asw

By asw asw

WORD COUNT 5417

TIME SUBMITTED 30-JUN-2020 10:31AM

PAPER ID 60681778

The Effect of Blended Learning Strategy to Students' Learning Outcomes

Anwar Sewang
IAIN Parepare
Email:anwarsewang@iainpare.ac.id

Abstract

This research in detail aims to know the influence of learning strategies based on blended learning on student learning outcomes. The design of this study used quasi experimental design. The population of this research is the student of Physical Education FIK of State University of Malang from Year 2014 that were registered in Physical Education Teaching Technology's course in the even semester of January- June 2016/2017. While the sample are class A and class B students, each of which counted to 32 people. Data collecting technique in this research is test technique. Data collection tool in the form of test sheets tested to the students as much as 40 items with 5 options. Hypothesis analysis with t_{count} *test = 3.29 and* t_{table} *= 2,000 means* t_{count} *is not in* H_0 *acceptance area so* H_0 *is rejected and* H_1 *accepted, it means "Learning by using blended learning based learning strategy affected the learning outcomes of Physical Education students of Physical Education Teaching Technology's course".*

Keywords: *Learning strategy, Blended Learning, Learning outcomes*

Abstrak

Penelitian ini secara rinci bertujuan untuk mengetahui adanya pengaruh strategi pembelajaran berbasis blended learning terhadap hasil belajar mahasiswa. Rancangan penelitian ini menggunakan quasi eksperimental design atau rancangan eksperimen semu. Populasi dari penelitian ini adalah mahasiswa Pedidikan Jasmani FIK Universitas Negeri Malang 2014 yang terdaftar pada mata kuliah Teknologi Pembelajaran Pendidikan Jasmani pada semester genap Januari-Juni 2016/2017. Sedangkan yang menjadi sampel adalah mahasiswa kelas A dan kelas B yang masing- masing berjumlah 32 orang. Teknik pengumpul data dalam penelitian ini adalah teknik tes. Alat pengumpul data berupa lembaran tes yang diujikan kepada siswa sebanyak 40 butir soal dengan 5 opti. Analisis hipotesis dengan uji t_{hitung} = 3.29 dan harga t_{tabel} = 2,000 ini berarti t_{hitung} tidak berada pada daerah penerimaan H_0 sehingga H_0 ditolak dan H_1 diterima, artinya pembelajaran dengan menggunakan strategi pembelajaran berbasis blended learning berpengaruh terhadap hasil belajar mahasiswa pendidikan jasmani pada mata kuliah Teknologi Pembelajaran Penjas.

Kata Kunci: Strategi Pembelajaran, Blended Learning, Hasil Belajar

Nowadays, the growth of information technology (IT) has been known widely. This brought along major changes in every aspect in our lives, including high demands in education world for learning and teaching concept with IT based theme. Learning and teaching activities can be done wherever and whenever without any boundaries of place and time differences. Unfortunately, this still appears far from reality since learning and teaching activities still based on traditional way, where students have to face teacher directly in class. Both teachers and students still bound to traditional belief that to do learning and teaching activities means that they have to present at the same time and place to make it possible.

Students often have the same idea that learning is an activity that they do not prefer to do, where it obligates them to sit for hours in a class to focus solely in one main lesson.

Aside from learning and teaching activities that were far from enjoyable, teachers still used teaching technique that asked students to memorize a concept which was described abstractly. Some teachers still could not see an opportunity to use technology's advancement to assist them in delivering lesson easier towards students.

The use of technology in class still merely as complementary and have not been used fully to both students and teachers. Whereas, technology can help them to do their learning and teaching activities wherever and whenever so that it will not be as boring as before. Teaching activities which are not focus mainly in a class will help to heighten learning willingness and change the students' perception on teaching activities in general. They will have a different point of view about teaching that it is not only an activity to deliver lesson to students, but an activity to share and discuss about new information.

That is why a teaching strategy that can give an atmosphere of teaching activities that can lift up their involvement in class also change their perception of teaching activities at the same time is in dire need. Teaching strategy is the ways to choose the learning activities that will be used by teachers in teaching learning activities (Aqib, 2014: 71).

The teaching technique that teachers used were not that on point, especially in Physical Education Teaching Technology's at the Physical Education course. If the teaching method was not mastered fully, then the lesson delivery will not be a success (Sagala, 2011:64). That is why teachers should choose their teaching strategy carefully so that students can be interested in the lesson and understand it easily.

There are many strategies that can be used by teachers. Yet, a strategy that can combine between learning face to face and learning online will be the best choice for the students of Physical Education course. The students of Teaching Technology needed to know not only the way to properly teach students theoretically, but also to develop teaching technology that highly applicable based on the situation they face in the field.

It also becomes the additional reason as to why the traditional way of teaching students face to face in a class will not be enough approach for them. Some extra time to help students in understanding a lesson also as a way to do discussion between students to teachers and students to students outside of classroom will be appropriate, moreover if it includes in online and offline sessions prepared beforehand.

Learning strategy based on Blended Learning is globally growing since around the year of 2000 and up until this time it has been used in big countries, such as at the North America, England, Australia, also at some colleges and courses. With blended learning, all kinds of learning sources were used optimally to provide learning activities. Blended Learning combines the face-to-face learning and learning by using computer as a media. It means that in this learning strategy teachers will teach by using technology approach and combine it with sources about face-to-face learning that had been posted online. They can access it by using computers, smart phones, televisions, video conferences, and any other electronics devices. Students and also teachers as facilitators will work together to upgrade their learning teaching qualities. All of those will finally gain the main reason of using blended learning strategy, which is to facilitate various students' characteristics so that they will be able to have a learning environment that

are independent, durable, and keep on growing in a lifetime. In the end their learning activities will not be boring anymore, but instead it will definitely be more effective, efficient, and interesting.

This research in detail aims to know the influence of learning strategies based on blended learning to the physical education students' learning outcomes of State University of Malang of the Year of 2014.

LITERATURE REVIEW

Teaching Strategy

Teaching strategy is a set of activities plans which using and application methods of some resources or power in a teaching included inside. There are some meanings of teaching strategy, listed by some experts as followed: Uno (2008:45) Teaching strategy are the things that teachers need to pay attention to in teaching process. Dick and Carey (2005:7) Teaching strategy are components from a set of materials including activities before teaching activities take places, and the involvement of students which will be the next focus on teaching procedure. Based on Suparman (1997:157) Teaching strategy is a combination between activities order, the way to deliver material to students, tools and materials, and the time used to do the teaching activities so that the teaching goals which had been set previously can be obtained. Whereas according to Gerlach and Ely (1971) teaching strategy are the ways to choose how teaching method will be delivered in certain teaching environment. Kemp (1995) stated that teaching strategy is a teaching activity that should be performed by teacher and student so that teaching objectives can be obtained effectively and efficiently.

Teaching strategy is made to reach certain objective. In a teaching strategy are included approach, model, method, and teaching technique specifically. Aside from teaching strategy, other parts that need close attention related to this topic are approach, method and technique.

Teaching approach is one point of view to see and understanding a teaching situation. There are two kinds of approaches in teaching which are an approach that focuses closely to teacher (teacher centered approach) and

an approach that focuses on student (student centered approach). Teaching methods are ways that used by teacher to deliver lesson so that the objectives or basic competences are obtained.

Teaching strategy is different from instructional design since teaching strategy discussed about the possibility of having variations in teaching patterns. This means that there are many kinds of teaching principles and activities that have different pattern from one another. Design instructional will give instructions about the ways to plan a certain teaching environment system, just after the teacher to use one or more teaching strategies in a class. If it can be put into a house building process, the use of several teaching strategies will look as if tracing some kinds of house designs to build, while instructional design can be referred to the chosen blueprint of the house that is going to be put into work, also materials needed and the steps to conduct the construction process.

Teaching Based on Blended Learning

The future teachers in teaching activities can act as an artist and a scientist in planning and doing the teaching also in managing the teaching sources that have been planned and used as accordingly. For that to happen, it needs knowledge, attitude and the skill of teacher to plan courses, especially when facing problems in teaching activity or to apply the teaching strategy to courses so that the quality of teaching will upgrade so that it has flexibility based on the development of science and technology which widely known as teaching based on blended learning (PBBL). In PBBL, teaching will not be solely happen face-to-face, but getting combined with online and offline resources.

Aside from blended learning, there is other terms can be used for this strategy, which are blended e-learning and hybrid learning. Those terms have the same meaning that are blending, mixing or combination of teaching. To grasp the meaning easier, Mainnen in Rusman (2011: 242) stated that "Blended learning has some name alternatives which are mixed learning, hybrid learning, blended e-learning, and melted learning (Finnish).

Moreover, Heinze and Procter in Stacey (2009) also opined "blended learning as 'learning that is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communications amongst all parties involved with a courses".

Blended learning has three learning components that mixed into one learning strategy. Those components are online learning, face-to-face learning, and individualized learning.

Online Learning

According to Dabbagh (2005:15) Online learning is an open and distributed learning environment that uses pedagogical tools, enable by internet and web based technologies, to facilitate learning and knowledge building through meaningful action and interaction. Based on the description given by Dabbagh above, a conclusion can be derived that online learning is an open learning environment where teaching aspects were taken into consideration together with using internet technology and based on web to facilitate the learning process and to develop meaningful knowledge.

According to Carliner (1999) in Anderson and Elloumi (2001:4) online learning is educational material that is presented on a computer. Based on that definition given by Carliner, online learning is education material that is shown by using a computer.

From those definitions above, online learning can be included as a component of blended learning, where online learning uses internet as one of learning resources. Online learning uses internet technology, intranet, and based on web to access learning material also to make interaction between teacher and student possible wherever and whenever it is.

Face-to-face Learning

Face-to-face learning is a learning strategy that still mostly used by teacher in teaching process. Face-to-face learning is a model of conventional teaching with an objective to deliver knowledge to student.

Face-to-face learning makes teacher and student meet directly in a class to study. According to Bonk, Graham (2006:122) face-to-face learning has characteristics of planned, place-based, and social interaction. Face-to-face learning is often done in a class where communication comes synchronically, and active interaction happens between students-to-students, teacher-to-students, and also to the other students.

In face-to-face learning, teacher will use any kinds of methods in teaching process to make it more active and interesting. Several teaching methods that usually used in face-to-face learning are 1) lecturing method 2) assignment method 3) interview method 4) demonstration method.

Face-to-face learning is one component in blended learning. In face-to-face learning, students can learn deeply on lesson taught by online learning, or vice versa, using online learning to have more information after a session of face-to-face learning.

Individualized Learning

One of teaching model activity in blended learning is individualized learning, where student can learn independently by accessing information or lesson material online in the internet. There are some terms of individualized learning such as, independent learning, self direct learning and autonomous learning. Individualized learning does not merely mean that student learn by themselves; because sometimes people think that individualized learning means learn independently. Individualized learning means that student has initiative to learn by having or not having help from other people in learning. According to Wedemeyer (1973) in Chaeruman (2007: 10) individualized learning as one type of learing that can change behavior, which comes from activities done by student at different time and place also different learning environment than at school.

Student who learns individually will have freedom to learn without have to attend a teacher's class. Student has vast autonomy in learning. This independent sense is important for student so that they can have responsibility in arranging and disciplining themselves in improving their

learning skill by their own will. When student has this kind of awareness, then it means they have maturity in learning.

Individualized learning changes the role of teacher or instructor becomes facilitator or the planner of learning process and as facilitator, teacher or instructor helps students solve learning problems, or becomes learning partner for certain lesson in tutorial courses. The duty of learning planner makes teacher have to change lesson to another format that can make individualized learning easier. Based on definition from experts above, a summary can be derived that individualized learning is learning process where student holds full control as decision maker related to the learning needs with little help from teacher or instructor. Individualized learning is one of the components in blended learning, because student can learn independently by learning online.

Based on a study by Dziuban, Hartman, and Moskal (2004) a summary can be derived that blended learning can improve students' learning outcomes and also decrease school dropout number in comparison to only thoroughly online learning. Another finding is that teaching based on blended learning is far better that face to face learning. Composition that is often used at blended learning is 50/50; it means from total time allocation, 50% is for face to face activity while another 50% is for online learning. Another percentage is 75/25, where 75% for face to face learning and 25 % for online learning. Composition of 25/75 is also possible, where 25% for face to face learning while 75% for online learning. Yet, in a study done by Sihkabuden (2011) which applied teaching based on blended learning by using 70% composition for face to face learning and 30% for system explanation also reviewing courses, there was no significant changes found between experiment class and control class that used face to face learning method with help of PowerPoint, whether the students have high or low motivation rate.

According to Dwiyogo (2013) to consider whether to use composition of 50/50, 75/25 or 25/75, will be based on competence analysis result, courses objectives, student characteristics, face to face

interaction, online teaching delivery strategy or combination, study place characteristics, characteristics and teacher competence, and available resources.

Learning Outcomes

Learning outcomes are basically competences in the forms of skills and new behavior trait as result of exercise or experiences. In this case, Soedijarto dalam Nasution (2006) defined learning outcomes as a knowledge mastery level that can be reached by students in attending teaching learning courses based on learning objectives that had been set beforehand.

Learning outcome is a changing behavior trait as the result of learning process. Gagne and Briggs in Nasution (2006) stated that learning outcome is an ability that someone gets after going some learning process. Reigeluth in Nasution (2006) also stated that learning outcome is someone's behavioral changes that can be seen to show someone's ability.

Bloom (1981) categorized learning outcomes into three categories, which are cognitive, affective, and psycomotorict. Cognitive skills objectives are related to people skills in thinking, understanding and solving problems. Affective skills' objectives are related to feeling, emotion, value, and behavior that shown acceptance and rejection to something. Psychomotor skills related to conscious movement skills, materials' or even objects' manipulation.

Bloom (1956) that had been revised by Anderson and Krathwohl (2001) had given standards to measure the outcomes of cognitive skills, which are: 1) memorize, repeat, recall, 2) understanding, including also the ability to identify and explain, 3) application, including the ability to use, apply and compare, 4) analysis, including the ability to measure, detect, inquire, criticize, and deduce, 5) Evaluating, 6) Create, which includes the ability to prepare, produce, create, predict, and modify

In six cognitive aspects of Bloom, memorize is a low level of

cognitive learning competence outcome. The three first aspects; memorize, understanding, and application, are included as lower-order thinking. Three second aspects; analysis, evaluating and create are called higher-order thinking.

In Physical Education Teaching Technology's courses, students will not only understand concept of learning technology, but they should also be able to create/produce leaning media that can be accessed online and offline.

RESEARCH METHOD

Research Design

Quasi experiment or design of pseudo experiment was chosen as the research design in this study (Tuckman,1999) because getting subjects as experiment group and comparison group randomly would be insignificant.

This research was conducted to students in certain classes that could not be pulled apart. Design of pseudo experiment was used to test the influence of learning strategies based on blended learning on student learning outcomes.

Population and Sample

Population was generalization domain that consists of object/subject that had certain quality and characteristic and chosen by researcher to be studied and drawn conclusion from. The population in this research was the student of Physical Education FIK of State University of Malang from Year 2014.

Sample was part of population that had the same characteristic from its population. In this research, the sample was taken by using random sampling technique. The subject selection in this research was not done individually to be gathered in a separate class, but it was done in structured classes, which meant that the classes had already been chosen. Thus, this research used subject groups that had already formed as it was which often called as intact group (Tuckman, 1999; Campbel & Stanley,

1996). This group was chosen because of the design of this research was quasi experiment where Wiersma (1991) had stated that quasi-experimental research involves the use of intact groups of subjects in an experiment.

The number of students of Physical Education FIK of State University of Malang from Year 2014 that were registered in Physical Education Teaching Technology's course which lectured by Dr. Wasis D. Dwiyogo, M.Pd are listed in Table 1 as followed:

Table 1. The Number of PJK's Students

Class	The Number of Students
A	32
B	32
D	34

Based on subjects' quantities, Borg dan Gall (1983) stated that in experimental research, the quantities of students in a group should consist of at least 15 people. While Fraenkel and Wallen (1993); Fraenkel, Wallen and Hyun (2011) were also stated the same thing, where a group should consist of at least 15 people. Based on those opinions, the number of subjects in this research was more than enough.

To decide the class/group of research subject, the sampling technique used was purposive sampling and random sampling. Purposive sampling was used to get homogenous research sample. According to Dwiyogo and Karwono (1992), comparing homogenous groups is a way to decrease the threat to internal validity of research experiment. That was the reason why the sample in this research was class A and class B which each has 32 numbers of students.

Technique and Tools to Collect Data

Collecting data technique in this research was test technique. Arikunto (2006:150) stated that the meaning of test as followed: "Test is some questions or exercises also other tools that are used to measure skills, knowledge, intelligent, ability or talent of an individual or a group".

The function of test is to observe the improvement of learning outcomes by using test or exam to the experiment class by applying learning strategy based on blended learning. For the control class the learning strategy that was used was the conventional one.

The tools for collecting data was test spreadsheets with 40 questions and 5 options which made while conducting the research and related to the course that was taught. Another tool in this research was answer sheet that could help to observe learning outcomes from experiment class and control class.

Data Analysis Technique

Data analysis technique in this research was the difference between two averages by using t test where the data has already tested by using normality test and sample homogeneity test beforehand.

Normality Test

Normality test was used to know whether the data used in this test came from data that distributed normally just as stated by Syafril (2010:211). The technique used to test the data normality was liliefors test technique.

Homogeneity Test

Syafril (2010:69) stated that before data tested by using t-test, the data had to be proved to come from homogenous group. This meant that the data had to fulfill the requirements as data that came from homogenous population. Technique used to test the population variants homogeneity was Bartlett test.

Hypothesis Test

The data that had been collected was then processed and analyzed based on the research hypothesis. For this process t-test in Syafril (2010 : 52) was used to compare between 2 groups that were not correlated. The grouping was often done randomly.

RESEARCH'S RESULT AND DISCUSSION

Data collected of learning outcomes from students class A of Physical Education Teaching Technology of Year 2016/2017. Test scoring was done at the end of learning session by using writing technique in the form of objective test. The numbers of students taught by using learning strategy based on blended learning were 32 students. After the scores of learning outcomes had been collected, the highest score from the group was 95 and the lowest was 60.

Data collected of learning outcomes from students class B of Physical Education Teaching Technology of Year 2016/2017. Test scoring was done at the end of learning session by using writing technique in the form of objective test. The numbers of students taught by using conventional learning were 32 students. After the scores of learning outcomes had been collected, the highest score from the group was 90 and the lowest was 57,7.

To see the comparison of learning outcome scores between the class learning strategy based on blended learning (experiment) and the class learning conventionally (control), table 2 below will show it:

VARIABLE	LEARNING STRATEGY	
	BLENDED LEARNING	CONVENTIONAL
N	32	32
The Highest Score	95	90
The Lowest Score	60	57.5
Total Scores	2575	2325
Average	80.46	72.65
SD	9.80	8.88
SD^2	96.04	78.85

To be able to draw conclusion from data analysis, the results of data analysis from normality test, homogeneity test and later would be done further with hypothesis test to decide which statistic to use.

Normality Test

The latest data of experiment class and control class were processed to decide normality test by using Liliefors test just as stated in data analysis technique. Based on normality test to the experiment class and control class, the values of L_0 and L_1 were found in level of 0,05 for N =32 such as seen in Table 3. Based on table above, the L count of experiment class was lower by 0,114 than $L_{critical}$ 0,156 (taken from L criterion table) at level of 0,05. That is why the experiment class was distributed normally. For control class the L count of experiment class was lower by 0,117 than $L_{critical}$ 0,156 at level of 0,05. That is why the control class was distributed normally.

Table 3. Result of Liliefors test Computation

Group	N	□	L_{count}	$L_{critical}$	Explanation
Experiment	32	0,05	0,114	0,156	Normal
Control	32	0,05	0,117	0,156	Normal

Homogeneity Test (Barlett Test)

To conclude whether experiment class and control class have homogeneity variances or not, a homogeneity test was conducted. This was based on what was stated by Syahril (2010:208) that "If chi-square count is lower that chi-square table, it means that data comes from homogenous group, yet if chi-square count is the same as chi-square table then it means that data does not come from homogenous group".

Table 4. Homogeneity Test Result of Experiment Class and Control Class

Class	□	χ^2_{count}	χ^2_{table}	Conclusion
Experiment	0,05	0,299	3,841	Homogenous
Control	0,05			

From table 4 the χ^2 count of experiment class and control class were lower than χ^2_{table} ($\chi^2_{count} < \chi^2_{table}$). It means experiment class and control class had homogenous variances.

Hypothesis Test

After normality test and homogeneity test, the next test was t-test. T-test was used to test the hypothesis of the research. Hypothesis test was done to know whether zero hypothesis (H0) was accepted or rejected. H0 is rejected when $t_{count} > t$ table if $t_{count} > t$ table it means there is significant difference between two groups. It is fit to what was stated by Syahril (2010:169) which was:

"If t_{count} is bigger that t table then for □ 0,05 it means that there is significant difference for that learning outcome. If t_{count} is smaller or the same with t table then it means that there is no significant difference for that learning outcome.

Table 5. Scores' Computation Result

Aspect	Experiment Class	Control Class
N	32	32
$\bar{X}$	80.46	72.65
SD^2	96.04	78.85

To test the hypothesis, t-test was used. From hypothesis test by using t-test, the result is shown in table 6.

Table 6. Computation Result by using t-test

No	Group/Result	Class's Average Result	t_{count}	T table ⌊ 0,05
1	Experiment	80.46	3.29	2.000
2	Control	72.65		

As seen in table 6, t with dk $(N_1–1)+(N_2-1) = 62$. From df table the number that exists closely to 62 is 60, so df from the table is 60 and ⌊ 0,05 then ttable 2,000. That is why $t_{count} >$ ttable which was 3.29 > 2,000. Thus, could be said that H0 was rejected and H1 was accepted.

So a conclusion could be drawn that there was significant difference between learning outcomes of experiment class's students that used learning strategy based on blended learning and control class that used conventional method.

From data analysis that had been done, the result was t_{count} 3.29 and ttable 2,000 with dk $(N1-1)+(N2-1) = 62$, where t_{count} was bigger than ttable (3.29> 2,000), which meant that there was significant difference of students' learning outcomes that used learning strategy based on blended learning and conventional method. Hypothesis analysis with t-test where t_{count} = 3.29 and ttable = 2,000 which meant that t_{count} did not appear in the acceptance area of H0 so that H0 was rejected and H1 was accepted. So that generally means that "Learning by using blended learning based learning strategy affected the learning outcomes of Physical Education students of Physical

Education Teaching Technology's course".

Based on the data analysis done by the researcher, it shown that learning outcomes of Physical Education Teaching Technology's course of A class students which was experiment class, by using learning strategy based on blended learning had significant difference compared to learning outcomes of B class which was control class that used conventional method.

So it was crystal clear that learning outcomes by using learning strategy based on blended learning was higher and also shown that the influence was so big if compared to the class that learned using conventional learning strategy. A conclusion can be derived that the use of learning strategy based on blended learning strategy affected significantly to the learning outcomes.

CLOSING

Conclusion

Based on data analysis that had been done, some conclusions can be derived as follow:

1. Research result shown that average score of student's outcome in experiment class was higher in 80.46 if compared to average score of student's outcome in control class in 72.65. This shown that the average score of students who used learning strategy based on blended learning strategy was higher than them who learnt using conventional method.
2. The result of hypothesis test was $t_{count} > t_{table}$ which was (3.29 > 2,000) at α significant level of 0,05 which meant that there was significant difference between students' learning outcomes that used learning strategy based on blended learning strategy (experiment class) compared to learning outcomes that used conventional method in Physical Education Teaching Technology course of Physical Education Major 2014.

SUGGESTIONS

Based on above conclusions, some suggestions are stated as follow:

1. Application of learning strategy based on blended learning strategy needs to be developed as learning variation with the intention of improving students' learning outcome.
2. Application of learning strategy based on blended learning strategy should not only be done in Physical Education Teaching Technology course, but could also be done in other courses that have similar characteristics.

References List

Anderson dan Krathwohl. 2001. A Taxonomy for Learning, Teaching, and Assessing (A Revision of Fraenkel, J.C., Wallen, N.E., Hyun, H.H., 2011. How to Design and Evaluate Research in Education, New York: Mc Graw Hill. Bloom's Taxonomy of Educational Objectives). Abridge Edition. Penerbit David McKay Company. New York.

Anderson, T. dan Fathi Elloumi. 2001. Theory and Practice of Online learningsecond edition (http//cde.athabascau.ca/Online_book/) (diunduh tanggal 26 Agustus 2016)

Arikunto, S. 2006. Prosedur Penelitian suatu pendekatan praktek. Jakarta: Rineka Cipta.

Aqib, Zainal. 2014. Model-model, Media, dan Strategi Pembelajaran Kontekstual (Inovatif). Bandung: Yrama Widya

Bloom, B.S., etc. 1956. Taxonomy of Educational Objectives : The Classification of Educational Goals, Handbook I Cognitive Domain. New York : Longmans, Green and Co.

Bloom, B.S. 1981. All Our Children Learning. Mc Graw-Hill Book Company: New York

Bonk, J. & C. R. Graham (Eds.). 2006. Handbook of Blended Learning: Global Perspectives, Local Designs. San Fransisco: Pfeiffer Publishing

Borg, W.R., & Gall, M.G. 1989. Educational Research: An Introduction (5th ed.). New York: Longman.

Chaeruman, U, A. 2007. Suatu Model Pendidikan Dengan Sistem Belajar Mandiri. Jurnal Teknodik No. 21/XI/Teknodik/Agustus (diakses pada 26 Oktober 2016)

Dabbagh, Nada. 2005. Online Learning: Concepts, Strategies, and Application. New Jersey. Pearson Education Inc

Dick, W and L. Carey, J. O. Carey. 2005. The systematic Design of Instruction. New York : Logman.

Dwiyogo & Karwono, 1992. (metodePraktek/2012/20/07) Metode Eksperimen) Dwiyogo, W.D. 2013. Pengembangan Model Rancangan Pembelajaran Berbasis Blended Learning (PBBL) untuk Meningkatkan Hasil Belajar Pemecahan Masalah. Malang:Lembaga Penelitian dan Pengabdian kepada Masyarakat Universitas Negeri Malang.

Fraenkel, J.C., Wallen, N.E., Hyun, H.H., 2011. How to Design and Evaluate Research in Education, New York: Mc Graw Hill.

Gerlach dan Ely (1971). Teaching & Media: A Systematic Approach. Second Edition, by V.S. Gerlach & D.P. Ely, 1980, Boston, MA: Allyn and Bacon. Copyright 1980 by Pearson Education

Kemp., Jerrold E., 1995, Instruction Desigen: A Plan for Unit and Course Development, Belmon: Feron.

Nasution. 2006. Hasil belajar adalah hasil dari suatu interaksi tindak belajar mengajar dan biasanya ditunjukkan dengan nilai tes yang diberikan guru

Rusman, dkk. 2011. Pembelajaran Berbasis Teknologi Informasi dan Komunikasi. Jakarta: PT RajaGrafindo Persada

Sagala, Syaiful., (2011), Konsep dan Makna Pembelajaran, Bandung: Alfabeta. Sihkabuden, 2011. Pengaruh Interaktif Strategi Pembelajaran Blended (Blended Learning) dan Motivasi Berprestasi Terhadap Hasil Belajar Mahasiswa TEP FIP UM. Disertasi tidak diterbitkan. Malang. Pascasarjana Universitas

Negeri Malang

Stacey, Elizabeth. 2009. Effective Blended Learning Practices: Evidence-Based Perspectives ICT-Facilitated Education. Australia: IGI Global

Suparman, Atwi. 1997. Model-model Pembelajaran Interaktif, Jakarta, STIALAN, 1958.

Syafril. 2010. Statistik. Padang : Suka Bina Press

Tuckman, B.W. 1999. Conducting Educational Research 5th. Orlando: Harcourt Brace College Publisher

Uno, Hamzah B. 2008. Teori Motivasi dan Pengukurannya, Jakarta : Bumi Aksara.

Wiersma, William & Stephen G. Jurs. 1990. Educational Measurement & Testing. Boston: Allyn & Bacon

asw

ORIGINALITY REPORT

18%

SIMILARITY INDEX

PRIMARY SOURCES

1	benramt.files.wordpress.com Internet	137 words — 2%
2	ejournal.upi.edu Internet	44 words — 1%
3	www.scribd.com Internet	41 words — 1%
4	repository.radenintan.ac.id Internet	35 words — 1%
5	repositori.uin-alauddin.ac.id Internet	29 words — 1%
6	digilib.unimed.ac.id Internet	29 words — 1%
7	pasca.um.ac.id Internet	27 words — < 1%
8	edoc.pub Internet	26 words — < 1%
9	S. Kartikawati, S. Nita. "Interaction Analysis Application of Arduino Industrial Automation Trainer Based on Project to Improve Cognitive Ability and The Bodily-Kinesthetic Ability", IOP Conference Series: Materials Science and Engineering, 2020 Crossref	26 words — < 1%
10	docplayer.info Internet	

		25 words — < 1%
11	D I Perwitasari, Soenarto. "Problem-Based Blended Learning in Computer and Basic Network Learning in Vocational High Schools", Journal of Physics: Conference Series, 2018 Crossref	25 words — < 1%
12	S Pambudi, H D Surjono, T Sukardiyono, I Hidayatulloh. "Video-Based Blended Course for Computer Network Learning", Journal of Physics: Conference Series, 2019 Crossref	25 words — < 1%
13	www.fkipunisma.ac.id Internet	24 words — < 1%
14	Lorin W. Anderson. "Benjamin Bloom: His Research and Influence on Education", Teaching Education, 1988 Crossref	22 words — < 1%
15	digilib.unila.ac.id Internet	22 words — < 1%
16	www.serambimekkah.ac.id Internet	21 words — < 1%
17	Pradika Adi Wijayanto, Sugeng Utaya, I Komang Astina. "Increasing Student's Motivation and Geography Learning Outcome Using Active Debate Method Assisted by ISpring Suite", International Journal of Social Sciences and Management, 2017 Crossref	21 words — < 1%
18	media.neliti.com Internet	20 words — < 1%
19	"Hybrid Learning", Springer Science and Business Media LLC, 2010 Crossref	20 words — < 1%

20	kumpulandaftarpustaka.blogspot.com Internet	17 words — < 1%
21	download.atlantis-press.com Internet	16 words — < 1%
22	M Atikurrahman, Hobri, N Yuliati. "The development of comparison material tool with problem based learning based on caring community and its effect on the students' connection ability", Journal of Physics: Conference Series, 2019 Crossref	16 words — < 1%
23	icet.fip.um.ac.id Internet	16 words — < 1%
24	worldwidescience.org Internet	16 words — < 1%
25	kuscholarworks.ku.edu Internet	15 words — < 1%
26	repository.uinjkt.ac.id Internet	15 words — < 1%
27	jurnalnasional.ump.ac.id Internet	14 words — < 1%
28	M Zainil, Y Helsa, S Ahmad, Y Ningsih, H Ningsih, W T Yanti. " The differences in geometry cognitive learning results using program ", Journal of Physics: Conference Series, 2019 Crossref	14 words — < 1%
29	Sulistyani Puteri Ramadhani. "Pengaruh Blanded Learning terhadap Hasil Belajar Matakuliah Bimbingan Konseling Mahasiswa PGSD", Jurnal Basicedu, 2020 Crossref	14 words — < 1%
30	repositori.kemdikbud.go.id Internet	13 words — < 1%

31	docobook.com Internet	13 words — < 1%
32	jcj.jaltcall.org Internet	12 words — < 1%
33	jurnal.fkip.unila.ac.id Internet	12 words — < 1%
34	repository.uinsu.ac.id Internet	11 words — < 1%
35	Heru Kuncowati, Heru Noor Rokhmawati. "The Influence of Communication and Work Discipline on the Employee Performance (A Case Study of Employee Performance of Dwi Arsa Citra Persada Foundation in Yogyakarta & Indonesia)", Researchers World : Journal of Arts & Science and Commerce(RWJASC), 2018 Crossref	10 words — < 1%
36	www.slideshare.net Internet	10 words — < 1%
37	jurnal.untirta.ac.id Internet	9 words — < 1%
38	tojet.net Internet	9 words — < 1%
39	www.isetl.org Internet	9 words — < 1%
40	edtechreview.in Internet	9 words — < 1%
41	journal.unsil.ac.id Internet	9 words — < 1%
42	journals.qou.edu	

Internet

8 words — < 1%

43 K D M E Handayeni, B S P Ariyani. "Commuters' travel behaviour and willingness to use park and ride in Tangerang city", IOP Conference Series: Earth and Environmental Science, 2018
Crossref

8 words — < 1%

44 Andromeda, Ellizar, Iryani, Yerimadesi, Fatia Rahmah. "The effectiveness of guided inquiry based colloid system modules integrated experiments on science process skills and student learning outcomes", Journal of Physics: Conference Series, 2019
Crossref

8 words — < 1%

45 one.indoskripsi.com
Internet

8 words — < 1%

46 Rany Widyastuti, Suherman, Bambang Sri Anggoro, Hasan Sastra Negara, Mientarsih Dwi Yuliani, Taza Nur Utami. "Understanding Mathematical Concept: The Effect Of Savi Learning Model With Probing-Prompting Techniques Viewed From Self-Concept", Journal of Physics: Conference Series, 2020
Crossref

8 words — < 1%

47 seceij.net
Internet

8 words — < 1%

48 researchonline.jcu.edu.au
Internet

8 words — < 1%

49 www.yumpu.com
Internet

8 words — < 1%

50 "Network Based Online Learning Program Vocational School in Jakarta State University", International Journal of Recent Technology and Engineering, 2019
Crossref

8 words — < 1%

51	e-journal.hamzanwadi.ac.id Internet	8 words — < 1%
52	fr.scribd.com Internet	8 words — < 1%
53	Publication Office. "Volume 13 Issue 10 Complete Issue", EURASIA Journal of Mathematics, Science and Technology Education, 2017 Crossref	6 words — < 1%
54	Justin W. L. Keogh, Lisa Gowthorp, Michelle McLean. "Perceptions of sport science students on the potential applications and limitations of blended learning in their education: a qualitative study", Sports Biomechanics, 2017 Crossref	6 words — < 1%

EXCLUDE QUOTES	OFF	EXCLUDE MATCHES	OFF
EXCLUDE BIBLIOGRAPHY	OFF		