectively in an enjoyable learning situation and can be done in any place and time.

In order to wrap up such a learning model, a teacher needs a special expertise. It will not only provide content materials or a pedagogical planning ability, but it also needs an ability to combine both. One will also need a special skill in utilizing technology in learning. By combining the three skills, learning will become more interesting, efficient, and meaningful. Like as what Giacomini (2015) done in her class, where she used technology in her English language class, she uses "Storybird". By utilizing the internet she created 2 storybird classes and then she wrote her story and asked her students to join in the storybird account and started to write their own story and personal story in English. By storybird, Giacomini created an effort to maximized learning opportunities through meaningful learner

involvement, where the students motivated to write their story in English, but also control their learning experience (Giacomini, 2015).

Besides being interesting, efficient, and meaningful, learning should provide an opportunity for the students to produce a particular work, which comes from the students' creativity either individually or in groups. Such creativity must be motivated and developed by the teacher in a way that learning will not only be a matter of completing the teaching materials but also of getting a skill in the form of creativity, leading to producing a written work which is publishable in a scientific journal. This way, it may encourage students in not only doing assignments and getting a score but also learning to produce a work.

All this can be realized if the teacher performs a project-based learning. The process includes a face-to-face classroom session and or using an on-line procedure, so the students can learn at any time and place with the materials and activities prepared beforehand. Besides, the teacher may present learning sources online which may enrich the planned materials along with creative on-line examples. With this type of learning model, it is commonly expected that education produces a special type of alumni who serve as a creative minority, one which the university intends to achieve as its mission.

According to Morrison, Ross, and Kemp in Winataputra (2001), a learning model will help program planners or support learning activities in understanding the theoretical framework in a better way as well as applying the theories to produce a more effective and efficient learning activity. A learning model plays a role as a conceptual tool, management, communication for analysis, planning, creating, and evaluating learning outcomes. A learning model is a conceptual framework which explains a systematic procedure in organizing learning experiences to achieve particular learning objectives.

In order to perform a model, (Joyce & Weil, 1980) identified a model which consists of five aspects: 1) a syntax or an order or stages of learning activities which are put into phases illustrating how the model works out in its practicality, for example, how to begin a lesson, and how to facilitate learners in using learning resources, 2) a social system which explains about forms of teacher-student cooperation in learning or roles of the teacher and the students in their relationship, and types of rules to be implemented 3) a reactional principle which shows the teacher how to appreciate or evaluate students and how to respond to the students' work, 4) a support system which illustrates conditions needed to support the implementation of the learning model, including tools and infra-structures to meet the

required conditions for the successful implementation of the learning model, including means and infrastructures, readiness to teach, and student readiness to learn, 5) a direct and indirect instructional impact, i.e., the learning outcome, which is achieved by bringing the students to the expected objectives, and other learning results as a product of the direct learning process which is experienced by the students.

One of the models which can be developed is the creative learning model. The creative learning model is one that stimulates learners to develop their ideas by utilizing existing learning resources. The creative learning is done in four learning phases, i.e., (1) preparation; (2) incubation; (3) illumination, and (4) verification. It can also be done by way of project-based learning in a blended learning model.

The project-based learning is one that focuses on teaching-learning activities to make a particular product or work. Project Based Learning (PBL) is a systematic teaching method that engages students in learning important knowledge and the 21st-century skills through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and learning tasks.” Project based learning is a method that places the students as a central learning process, as a central and following the lesson plan, and in the PBL class teacher leads the students to the learning that they want or following the project’s goal (Koparan & Güven, 2014). PBL increasing students’ academic performance and give the opportunity to students to develop their knowledge that can change their behavior to the complexity and abstract concept positively (Wekesa & Ongunya, 2016).

Project-based learning brings students to make a plan and to execute the planned project while the teacher serves as a facilitator who evaluates the completed project on the basis of negotiated criteria as a result of the class discussion. Learners will individually complete their product without the teacher’s help. They will even evaluate the work of their group members.

The blended learning requires the provision of an opportunity and widely accessible learning resources. Etymologically, the term blended learning consists of two words, “blended” and “learning”. The word “blend” means to mix for making the quality better (Collins Dictionary), and “learning” has a general meaning of “to study”. Thus, “blended learning” means a learning pattern which has the sense of mixing or combining one pattern with another pattern. (Dziuban, Hartman, & Moskal, 2004) said, “*blended learning refers to*

courses that combine face-to-face classroom instruction with online learning and reduced classroom contact hours (reduced seat time). The latter point is an important distinction because it is certainly possible to enhance regular face-to-face courses with online resources without displacing classroom contact hours.” Blended learning is called hybrid learning, that combines the characteristic of a traditional school with the benefit of online learning for personal delivery, different instruction each learners group (Powell et al., 2015). Blended learning is an innovative concept include positive superiority from traditional learning as well as learning supported ICT (Dangwal & others, 2017). There are five keys to the implementation of blended learning, i.e., life events, self-paced learning, collaboration, assessment, performance, support materials.

Materials and Methods

The design model for learning system which is developed by *ASSURE* model comprises six stages, i.e., 1) analyze learners, 2) state objectives, 3) select strategy, technology, media, and materials, 4) utilize media and materials, 5) require learner participation, 6) evaluate and revise (Smaldino, Lowther, Russell, & Mims, 2008) (Fig. 1).

The detail steps in developing the *ASSURE* model design as follows:

1. Analyze learners

The first step to be done is the identification of the characteristics of learners engaged in a learning activity. The population in this research is the 2013 PGSD students. The result of the analysis will be used to see the students' ability in using computer and internet facility, and to know their initial knowledge in the Elementary School Mathematics Learning Subject 1 in order to decide what method and learning process is appropriate and efficient.

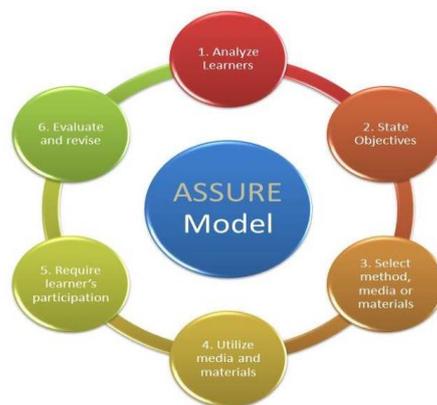


Figure 1. The *ASSURE* Developmental Model

2. State objectives

The second step is to decide the learning objective on the basis of the result of the analysis of students' characteristics. This result along with their basic competency and indicators as stated in the curriculum is based on the principle of project-based learning and blended learning. It is expected in this principle that the relationship between learning materials, technology, and pedagogy has the power and attraction to motivate students' creative learning.

3. Select method, media, and materials

The third step in the development method is to decide method, media, and learning which will be used both in the face-to-face and the online instructions. This is important because the three components play the role of helping students to achieve learning objectives which have been stated beforehand. Its decision depends on the student characteristics, the learning objectives, and learning principles of the project-based learning which are prepared for both face-to-face instruction and online in a flexible learning mode.

4. Utilize media and materials

After selecting the method, media, and teaching materials, the next step is using the three components in a learning activity. Before applying them in a learning process, an expert validation needs to be done first to see the quality and appropriateness of the media and teaching materials and the lesson plan. After the expert validation, the next step is performing a limited trial test in a small group (5-10 students).

5. Require learner participation

The next step is engaging students in an instruction. The students participate in the face-to-face learning and online instruction based on the plan already prepared. The learning process refers to the learning principles according to the project-based learning, so that the face-to-face and the online instructions help the students with their creative work taking the form of a creative learning plan for the Elementary School. It will, in turn, be used as a scientific work to serve as an idea for the Student Creativity Program.

6. Evaluate and Revise

After the lesson plan is done and tried out, the next step is an evaluation. The evaluation is performed to collect data related to the strengths and weaknesses of the learning model used. Its product is a creative learning activity plan using the project-based learning in

a blended learning class consisting of teacher's manual, student's learning manual, and other learning tools, such as a lesson plan, student's worksheets, teacher's activity sheets, and student's response sheets. The result of the evaluation process can be used as an input for the improvement of the learning program.

The data collection technique employed in this research is an expert's test, a questionnaire, and a test. The expert's test is used to see the appropriateness of the product. The questionnaire is used to know the student's responses to learning, and the test is administered to see the impact of the learning involved. The instruments used in this research is the expert's validation sheets, a closed questionnaire, an open questionnaire, and test material.

The data was analyzed through validation and a try-out by calculating scores obtained to judge the quality of the learning model to be developed. The collected data in this research is the qualitative data in scores of 1-5 (score 1 for very poor, score 2 for poor, score 3 for fair, score 4 for good, and score 5 for very good) taken from the result of the assessment of the expert and the students in relation to the learning being applied, the strengths, and the weaknesses of the learning process.

The result of the pretest and the posttests was analyzed using a comparative analysis, that is, comparing the result of the initial condition with that after learning with the model being developed.

Results and Discussion

The result of the research consists of the result of the preliminary study, the developmental process, the expert's validation, and the product try-out. Each stage will be described as follows.

A. The Result of the Preliminary Study

This stage is the preliminary stage to develop a creative learning model based on the project-based learning and the blended learning. Its activity is an interview with the related teachers at PGSD Study Program, identification of student's initial ability in planning and implementing a lesson, and a literature study on the elementary school learning. The interviews comprise the use of learning methods, the process of teaching-learning, and the student's responses after learning. The literature study consists of a study on the development

of learning models for Mathematics in relation with pedagogical ability, contents, utilization of technology in learning, and theories of creative learning model development in reference to the project-based learning and the blended learning.

1. The result of Interviews with Teachers

The result of the interviews with the teachers engaged in Mathematics learning at PGSD Study Program shows that 62,5% (5 persons) of the Math teachers at PGSD remain to use an old, mechanistic way of teaching. This kind of teaching relies heavily on the teacher's explanation and exercises by students. It does not require students to be active, rather they tend to receive and become passive. Besides, an opportunity for students to become creative is very minimal. Assignments and other activities remain giving a stress on completing class responsibility which leads to scoring.

There are three Math teachers (37,5%) at PGSD who have tried to apply an innovative learning model, such as using a cooperative model, utilizing media in the form of power points, animation, and video. The cooperative learning model uses a face-to-face teaching which needs more contact time with the teachers. Consequently, when the teachers are absent their classes are empty, forcing them to make up classes. Time will become longer because of the addition of hours outside of the scheduled class time. Of course, this situation raises students' complaints because they have to allocate more time to make up classes which they do not have to. Learning with the use of powerpoints, animation, and video has not been supported with the ability to select a suitable method, resulting in a one-way, ineffective teaching.

Out of eight Math teachers, two teachers (25%) have made use of the ICT (e-learning), that is, the flexible learning and yet, it is not done maximally. The available learning materials are still dominated by texts and pictures only, moving printed learning materials into a digital form, and an innovative, on-line method of teaching is not yet practiced. Based on the data, Math learning which gives students an opportunity to creatively produce a product is still absent. Teaching-learning remains to focus on the completion of learning materials and fulfilling class assignments. The utilization of ICT as a means for students to explore things in depth is not yet done; it is only transferring printed materials into a digital form. The ability to integrate content mastery, pedagogical competence, and

technological mastery and its application in learning are not yet optimal to make learning effective.

The result of interviews with students in the classrooms shows that the demand of classes remains in the completion of learning materials. Assignments to be done are intended only to fulfill their task and not as a creative work. Students only hope for scores and not for receiving new experiences, letting alone producing something. This is apparent that the assignments that have been completed are not their original work but copying other's work from the internet. They turned in their assignment because they hope to receive good scores instead of getting valuable experiences as prospective teachers.

2. Study on a Model Development for Project Based Blended Learning

The analysis of the interview results shows that there has not been a classroom instruction which motivates students' creativity in the subject Mathematics Learning at PGSD Study Program. Likewise, there has not been a good combination of content mastery, pedagogical ability, and technology utilization. The three abilities, when combined into one, will become a unity, which is so-called TPACK (Technological Pedagogical and Content Knowledge).

The concept of TPACK was originally developed by (Koehler & Mishra, 2009) as a result of the fast technological advances in the society. In principle, the TPACK is the combination of technology, pedagogy, and content mastery which is adjusted to the context. According to TPACK, a quality instruction needs a sense of complex understanding of the interrelated principal sources of knowledge: technology, pedagogy, and content, and how the three components are adjusted and applied into the existing context. This concept will expectedly give inspiration to teachers to design a creative learning for their students. To motivate student's creativity, learning should be based on projects (i.e., project based learning) to provide an opportunity for students to produce by not only using and asking them to think to create a good product. In order for students to have time and opportunity to obtain a sufficient amount of information, they do not only need contact hours with the teacher, but they also need an online instruction design (blended learning). The concept of blending contact hours and on-line instruction gives students an opportunity to see beforehand, imitate, and add a value to produce a modified work or even a new piece of work. It was done so far

because the PGSD students' creativity is still at the low level: seeing and remembering, imitating, and adding a value.

To produce a creative learning package, an exact development model is needed in order to provide with a manual on how to develop it. The result of the development model design was eventually decided by the ASSURE. The development design is done through the six stages, namely: 1) analyze learners, 2) state objectives, 3) select strategy, technology, media, and materials, 4) utilize media and materials, 5) require learner participation, 6) evaluate and revise (Smaldino et al., 2008).

B. The process of Product Development, Expert's Test, and Result of Try-out

The process of product development follows the ASSURE development model in six stages of development as follows:

1. Analyze learners

The students who are selected as research subjects are the 2013 PGSD students, who have taken the subject Basic Concepts of Mathematics and Elementary School (ES) Teaching Mathematics 1. There are 3 classes as subjects to get information from, especially that related to the ability in making a lesson plan for ES Mathematics, the creativity in making learning activities, the creativity in preparing learning media, and the ability in using IT and utilizing the internet for learning aid purposes.

At the initial stage, there are still a lot of students (65.3%) have the poor ability in making a Lesson Plan. There are 74.5% of them are poor in designing learning activities, and 73.5% are still poor in preparing learning media. However, 89.8% of them are very good and good in their ability in using IT and the internet.

Table 1. Analyze Learners (Analysis of student characteristics) at Initial Condition

No	Competence Category	Frequency*				Total
		VG	G	P	VP	
1	Ability in making lesson plans	14	20	49	15	98
2	Creativity in designing learning activity	10	15	40	33	98
3	Creativity in preparing supporting media	9	17	30	42	98
4	Ability in using IT and internet	40	48	10	0	98

* VG (Very Good), B (Good), P (Poor), VP (Very Poor)

Based on the data, a classical interview was then conducted in every classroom. It was found that such a generally poor condition is due to some causes. The first cause is the unclear information about how to make a lesson plan on the basis of the real condition of learners. The second cause is that the lesson plan that had been made only referred to the process standards and an example taken from the internet. The third cause is that the making of the lesson plan was only intended to fulfill a class requirement. The fourth cause is, there was less emphasis on creativity in designing innovative activities in the lesson plan. The fifth cause, there was no obligation in making media which support student's creativity. The sixth cause is, other resources which give more information and inspiration to do more were not used; all come from the teacher's materials and student's notes.

Apart from all above, there was an interesting input from the students. They had not even seen their teachers teaching in a creative way as an example. The situation becomes a reason for the application of the teaching-learning concept taught by Ki Hajar Dewantara, namely, 3N (*Niteni*=Discern, *Nirokke*=Imitate, *Nambahi*=Add). This concept gives a thought that creativity will show up when students are given a chance.

Table 2. Basic Competencies and Description of ES Mathematics Learning 2

Basic Competencies	Subject Description
Students are able to make a lesson plan and put it into practice those related with materials on two-dimensional geometry, three-dimensional geometry, transformational geometry, presentation and data analysis, and finance mathematics using innovative learning models to increase the quality of learning mathematics and ES education.	<p>This subject is offered in the 6th semester, weighing 2 credit hours. It studies planning and learning the implementation of two-dimensional geometry, three-dimensional geometry, transformational geometry, presentation and data analysis, and finance mathematics at the ES.</p> <p>This subject is administered in the form of PROJECTS in making a lesson plan to be implemented in a classroom in groups of 2 persons. Every group should teach twice in one semester. Practice 1 should last for 35 minutes and the Practice 2 is done at an ES. The teaching materials are adjusted to the available materials; its depth depends on the allocated time.</p> <p>In addition to teaching practices, students are required to finish the available assignments individually and in groups, both the in-class assignments and online. The products of the projects are:</p> <ol style="list-style-type: none"> 1. A Lesson Plan with its supports. 2. Other media which support the implementation of the Lesson Plan. 3. Videos of teaching at the school. 4. Articles on assignment analysis, information on the online instruction, a review, and teaching practice.

2. *State objectives*

The result of the analysis of the students’ ability, basic competency, and indicators as found in the subject Mathematics Learning was used to analyze learning objectives in line with the competencies to be achieved (Table 3).

Table 3. Objective Formulation of ES Mathematics 2

Objectives of Face-to-face Learning	
Meetings	Formulation of Learning Objectives
1	<ol style="list-style-type: none"> 1. Students are given an opportunity to listen and discuss together with the teacher about the relationship between vision and mission of UKSW with the process of preparation of prospective teachers, students are able to present their formulation of commitment orally as a good prospective teacher based on the vision and mission of UKSW. 2. Students are given an opportunity to listen and discuss together with the teacher about the relationship between vision and mission of UKSW with the process of preparation of prospective teachers, students show their enthusiasm, perseverance, and appreciation without teacher’s directives.
2	<ol style="list-style-type: none"> 1. Students are given an opportunity to analyze the Lesson Plan which is provided by the teacher, students in groups are able to give an assessment of the Lesson Plan students in groups are able to give an assessment 2. Students are given an opportunity to assess the Lesson Plan already prepared the teacher, students in groups are able to compare the Lesson Plan with that belong to the group correctly and well.
3	<ol style="list-style-type: none"> 1. Students are given an opportunity to observe a simulated lesson performed by the teacher, students in groups are able to give an assessment of the learning process students in groups are able to give an assessment 2. Students are given an opportunity to observe a simulated lesson performed by the teacher, students with their own conscience show willingness to listen, cooperate, and respect each other.
4	Students are given an opportunity to work in pairs, to be able to make a good Lesson Plan for Mathematics teaching at an ES in accordance with the given manual and materials and with the result of their independent study in the online instruction.
5	Students are given an opportunity to present their Lesson Plan that they have made, students are able to present their Lesson Plan fluently, in order, and with self-confidence.
6	Students are given an opportunity to implement their finished Lesson Plan, students are able to implement their Lesson Plan according to the order of activities in the right order and correctly.
Formulation of the Online Learning Instruction	
Online Instr.	Formulation of Learning Objectives
1	Students are given an opportunity to watch a video about education in Finland, Canada, and Germany, students are able to write a paper about a comparison of education in the 3 countries with that in Indonesia and its application in Mathematics lessons at the ES, adding some more information from the internet, books, and other sources carefully and neatly.
2	Students are given an opportunity to watch a video about Qaryah Thayyibah school and observe the school site, students are able to make a reflection about the school in relation with students’ activities in the form of a video.
3	Students are given an opportunity to watch a video about the 3 Idiots, students in groups are able to make a report on the film review which is related to the concept of learning, teaching, respect the students, creativity, and the meaning of learning for a person in the form of power points and is copied on a CD or DVD.

Based on the competency statement, description of the subject, and the students' initial competency data, learning objective was then formulated for every meeting both in the contact hours and online session. The following is the learning objectives for every meeting.

3. *Select method, media, and materials*

The third step in this development method is deciding methods, media, and teaching materials that will be used both in the face-to-face and online instructions. The result was divided into two available categories of methods, media, and teaching materials each for face-to-face and online instructions. For the face-to-face instruction, the method used is discussion and group work, and group investigation using powerpoint media, which contain motivation and activities that must be done to complete a project. The online instruction takes the form of group investigation aided with activities and manual available in the online mode, namely, the E-learning.

4. *Utilize media and materials*

The plan which has been made in Step 3 was then followed by a lesson plan for both the face-to-face and the online instructions. The tools needed are the Lesson Plan, Student Worksheets, Media (power points, video, audio, pictures, and online materials). These tools were assessed by experts in media, instructions, and materials first before use. Detail assessment from an expert's judgment is shown in Table 4.

5. *Require learner participation*

The next step was engaging students in the instructions. The students must be involved actively in the instructions to make them effective and objectives achieved. Because the design used was the blended learning, the students were required to be independent. The learning process was conducted according to the plan both in the face-to-face and the online instructions totaling 14 meetings, 1 meeting for pure face-to-face instruction and others were conducted in a blended learning mode (face-to-face and online).

Table 4. The result of Expert's Judgment

No	Indicators	Average	Category
1	Lesson Plan	4.25	Very good
2	Learning Media	3.67	Good
3	Testing Instruments	3.96	Good
4	Online Learning Activities	3.84	Good
5	Learning materials	3.73	Good

6. *Evaluated and revise*

Based on the result of the expert’s assessment and learning implementation, there was some online facility that should be improved. In the introductory part of the instruction, it was expected that there must be videos, not only texts, about the demand of the 21st-century learning situations as well as competency expectations in the subjects to be taken by the students. There must also be a detailed manual for every online activity to avoid the many questions that arose while students were learning independently. It also needs videos about learning Mathematics taken from real on-line implementations, so that students are inspired and able to produce creative learning plans. The following is the result of the expert’s assessment and revisions after the implementation in the classroom.

C. The result of Model Try-out

In order to see the effectiveness of the model, a try-out was conducted at Grade 1 following the order that has been determined beforehand. The instruction was a project-based one to produce a creative lesson plan which would be used for teaching at schools by the students. The lesson plans were then assessed by the available criteria and compared with the scores obtained before the students received the learning. The design used was the one group pretest-posttest design and his results were analyzed by paired-samples t-test.

Table 5. Description of pretest and posttest data

		Pretes	Postes
N	Valid	33	33
	Missing	0	0
Mean		66.4545	83.0606
Std. Deviation		7.92973	7.14554
Variance		62.881	51.059
Minimum		60.00	70.00
Maximum		85.00	90.00

Table 6. Result of t-test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretes - Postes	-16.60606	10.18559	1.77308	-20.21771	-12.99441	-9.366	32	.000

The data in Tables 5 and 6 show that the average pretest score is 66.4545 and the posttest score is 83.0606 with sig. 2-tailed 0.000 which mean that there is a difference between before and after implementation of the project based blended learning models.

Based on the results of the interviews show that the learning that has been done by the teacher is still varied. Five of the eight teachers are still using mechanistic teaching models. This traditional teaching pattern is more emphasis on face-to-face and the use of text and image media just have a problem if the lectures cannot be done for one reason or another. Though teacher teaching style can influence student learning reflection. These conditions require more creative learning innovations.

On the other hand, the condition of the students in making learning planning, the creativity of designing activities and the use of media are still low. This situation is certainly not the expected condition. A good teacher and prospective teacher should be creative so that he/she can be an example for students to be creative (Morais & Azevedo, 2011). Likewise, creativity is one of the best teacher thinking habits (Henriksen, 2016). Fortunately, the students in this study have advantages in mastering ICT and internet that can be their capital to develop more creative learning. This is one of the reasons for the need to develop a project based blended learning model.

In this research, successfully learning designs have implemented face-to-face learning and online learning. Lesson plan development projects, discussions, making learning media, and online learning activities show that this blended learning has stimulated student interaction, facilitated student learning process, and fostering an effective learning climate (Boelens et al., 2017).

Student creativity in making lesson plan in this research is supported because of the learning environment which fosters creativity from the student (Richardson & Mishra, 2018; Soh, 2017). Examples of the lesson plan, videos, and movies are the learning environments provided by teachers. A positive learning environment is what keeps students motivated and creative (Tsai, Horng, Liu, Hu, & Chung, 2015). The increase of score from pretest to posttest is significant thus in line with the result of other researches that learning project based learning can improve students' learning outcome (Ergül & Kargın, 2014; Han, Capraro, & Capraro, 2016).

Conclusion

Creative learning model using the project-based learning and the blended learning can be developed by the ASSURE model. The model can be carried out in 6 stages, namely, 1) analyze learners, 2) state objectives, 3) select strategy, technology, media, and materials, 4) utilize media and materials, 5) require learner participation, 6) evaluate and revise. The result of implementing the model is valid as viewed from instructional aspect (lesson plans, learning media, and instrument assessment), online learning activities, and learning materials. This model is also usable in instructions to produce creative lesson plans for teaching math in primary school.

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