

# THE EFFECT OF BLENDED LEARNING ON THE MOTIVATION AND LEARNING ACHIEVEMENT OF THE STUDENTS OF SMKN 1 PARINGIN

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## Abstract

The objective of the study is to reveal the differences of the learning motivation and achievement of the students using face-to-face learning model compared to those using blended learning model, the improvement of students' learning motivation and achievement due to the use of blended learning model, and the interaction of the effect of learning model and motivation on students' learning achievement in KKPI lesson

This quasi-experimental study used two groups: the experimental group who were taught using blended learning and control group who were taught using face-to-face learning. The population was 11th grade students of SMKN 1 Paringin. A sample of 57 students was divided into 2 groups, with 30 students as the control group and 27 students as the experimental group. The techniques for collecting the data were a test method by giving a written test and non-testing method by distributing a questionnaire.

The results of study show that there is significant difference between the learning motivation and achievement of the students using face-to-face learning compared to those using blended learning model, there is a significant increase in learning motivation and achievement due to the use of blended learning model, and there is no interaction of the effect of learning model and motivation on students' learning achievement in KKPI lesson.

**Keywords:** blended learning, face-to-face learning, motivation, learning achievement

## 1. Introduction

The government supports the concept of competence based education and the development of vocational school in a massive effort by converting the ratio of high school (SMU) and vocational school (SMK) become 33 : 67 in 2015. There are many strategies done by constructing the facilities of vocational education, such as school buildings, the tools and equipments, and the teachers' quality improvement by following the workshop and giving scholarship.

Becoming a professional teacher is something must be realized. There are many professional teachers but they do not have a proper pedagogical competence. The pedagogical competencies include the ability to held well-educated teaching learning process, to use information and communication technology for teaching learning and to facilitate the improvement of students' potency for exposing their ability. As the result of that, the need of teacher's competence in combining the material source, using good method and also mastering the material are absolutely needed.

According to American Heritage Dictionary, learning is a process to get knowledge, understanding or mastering by experience or study [8]. If learning is a process to get knowledge, students have to be encouraged for being active to construct knowledge they will have been reached

and try to find the answers from the problem they face. While teacher becomes a facilitator and motivator in teaching learning, he/she must be active to improve the interactive and meaningful teaching learning concept and method for the students. In otherwise, there are many teachers are still using the conventional method such as face to face learning. Demand has changed from the analog world to digital dimension through the massive development of information technology. At the same time, teachers are challenged to integrate traditional method and information technology for balancing students' learning style.

Ordinarily, the use of ICT has been developing in many schools, especially vocational school. The use of e-learning is one of the technology innovations that integrates information and communication technology and substance of teaching learning material. According to Naidu, e-learning is educational activity personally or in a group that is done online or offline by network or personal computer and other electronic wireless [15]. This model of teaching learning can be flexible that makes e-learning students can access whenever and wherever they want.

However, teaching learning does not rely on technology because teaching learning basically focuses on the process of interaction between teacher, students and the material. Although e-learning can be used by the students individually,

but the teacher's existence has a great meaning as an adult whose function is giving support and companion in teaching learning process [16]. In other words, face to face process becomes an important thing and it cannot be separated from teaching learning. Because of that, teaching learning that blends face to face learning model and e-learning systematically and integrated will make meaningful teaching learning process.

This study aims to know the difference of students' motivation and achievement using face to face learning model compare to blended learning model and the improvement of students' motivation and achievement due to the applied of the learning model. Besides that, this study is to know the effect of learning model interaction and motivation in improving learning achievement the students of SMKN 1 Paringin in KKPI lesson.

### 1.1 Learning Motivation

The word 'motivation' comes from Latin, *movere* that means move. Motivation also means an effort that can make someone or group of people moved to do something in order to reach the aim or to get satisfaction with their own efforts. According to Jex, motivation is like gravitation which cannot be seen visually or felt but only the effect can be seen as the result of it [11]. In a daily life, motivation has a strategic role, including in teaching learning process.

In teaching learning process, motivation can be said as a whole of energy activator in the students' selves that leads learning activity that guarantee learning performance and give direction in learning activity, so the desired objective by the learning subject can be reached [18]. If students have high learning motivation, all teaching learning process will be followed properly from the curiosity, intensity in paying attention to the explanation, reading material until finding the exact strategy to reach high academic achievement for them. Another opinion as Slavin said that motivated students are easily directed and given task; they tend to have big curiosity, active in finding the information about teacher's explained material and also using higher cognitive process to study and absorb the given lesson [19]. According to Halonen and Santrock, there are at least three cognitive factors in getting achievement, they are (1) attribution, (2) intrinsic and extrinsic motivation, and (3) goal setting and planning [7].

According to Woolfolk, motivation generally, is divided into two, namely (1) intrinsic motivation, and (2) extrinsic motivation [21]. Intrinsic motivation is internal motivation to do something for something itself, while extrinsic motivation is doing something to get something other (the way to get the objective). Extrinsic motivation is often influenced by external incentive like reward and punishment. The two factors have to get bigger

attention from the teacher, much more in the effort to improve students' achievement. Achievement motivation according to Wade & Tavris emphasizes objective and reason that are owned someone to reach the objective [20]. It works effectively to improve motivation by fulfilling these three things: (1) the objective must be specific, (2) the objective must be challenging but it can be achieved, and (3) the objective is restricted to get what is wanted, not to avoid what is not wanted. Achievement motivation encourages someone to learning hardly in order to reach the determined objective. There are at least six indicators in students learning motivation [9]:

- a. Desire and wish to be succeed,
- b. Motivation and need in learning,
- c. Expectation and goal in the future,
- d. Reward in learning,
- e. Interesting activity in learning and,
- f. Conducive learning environment.

### 1.2 Learning Achievement

Education implementation in school is done through teaching learning process. The realization does not always run well because the obstacles often happen. The obstacles can be overcome if teaching learning process is done in a discipline way. Teaching learning process persists in school points to curriculum that is formulated by those who are competence in that field. Curriculum contains a number of competency standards that must be fulfilled and become students' achievement indicators. According to Slavin, students' learning motivation is measured how far the concept or competency that becomes instructional objective or behavioral objective can be mastered by the students in the end of teaching learning activity [19].

Learning achievement is a kind of effort or students activity in mastering learning material given by the teacher in school. It is a term which has been achieved individual as an effort which is experienced directly. According to Didin Mukodim, Ritandiyono dan Harumi Ratna Sita, learning achievement is the result of teacher's evaluation through students' learning process and result that describes students' mastery in lesson material or remained relative behavior as a result of learning process experienced by the students in a certain period of time [6].

Students' learning achievement shows that they have experienced learning process and changes in getting the knowledge, skill, or behavior. Learning achievement can show someone's level of success after doing learning process in doing the changes and improvement. It is caused that learning achievement is result of evaluation in ability, capability and certain skills which is learnt for learning period. Therefore, Johnson emphasizes that a teacher should prepare a set of test that aims to

conclude students' learning achievement which consists of: (1) certain material completeness in curriculum, (2) cognitive ability, and (3) students' potency [12].

In other way, Daryanto said that there are some factors which influenced students' learning process, they are [5]:

- a. Internal factors consist of the students' physics and mental condition and students' tiredness.
- b. External factors consist of factor of family, school, and society.

### 1.3 Blended Learning

The use of information technology (e-learning) as a media for teaching learning is more often found in educational world. E-learning concept gives new nuance for education process that recently it relies on teacher. According to Clark & Mayer, e-learning is a kind of teaching learning which is provided through the use of computer [4]. Letter 'e' in e-learning means that the material given in a digital form, so it can be saved in the electronic wireless. E-learning gives illustration that the existence of information and communication technology, internet especially, teaching learning becomes opener and flexible, it happens whenever, wherever and whoever. According to Castle and McGuire, e-learning can improve learning experience because students can study everywhere

and in every condition as long as they are connected to the internet without joining face to face teaching learning activity [3].

Blended learning is a flexible approach to plan a program that supports the blend of any time and place to learn. According to Rovai and Jordan, blended learning model, basically, is a mixture of high quality teaching learning that is done in face to face way and virtually (e-learning) [17]. On-line teaching learning or e-learning in blended learning model becomes a natural extension from traditional teaching learning in the classroom which uses face to face learning model.

Through blended learning model, teaching learning process will be more effective because teaching learning process that has usually been done (conventional) will be helped by e-learning model of teaching learning. It relies on the infrastructure of information technology and it can be done whenever and wherever. Besides that, Jusoff and Khodabandelou said that blended learning does not decrease the distance between teacher and students but it also improves the interaction between them [13].

Based on proportion of content delivered online, Allen and friends divide clear categorization of blended learning, traditional learning, web facilitated and online learning [1]. It is shown in this table below:

Table 1. Proportion of Content Delivered Online

Proportion of Content Delivered Online	Type of Course	Typical Description
0%	Traditional	Course with no online technology used — content is delivered in writing or orally.
1 to 29%	Web Facilitated	Course which uses web-based technology to facilitate what is essentially a face-to-face course. Uses a course management system (CMS) or web pages to post the syllabus and assignments, for example.
30 to 79%	Blended/Hybrid	Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has some face-to-face meetings.
80+%	Online	A course where most or all of the content is delivered online. Typically have no face-to-face meetings.

Source: Allen, E, Seaman, J & Garrett, R. (2007). Blending in: *The extent and promise of blended education in United States*, Annual Report, Sloan Consortium

From table 1 can be found that teaching learning said to be blended or hybrid when the e-learning portion is about 30-79% combined with face to face learning. In other side, blended learning encourages teacher to change the educational paradigm from teacher-centered learning to

students-centered learning According to Carman, there are five keys to held teaching learning using blended learning model [2]:

- a. Live Event, direct teaching learning or face to face in a synchronized way in the same place

- and time or in the same time but in the different place.
- Self-Paced Learning, combining self-paced learning that enables the students will learn every time and everywhere online.
  - Collaboration, combining collaboration, both teacher and students collaboration.
  - Assessment, the planner has to be able to blend the combination of online and offline assessment both test and non-test.
  - Performance Support Materials, determining the material has been prepared in digital form, it can be accessed by the students both offline and online.

## 2. Research Method

This research is a quantitative research with quasi-experimental design. There are two groups in this research; they are experimental group using face to face learning and control group using blended learning.

Table 2. Nonequivalent Group Design

Group	Pre-Test	Treatment	Post-Test
Experimental	O	X <sub>1</sub>	O
Control	O	X <sub>2</sub>	O

O : Distribution of motivation questionnaire and written test to experimental and control group.

X<sub>1</sub> : Teaching learning using blended learning.  
X<sub>2</sub> : Teaching learning using face to face learning.

The research takes place in SMK Negeri 1 Paringin, Kabupaten Balangan Propinsi Kalimantan Selatan. This experiment is done in the even semester that is designed for six meetings (six weeks), from 9 Pebruary – 15 March 2012. The population are eleventh grade students in SMK Negeri 1 Paringin that consist of four class with 118 students. They are (1) XI KRA: 30 students, (2) XI KRB: 27 students, (3) XI AVI: 27 students, and (4) XI INTRIK: 34 students. All the students have same ability in computer.

The raffle technique is used to divide the control and experimental class and the other two classes are for trying out the instrument. The instrument of data collection is motivation questionnaire and multiple choice tests to measure students' learning achievement. Both instruments are given after and before teaching learning process for each group which is held six meetings. Then the data are analyzed and tested using f-test parametric and unvaried test.

## 3. Discussion

Below is the data description of the research result for each group:

Table 3. Research Data Description of Control Class

	Pre Motivation	Post Motivation	Pretest	Posttest
N Valid	30	30	30	30
Mean	89.6667	89.7667	62.7633	72.8583
Median	90.5000	92.0000	62.8600	74.2900
Mode	93.00	92.00	54.29(a)	74.29
Std. Deviation	5.86829	7.24775	10.10847	8.03806
Variance	34.437	52.530	102.181	64.610
Minimum	71.00	72.00	48.57	60.00
Maximum	99.00	103.00	82.86	88.57

Table 4. Research Data Description of Experimental Class

	Pre Motivation	Post Motivation	Pretest	Posttest
N Valid	27	27	27	27
Mean	96.7037	99.4074	62.0119	79.6848
Median	96.0000	99.0000	60.0000	80.0000
Mode	97.00	103.00	54.29(a)	85.72
Std. Deviation	6.35982	7.36551	8.70922	8.01610
Variance	40.447	54.251	75.850	64.258
Minimum	84.00	83.00	45.72	62.86
Maximum	110.00	117.00	80.00	91.43

Based on the result of normality and homogeneity test, all group data have been declared

that it fulfills the prerequisites.

Table 5. The Result of Prerequisite Analysis

Data Score	Value P to $\alpha$	
	Normality Test	Homogeneity Test
Control Group		
Pre Motivation	0,758 > 0,05 → Normal	0,166 > 0,05 → Homogen
Post Motivation	0,472 > 0,05 → Normal	
Pretest	0,560 > 0,05 → Normal	0,064 > 0,05 → Homogen
Posttest	0,696 > 0,05 → Normal	
Experiment Group		
Pre Motivation	0,594 > 0,05 → Normal	0,385 > 0,05 → Homogen
Post Motivation	0,990 > 0,05 → Normal	
Pretest	0,605 > 0,05 → Normal	0,912 > 0,05 → Homogen
Posttest	0,335 > 0,05 → Normal	
Gain Skor		
Motivation	0,124 > 0,05 → Normal	0,201 > 0,05 → Homogen
Learning achievement	0,377 > 0,05 → Normal	0,715 > 0,05 → Homogen

Table 6. Output Anova Gain Motivation Score

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	96.337	1	96.337	4.211	.045
Within Groups	1258.330	55	22.879		
Total	1354.667	56			

The result of analysis in table 6 prove significantly that there is difference in students' learning motivation using face to face learning

compared to blended learning. It can be seen from the sig.output (P) 0,045 is under 0,05 ( $\alpha$ ).

Table 7. Output Paired Samples t-Test Students' Learning Motivation

Paired Differences					t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
-2.70370	5.08251	.97813	-4.71428	-.69313	-2.764	26	.010

From table 7, it is proved significantly that there is an increase of learning motivation the students of SMKN 1 Paringin in KKPI lesson

caused the using of blended learning model. It can be seen from the value sig. output (P) 0,010 is under 0,05 ( $\alpha$ ).

Table 8. Mean Score of Students' learning Motivation

Face to Face Learning Model (F2F)			Blended Learning Model (BLEND)		
Pre (A)	Post (B)	B – A	Pre (A)	Post (B)	B – A
89.67	89.77	0,10	96.70	99.41	2,70
Increase of Motivation 0,10 point (0,11%)			Increase of Motivation 2,7 point (2,8%)		
<b>The increase of motivation using BLEND model to F2F 2,60 point (26x)</b>					

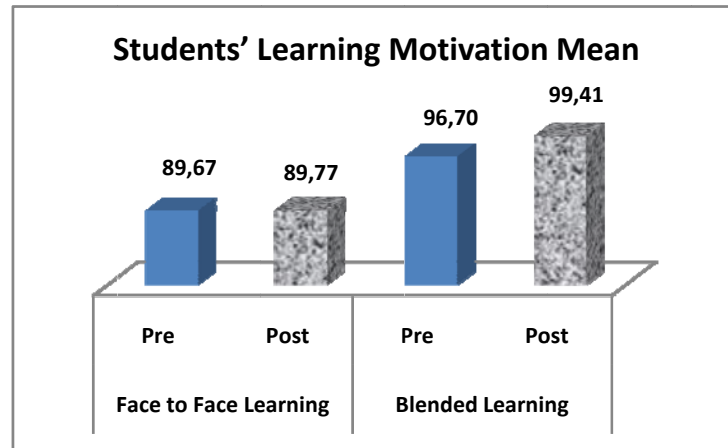


Figure 1. The Diagram of Students' Learning Motivation Mean

Based on table 8 and picture 1 can be seen that the mean of students' learning motivation for control class increase 0,10 point (0,11%), while the score of students' learning motivation for

experiment class is increasing 2,70 point (2,8%). If it is compared between the two groups, the increase of students' learning motivation in experiment class is higher 2,60 point than control class.

Table 9. Output Anova Gain The Score of Learning Achievement

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	816.047	1	816.047	8.311	.006
Within Groups	5400.212	55	98.186		
Total	6216.259	56			

The result from table 9 proves significantly that there is difference of students' learning achievement between the use of face to face

learning and blended learning. It can be seen from value sig. output (P) 0,006 which is under 0,05 ( $\alpha$ ).

Table 10. Output Paired Samples t-Test Students' Learning Achievement

Paired Differences					t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
-17.67296	10.11815	1.94724	-21.67557	-13.67036	-9.076	26	.000

Table 10 shows significantly that there is the increase of SMKN 1 Paringin students' learning achievement in KKPI lesson because the use of

blended learning. It can be seen from value sig. output (P) 0,000 which is under 0,05 ( $\alpha$ ).

Table 11. The Mean Score of Students' learning Achievement

Model Face to Face Learning (F2F)			Model Blended Learning (BLEND)		
Pretest (A)	Posttest (B)	B – A	Pretest (A)	Posttest (B)	B – A
62.76	72.86	10,10	62.01	79.68	17,67
Achievement Increase 10,10 point (16%)			Achievement Increase 17,67 point (28,5%)		
<b>The increase of learning achievement using BLEND model to F2F 7,58 point (75%)</b>					

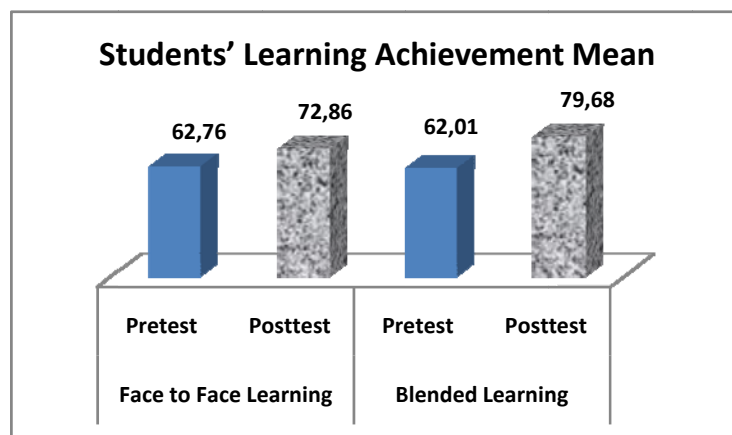


Figure 2. The Diagram of Students' Learning Achievement Mean

From table 11 and picture 2 show that there is an increase of students' learning achievement for each group. The highest increase happens to experiment class students. The mean score of students' learning achievement for control class increases significantly 10,10 point (16%) and 17,67 point (28,5%) for experiment class. If it is compared between the two classes, the score increase of experiment class is higher 7,58 point (75%) than control class.

Blended learning model can replace teaching learning principle from teacher-centered to student-centered dynamically. Blended learning can fill the lack of face to face and e-learning model because

the weakness of e-learning; the distance between teacher and students that are physically parted, can cause the lack of face to face interaction [14]. Besides that, e-learning tends to be a course than education that directs to cognitive and psychomotor ability and it pays less attention to the affective aspect. Using face to face learning, teacher can functions his/herself as a teacher and motivate directly expressively to the students. Blended learning model makes students' activities in class more varied. Students do not only rely on teacher's information but they try to dig it out from many sources.

Table 12. Test of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1043.148(a)	3	347.716	3.562	.020	.168
Intercept	10878.780	1	10878.780	111.456	.000	.678
Motivasi	220.462	1	220.462	2.259	.139	.041
Model	796.309	1	796.309	8.158	.006	.133
motivasi * model	11.321	1	11.321	.116	.735	.002
Error	5173.111	53	97.606			
Total	16890.491	57				
Corrected Total	6216.259	56				

The next analysis in table 12 are not found the effect of interaction between teaching learning model and students' learning motivation to learning achievement. It shows that learning motivation does not influence significantly to the increase of

students' learning motivation. Therefore, the increase of students' learning achievement is caused by purely implementation of blended learning model.

Table 13. Description of Motivasi\*Learning Model Non Students' Learning Achievement

Motivasi	Model	Mean	
Rendah (R)	Face to face (F)	8.571	76.95%
	Blended (B)	15.167	
	Selisih RB - RF	6.596	
Tinggi (T)	Face to face (F)	11.619	72.14%
	Blended (B)	20.000	
	Selisih TB - TF	8.381	
<b>Selisih TF - RF (X)</b>		<b>3.047</b>	<b>35.55%</b>
<b>Selisih TB - RB (Y)</b>		<b>4.833</b>	<b>31.87%</b>

Based on table 13 can be seen that the total mean of both group's learning achievement for high and low motivated students are different. If it is discussed more, the mean trend of students' learning achievement for both high and low motivated students has increased. There is a mean difference of low motivated students' learning achievement (RB-RF) from 8,571 to 15,167

(76,95%) and from 11,619 to 20,000 (72,14%) for high motivated students. From the same table shows a mean difference between high motivated students' learning achievement to the low one using face to face (TF-RF) at 3,047 point (35,55%) and 4,833 point (31,87%) using blended learning (TB-RB).

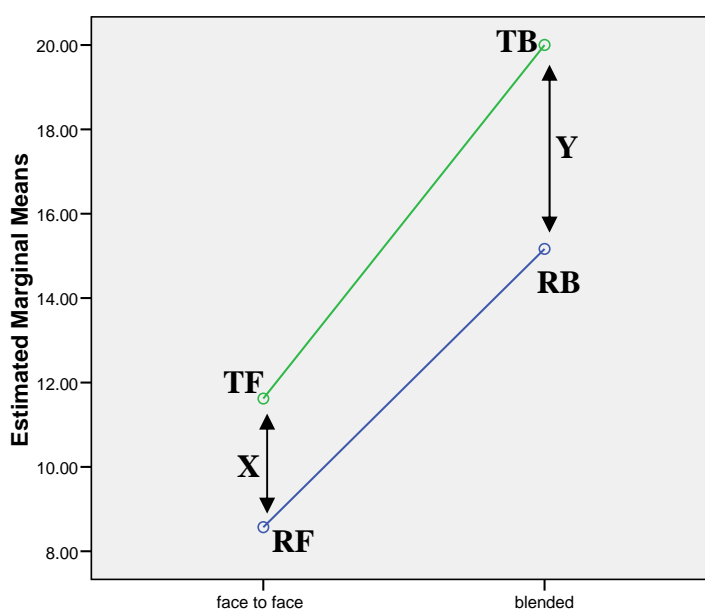


Figure 3. The Graphic of Interaction of Learning Model and Motivation on Students' Learning Achievement

Picture 3 is shown the skewness diagonal line TF-TB and RF-RB which is formed by the two groups seen to be parallel but it doesn't squeeze.

Besides, the difference TF-RF (X) and TB-RB (Y) in picture 3 is not relatively different.



According to Herminarto Sofyan dan Hamzah B. Uno, motif is a potential power for arising action [9]. In picture 3 is shown how stimulus in the form of teaching learning model has increased both groups' motivation to study, but the second group motif tends to produce potential energy which is relatively same TB-TF = 72,14% and RB-RF = 76,95%). The group of low motivated students cannot response maximal in the form of teaching learning model in order to reach the same learning achievement or more than other group of high motivated students. It can be seen from the difference of the two groups' learning achievement for both treatment (X and Y).

Based on attributive theory, there are three dimensions that influence the attributive characteristic: (1) locus, (2) stability, and (3) controllability [21]. The teaching learning model that is implemented to the two classes is stable external stimulus and the uncontrollable response. Therefore, the formed learning motivation caused by the effect of the blended learning implementation does not influence significantly to the students' learning achievement increase. The students' learning achievement is significantly caused by the treatment given to the students that is the implementation of teaching learning model.

In controlled theory (cybernetics), it is explained how individual do control to every accepted stimulus in accordance with set point in himself [10]. Every stimulus is responded in accordance with the set point for each individual. Both groups of low and high motivated students respond the stimulus in form of teaching learning model in each set point. It can be illustrated from picture 3 that there is set point that can lead achieved motivation to the two groups. High motivated students have been used to the learning activity and achieved motivation so they tend to defend their position while low motivated students have same behavior without willingness (set point) that is higher than the best. According to Wade & Travis, achieved motivation will produce learning achievement increase which is formed both intrinsic and extrinsic as the result of teaching learning model with the ability to demonstrate the activity [20].

Therefore, teaching learning model implementation that influence significantly to learning motivation increase becomes the main value for the following response in the form of students' learning achievement increase. Yet, we have to realize that motivation is complex psychological factor. According to Herminarto Sofyan and Hamzah B. Uno, the strongest motivation is intrinsic motivation than extrinsic one [9]. The same opinion, Woolfolk in Educational Psychology states that teaching learning process have to be able to create students' intrinsic motivation by connecting students' interest and

supporting their competency development [21]. Besides the implementation of teaching learning model to improve motivation externally, teacher has to seek that intrinsic motivation should be developed because it can give the strongest power to the students' potency development becomes an ability.

#### 4. Conclucions

Based on the research result, it can be concluded:

- a. There is a difference in learning motivation significantly between the class that use face to face learning and blended learning model.
- b. There is a difference in learning achievement between the class that use face to face learning and blended learning model.
- c. Students' learning motivation increase significantly because of blended learning model implementation.
- d. Students' learning achievement increase significantly because of blended learning model implementation.
- e. There is no interaction effect of teaching learning model implementation and motivation to students' learning achievement. Therefore, the increase of students' learning achievement purely influenced significantly by the teaching learning model implementation.

#### 5. Suggestions

From the result and the discussion have been explained before, there are some things that can be suggested:

- a. Teacher needs to improve the competency mastery of information technology especially related to e-learning as a teaching learning model which can improve students' learning motivation and achievement.
- b. Teacher needs to improve the ability to plan teaching learning process by combining face to face model and e-learning in order to get the optimum result.
- c. Blended learning model has been proved to improve students' learning motivation and achievement. Therefore, the school needs to support the implementation through workshop for teachers and provides the facilities to support that kind of teaching learning model.
- d. The need of information technology is a must in a modern teaching learning activity. Therefore, many teaching learning improved efforts especially for vocational school students that are done by all related parties cannot be parted from it.

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## REFERENCES

- [1] Allen, IE, Seamen, J. & Garret, R. (2007). Blending in: The extent and promise of blended education in the United States, USA: The Sloan Consortium.
- [2] Carman, J.M. (2005). Blended learning design: Five key ingredients, retrieve March 20th, 2011, from <http://www.agilantlearning.com/pdf/Blended%20Learning%20Design.pdf>
- [3] Castle, SR. & McGuire, CJ. (2010). An analysis of student self assessment of online, blended, and face to face learning environments: implication for sustainable education delivery. (electronic version). *Journal of International Education Studies.*, vol 3 no 3, 36.
- [4] Clark, R.C., Mayer, R.E. (2008). *e-Learning and the science of instruction*, 2nd Ed, San Francisco: Pfeiffer.
- [5] Daryanto. (2009). *Panduan proses pembelajaran kreatif dan inovatif*, Jakarta: AV Publisher
- [6] Didin Mukodim, Ritandiyono dan Harumi Ratna Sita. (2004). Peranan kesepian dan kecenderungan internet addiction disorder terhadap prestasi belajar mahasiswa universitas gunadarma, *Proceedings Komputer dan Sistem Intelijen*, Jakarta, 1411-6286, retrieve October 13th, 2011 from [http://research.mercubuana.ac.id/proceeding/Didin\\_11-120.pdf](http://research.mercubuana.ac.id/proceeding/Didin_11-120.pdf)
- [7] Halonen, J.S. & Santrock, J.W. (1999). *Psychology: contexts & application*, Boston: McGraw-Hill College
- [8] Hergenhahn, B.R., Olson, M.H. (2008). *Theories of learning* (translated Tri Wibowo), Jakarta: Kencana Prenada Media.
- [9] Herminarto Sofyan dan Hamzah B. Uno. (2004). *Teori motivasi dan aplikasinya dalam penelitian*, Gorontalo: Nurul Jannah.
- [10] Hill, W.F. (2010). *Theories of learning*, (Terjemahan M. Khozim), Bandung: Nusa Media.
- [11] Jex, S.M. (2002). *Organizational psychology: a scientist-practitioner approach*, New York: John Wiley & Sons
- [12] Johnson, R.L., Penny, J.A. & Gordon, B. (2009). *Assessing performance: designing, scoring, and validating performance tasks*, New York: The Guilford Press
- [13] Jusoff, K. & Khodabandelou, R. (2009). Preliminary study on the role of social presence in blended learning environment in higher education. (electronic version). *Journal of International Education Studies.*, vol 2 no 4, 82.
- [14] Munir. (2009). *Pembelajaran jarak jauh: berbasis teknologi informasi dan komunikasi*, Bandung: Alfabeta
- [15] Naidu, Som. (2006). *E-learning: a guidebook of principles, procedures and practices*, New Delhi: Aishi Creative Workshop.
- [16] Plummer, Lisa. (8 Maret 2012). Credit recovery programs combine the best of online and in class instruction, retrieve March 27th, 2012, from <http://thejournal.com/Articles/2012/03/08/Online-credit-recovery.aspx?p=1>
- [17] Rovai, A.P., Jordan, H.M. (2004). Blended learning and sense of community: a comparative analysis with traditional and fully online graduate courses, *International Review of Research in Open and Distance Learning*, Vol. 5, Number 2, 1492-3831, retrieve August 25th, 2011, from <http://www.irrodl.org/index.php/irrodl/article/viewFile/192/795>
- [18] Sardiman A.M. (1994). *Interaksi dan motivasi belajar dan mengajar*, Jakarta: RajaGrafindo Persada.
- [19] Slavin, R.E. (2009). *Psikologi pendidikan : Teori dan praktik*, (translated Marianto Samosir), Jakarta: Indeks.
- [20] Wade, C. & Tavris, C. (2008). *Psychology 9th edition*, Boston: Pearson Education
- [21] Woolfolk, Anita. (2004). *Educational psychology*, Boston: Pearson Education, Inc.